

Institute of Vector Control and Zoonoses – Hosur

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The Institute of Vector Control and Zoonoses, Hosur coming under the Department of Public Health and Preventive Medicine, a Government of Tamil Nadu Organisation was established in the year 1987 by the then Chief Minister of Tamil Nadu Dr. M.G. Ramachandran initially for Plague Surveillance activities and also with greater visions of enhancing the knowledge and skill of the field public health functionaries on Vector-borne and Zoonotic diseases and their control and providing the diagnostic facilities for the Vector-borne and Zoonotic diseases and thereby improving the health status of the people of Tamil Nadu.

Background

At present this institute has been imparting training on Vector-borne and Zoonotic diseases and their control to the field health personnel from the Field Workers to the Medical officers of our state and also to the Insect collectors, Biologists, Entomologists, Insecticide Officers etc. of both Southern and Northern states of our country sponsored by the Directorate of National Vector Borne Diseases Control Programme (NVBDCP), Delhi. Besides this, the one year Post Graduate Diploma Course in Public Health Entomology has been

Table 1: Details of laboratories functioning in IVCZ - Hosur

Sl. No.	Name of Institute/ Laboratory	Activities	Faculty
1.	Institute of Vector Control and Zoonoses	Director and Head	Joint Director
2.	Public Health Entomology	Technical Support to the Joint Director	Reader in Public Health Entomology
3.	Malaria and Filariasis	<ul style="list-style-type: none"> • Mosquito faunistic study • Maintenance of Mosquito Colonies • Training on Public Health Entomology • Preparation and Supply of Entomology specimens • Analysis of Mosquito Blood meal • Outbreak Investigation 	Public Health Entomologist
4.	Bacteriology	<ul style="list-style-type: none"> • Cross checking of Malaria and Filariasis blood smears • Training on Malaria Microscopy • Preparation and Supply of Parasitology specimens • Outbreak Investigation 	Public Health Entomologist
5.	Arbovirology	<ul style="list-style-type: none"> • Diagnosis of ADD, Typhoid fever and other bacterial infections • Detection of JE viral antigen in Culex mosquito pools • Maintenance of Bacterial Culture • Outbreak Investigation 	Microbiologist
6.	Rickettsiology	<ul style="list-style-type: none"> • Serodiagnosis of Dengue and Chikungunya • Outbreak Investigation 	Public Health Entomologist
7.	Leptospirosis	<ul style="list-style-type: none"> • Serodiagnosis of Rickettsial infections • Preparation and Supply of Tick /Mite specimens • Outbreak Investigation 	Public Health Entomologist
8.	Plague	<ul style="list-style-type: none"> • Serodiagnosis of Leptospirosis • Outbreak Investigation • Preparation and Supply of Cyclops specimens 	Public Health Entomologist
9.	Zoonoses	<ul style="list-style-type: none"> • Plague Surveillance • (Sero surveillance, Bacteriological surveillance and Rodent Ecto Parasite Survey) • Preparation and Supply of Flea specimens • Outbreak Investigation 	Public Health Entomologist
10.	Zoonoses	<ul style="list-style-type: none"> • Maintenance of Geese, Rabbit and Mice colonies for scientific purposes 	Veterinary Assistant Surgeon

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conducted to the Entomologists working in this department at this institute as per the G.O. M. S. No. 771, Health and Family Welfare Department dated 01.04.1982. It is pertinent to note that the Tamil Nadu Dr. MGR medical University, Chennai has accorded affiliation to start one year PG Diploma Course in Public Health Entomology. This institute is also conducting One year Multi Purpose Health Worker (Male) training.

Vector-borne diseases (VBD) such as malaria, lymphatic filariasis, dengue, chikungunya and Japanese encephalitis have long been a major cause of severe human suffering all over India including Tamil Nadu and are re-emerging in most of the states. Many of these diseases, particularly dengue and malaria are now occurring in epidemic form and causing considerable morbidity and mortality.

At present, this institute provides laboratory diagnosis for diseases like Malaria, Dengue, Chikungunya, Japanese encephalitis, Rickettsial infection, Leptospirosis, and Typhoid.

