

2. ACHIEVEMENTS IN 10TH PLAN PERIOD

The 10th Plan was a water-shed period for the ICMR.

The allocation was Rs.970 crores. As a result of the better spending, ICMR received a total Rs.1023 crores. It is significant to note that all the fund was gainfully utilized, year after year. None of the funds was ever surrendered. The pattern of expenditure under various heads was as follows:

Head	Budget (Rs. crores)	Percentage
Pay & allowances + pensions	172.62	16.87
Capital	236.06	23.08
Equipments	151.82	14.84
Other charges	215.52	21.07
Travel	14.20	1.39
Extramural	232.79	22.76

A thumb nail sketch of the salient achievements are given below. This is followed by institute-wise snippets of major accomplishments.

Physical Achievements

Policies/Guidelines

- ▶ Health Research Policy drafted
- ▶ Intellectual Property Rights Policy
- ▶ Ethical guidelines for biomedical research on human subjects revised in 2006 and submitted for enactment
- ▶ Guidelines for management of Type-II diabetes were formulated
- ▶ Guidelines for use of Laboratory Animals in Medical Colleges
- ▶ ICMR-DBT Guidelines on Stem cell research and its regulation released
- ▶ Guidelines for regulating artificial reproductive techniques clinics in India formulated
- ▶ Guidelines for Evaluation of Genetically Modified Food Safety
- ▶ Guidelines for Alternate Systems of Medicine
- ▶ Guidelines for Bio-banking
- ▶ Guidance document on Humane Care and use of Laboratory animals

Inputs in major Health Programmes

Polio

- ▶ Facilities for molecular epidemiology of wild polioviruses set-up
- ▶ A new algorithm for rapid detection of wild polio virus in stool samples evaluated
- ▶ Characterized vaccine-derived polio viruses through sequencing in cases occurring in other states/countries
- ▶ Demonstrated the sensitivity of environmental monitoring for detecting wild polio virus circulation in any community

Tuberculosis

- ▶ Monitored epidemiological impact of DOTS, more rapid decline in prevalence of disease observed as compared to pre-DOTS period
- ▶ Carried out disease burden estimation of tuberculosis
- ▶ Demonstrated that addition of daily obloxacin could shorten the duration of treatment to four months from current six months
- ▶ Strengthened surveillance for drug resistant tuberculosis in Tiruvauur, it was less than 2% in new cases
- ▶ Developed a new rapid method for detection of rifampicin resistance.

HIV/AIDS

- ▶ Estimated the burden of HIV in the country
- ▶ Conducted Phase-I clinical trials with two HIV vaccines (MVA and AAV)
- ▶ Set-up a state-of-art laboratory for testing resistance to anti-HIV drugs
- ▶ Developed and evaluated treatment protocols in HIV infected persons with co-infections
- ▶ Undertook clinical trials for anti HIV drugs
- ▶ Stepped up surveillance and management of HIV/TB co-infection. Measured effectiveness of DOTS in tuberculosis patients with HIV

Malaria

- ▶ Continued to demonstrate the usefulness of bio-environmental method of mosquito and malaria control in different ecological paradigms
- ▶ Showed that drug combination therapy are successful in management of drug resistant malaria
- ▶ Studied malaria in pregnancy. Women having malaria during pregnancy are at greater risk of getting cerebral malaria, abortion, still-birth, severe anemia maternal and neonatal death
- ▶ Field sites for malaria vaccine trials being developed
- ▶ Published pictorial key for identification of various species of Indian anophelines
- ▶ Evaluated new tools for malaria control. (synthetic parathyroid. biolarvicides, insecticide treated mosquito nets etc.)

Network of laboratories for Emerging and New Infectious Diseases

- ▶ A high level bio-safety level-3+ laboratory dedicated to the Nation by President of India
- ▶ A Bio-safety level 3 laboratory operationalized in Central JALMA

- Institute for Leprosy and other Mycobacterial Diseases, Agra
- ▶ Prefabricated BSL-3 facilities being set up at NICED, Kolkata and RMRC, Dibrugarh
- ▶ Foundations for a BSL-4 laboratory for human pathogens laid at MCC, Pune
- ▶ Contract signed for setting up a BSL 3 facility at Tuberculosis Research Centre

Diagnostics

- ▶ HIV/AIDS: p24 antigen detection
- ▶ V. cholera 0130: agglutination test ELISA
- ▶ Hepatitis - A : IgM capture. test
- ▶ Chikungunya : IgM capture test
- ▶ Rotavirus – antigen detection test
- ▶ Hepatitis B,C,E : PCR based test
- ▶ Fertility tests
- ▶ HPV test

Evaluation of Drugs and Drug Regimens

- ▶ Miltefosin an oral drug for kala-azar evaluation done in partnership with TDR recommended for inclusion in the programme
- ▶ Paramomycin (for treatment of kala-azar) Phase III trials completed in partnership with One World Health Institute
- ▶ Arteether and Ablaquin in partnership with CSIR(CDRI): drugs for treating cerebral malaria
- ▶ Multidrug treatment for leprosy further refined for persistent cases has been adopted globally

Development and evaluation of new vaccines

- ▶ Recombinant oral cholera vaccine developed (in partnership with DBT, CSIR)
- ▶ Sites preparation for Hib vaccine trial in Chandigarh, Vellore, Kolkata
- ▶ Field sites for malaria vaccine trial being developed
- ▶ Gp-A β Haemolytic Streptococci vaccine for prevention of Rheumatic fever and Rheumatic heart diseases being developed
- ▶ Hepatitis A Vaccine : technology transferred to industry
- ▶ Heat killed cholera vaccine: trial on-going in Kolkata
- ▶ Typhoid vaccine: Vi carbohydrate vaccine trial in Kolkata
- ▶ Phase-I aerosol measles vaccine Multi-site trial: started