Laboratories

The laboratories functioning at this institute and activities conducted by them are listed in Table:1.

Other Infrastructure Facilities Available

- No. of Class Rooms: 4. (To accommodate 25 students in each room).
- Seminar Hall: 1 (To accommodate 40 persons).
- Conference Hall: 1 (To accommodate 100 persons).
- Library: More than 15,000 books on Medicine / Health and Allied subjects and 15 Journals (both National and International).

Image 1: Institute of Vector Control and Zoonoses, Hosur



Image 2: Mosquito Identification by the PG Medical Students



Image 3: Mosquito Larval Surveillance by the PG Medical Students



- Hostel with canteen Facility: Number of Rooms = 21 (To accommodate 63 students).
- Transport: Bus – 30 seater capacity, Jeep, Car.
- Insectary: Mosquito Colonies
- Animal House: Rabbitry, Goose and Balb “C” mice.

Training Activities

Importance of Trained Manpower on Public Health Entomology

The Vector-borne diseases (VBDs) are a group of communicable diseases transmitted by mosquitoes and other vectors. People suffer from a significant disease burden from these diseases in local and focal areas of India, which is reflected in the form of morbidity and mortality from Malaria, Dengue, Chikungunya, Japanese Encephalitis (JE), Kala-azar and Lymphatic filariasis. The epidemiology of these vector borne diseases varies considerably on account of ecology, vector bionomics, economic, socio-cultural and behavioural factors. Generally, the high risk areas for VBDs are rural and tribal areas and urban slums inhabited by the poor, marginalized and vulnerable groups with limited access to quality health care, communication and other basic amenities in those focal areas. Entomologists employed in Public Health Programmes [Medical or Public Health Entomologist] are the most appropriate human resources to deal with epidemiological aspects of vector borne diseases’ transmission and the broader environmental issues involved in transmission risk (WHO).

There is a growing need for Public Health Entomologists in view of the emerging and re-emerging vector-borne diseases in India as well as other tropical countries. The entomologists of the State and National Vector Borne Disease

Image 4: Adult Mosquito Surveillance by PG Medical Students



Image 5: Joint Director ‘s Interaction with Entomologists of Karnataka State



Image 6: Mosquito Identification



Control Programmes have an important role in planning and implementing control measures at District/Block level across the country. They should be provided an opportunity to gain an in depth knowledge on Public Health Entomology and to acquire intense training on modern approaches of epidemiology and control of vectors and vector-borne diseases. Further the medical officers working at the Primary Health Centres are the Programme Managers who should also be trained on Vector Borne Diseases and their Control. As such this institute has been imparting training on various aspects of Public Health Entomology to the Field Public Health Functionaries. This institute is also conducting training on Public Health Entomology to the Post Graduate Community Medicine students of various medical colleges for 7 -15 days.

To address the need of the Public Health functionaries training programmes are being conducted at this institute details of which are found in Table 2.

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Table 2: Training programmes being conducted at IVCZ - Hosur

Sl. No.	Name of Training	Category	Duration
1.	Training on PH Entomology Inservice /Preservice PG Diploma in Public Health Entomology - 1Year	Entomologists working In the Department of PH and PM and Open candidates	1 year
2.	Extramural (WHO / NVBDCP sponsored) Training on Public Health Entomology Training on Vector Borne Diseases	Biologists/ Zonal Entomologists/ District Malaria Officers etc.	Between 10 and 30 days
3.	Field Asst / Lab.Asst Training	Inservice / Preservice candidates	6 months
4.	Field Assistant (Local Bodies)	Inservice / Preservice candidates	45 days
5.	Sanitary Inspector (Local Bodies)	Inservice candidates	6 months (Condensed)
7.	Multi Purpose Health Worker (Male) Training	Inservice / Preservice candidates	1 year
8.	Training on Vector Borne Diseases and their control	Field Public Health Functionaries	3 to 15 days
9.	Training on Public Health Entomology	Newly Appointed Entomologists / PG Medical students	15 days to 3 months
10.	Training on Malaria Microscopy	Inservice / Open candidates	3 to 10 days