Animal Models

- ▶ Developed novel mutant obese rat model for research in obesity and related metabolic and degenerative diseases
- ▶ State-of-art primate experimental facility established at NCLAS, Hyderabad
- ▶ Mouse model for Chlamydia salpingitis
- ▶ Murine model developed for paragonimus

Identified New infections

- ▶ Chandipura virus as cause of outbreaks in Andhra Pradesh, Gujarat
- ▶ Nipah Virus as cause of Siliguri outbreak in collaboration with CDC
- ▶ Chikungunya virus outbreak in various states in India
- ▶ SARS infection
- ▶ Avian flu

Medical Plants

- ▶ Praneem (a microbicide developed from neem) for prevention of STDs and HIV: under going Phase-II clinical trial
- ▶ Vijyasaar (an anti-diabetic): clinical trials completed, moving to commercialization
- ▶ Product from *Eugenia Jambolina* (for treatment of Diabetes): in partnership with Lupin Laboratory
- ▶ Picroliv (for liver diseases) Phase III trials in partnership with CSIR
- ▶ Four Volumes of Quality Standards of Indian Medical Plants

Genomics

- ▶ Funding of genomic projects
- ▶ Initiation of Molecular Medicine Units
- ▶ Initiation of Bioinformatics Centers
- ▶ New molecular probes and DNA finger printing techniques for TB, leprosy, cholera and vector borne diseases

Stem cell research

- ▶ 1st retro differentiation to haemopoietic stem cell from peripheral blood:
1st transplantation in world planned

Reducing Infant deaths

- ▶ Modules for improving home care of infants: operational studies in 6 districts
- ▶ Use of probiotics in preventing deaths due to diarrhoeal diseases
- ▶ Community control of Thallasaemia
- ▶ Planning for introduction of new vaccines like Haemophilus influenzae b

Women's Health

- ▶ Drug therapy for controlling post-partum bleeding (misoprostol)
- ▶ Developing and evaluation of injecting contraceptives (norethisterone enanthate)
- ▶ RU-486 for safe abortions
- ▶ Developed and evaluated emergency contraceptives

Occupational Health

- ▶ Workers in agate industry: prevention and control strategies worked out for silicosis and silico – tuberculosis
- ▶ Tobacco harvesters: identified high prevalence of GTS, and demonstrated usefulness of preventive measures likes wearing of gloves

- ▶ Low cost feasible intervention developed for prevention and control of health hazards among salt workers
- ▶ Local exhaust ventilation system developed

Responding to Natural Disasters

- ▶ Tsunami Disaster: Relief to the affected population, outbreak investigations and rapid response

Data-bases

- ▶ Development of an atlas of cancer in India
- ▶ Four Volumes of Indian Medicinal Plants
- ▶ Cancer registry
- ▶ Nutritional status
- ▶ Rheumatic fever and rheumatic heart diseases
- ▶ Catalogues of repositories of viruses, malaria parasite, leishmaniasis, poliomyelitis, HIV, cholera, influenza
- ▶ ProQuest Medical Library Database (349 journals) and Ovid core biomedical collection (61 journals)
- ▶ Disease burden of communicable and non-communicable diseases

Infrastructure

- ▶ ICMR School of Public Health, Chennai and Kolkata inaugurated
- ▶ National Centre for Primate Breeding and Research, Sasunavgarh, foundation stone laid
- ▶ NICED-JICA collaboration new facility for molecular biology research and transgenic animals established
- ▶ Major equipments procured
 - Confocal microscopes
 - Cryo-electron microscopes
 - Sequencers
 - Flowcytometers
 - Micro-array facilities
 - High throughput screening equipment
 - Gas chromatography mass spectroscopy
 - DEXAs
- ▶ State-of-art leptospirosis research laboratory established at Port Blair
- ▶ Established Poison Information Centre at NIOH, Ahmedabad
- ▶ State-of-art/HIV Vaccine Trial Centres at Pune, Chennai (in Collaboration with IAVI)
- ▶ Patient care and clinical research facility at TRC, Chennai
- ▶ New building of ICPO, Noida, NIOH's ROHC (West), Bangalore inaugurated
- ▶ Established NIH funded. International Centre of Excellence in Research on infectious and allergic diseases
- ▶ Up-graded animal houses in all Institutes
- ▶ Subscribed to J-Gate Custom content for consortia for all libraries for sharing resources of journals available in ICMR Institutes

Memorandum of Understanding signed

With Indian agencies

- ▶ CSIR – AYUSH
- ▶ Central Council for Research in Unani Medicine
- ▶ DBT
- ▶ National Innovation Foundation

With International agencies

- ▶ Centers for Disease Control, Atlanta, USA
- ▶ Canadian Institute of Health Research, Canada
- ▶ Helmholtz Association, Germany
- ▶ International AIDS Vaccine Initiative
- ▶ International Clinical Epidemiology Network Trust
- ▶ Trilateral Agreement with Medical Research Council South Africa and Oswaldo Cruz, Brazil Foundation
- ▶ Merck : HPV vaccine
- ▶ One World Health Institute: Leishmaniasis
- ▶ University of Minnesota, USA

Extramural Research Programme

- ▶ Funded 1051 new projects, worth Rs.189 crores.
- ▶ In genomics alone 105 projects were funded at a total budget of Rs.40 Cr

Publications

Average impact factor of (Between 2002 and 2005 a total of 1693) scientific papers were published, of these 1163 were SCI/JCR papers. The average impact factor was 2.2265. ◆

(The details of the achievements of various institutes and technical divisions are given in Annex-1)