

Director's Report 2021-22



THE INSTITUTE OF HEALTH SYSTEMS

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The Institute of Health System - Director's Report, 2021-22.

Ladies and Gentlemen,

On behalf of the faculty and staff of the Institute, I welcome you all to this 27th Annual General Body meeting. During the reporting period, we worked on four projects, namely; (i) Hyderabad Metro Water Quality Monitoring (WQM), (ii) Metro Consumer Complaints (MCC) Surveillance for water Safety, (iii) Exploratory Survey of Bottled Water Plants in Hyderabad, and (iv) Development of Survey Instrument and Protocol for Patient Satisfaction Survey in AYUSH hospitals. The first three projects were commissioned by HMWSSB and last one is commissioned by Department of AYUSH, TS Govt. In addition, we provided accessible water quality testing & analytical services for public health (AWTASPH) to the general public. We strengthened and improved the quality of the laboratory services by adding new test services. The IHS Laboratory has been accredited by National Accreditation Board for Laboratories (NABL) in the fields of chemical and biology discipline covering the groups of (i) Water, (ii) Environment & Pollution (Wastewater), (iii) Drugs and Pharmaceuticals (Bacteriological Endotoxin Assay (LAL)).

The Metro Water Quality Monitoring (WQM) project has ended by August 2021. The fourth annual report of MCC Surveillance study for the year 2020-21 has been completed. The first semester of MCC Surveillance study for the year 2021-22 is in progress. In the meanwhile, the Institute has moved from HACA Bhavan to its current location in Sivananda Rehabilitation Home Campus, Kukatpally in the month of November 2021.

Human Resources, Fellows & Interns:

We are functioning with a small team mostly of water quality testing & laboratory staff (Table-1). As the WQM project ended in August, 2021, we had to downsize quickly. However, we recruited two faculty to manage the research project (patient satisfaction survey) and water quality monitoring projects.

Table 1: Overview of IHS Personnel.

Category of Personnel	As on 31-03-22			As on 31-10-2022		
	Full Time	Visiting / Consultant	Total	Full Time	Visiting / Consultant	Total
Faculty	3	1	4	4	1	5
Chemical Analysts / Sr. Microbiologists / Research Associates	1	0	1	1	0	1
Microbiologist / Joint Analysts / Research Assistants	1	0	1	1	0	1
Data Processing / System Admin / Software / Research Assistants	0	0	0	0	0	0
Lab Techs	1	0	1	1	0	1
Water Safety Surveyors	1	0	1	1	0	1
WQT Investigators	4	0	4	3	0	3
Lab Registration / Front Office / Admin / Accounts	0	0	0	1	0	1
All	11	1	12	12	1	13

Annexures-1A provides details about the current faculty and personnel profiles, of the Institute. A list of outgoing personnel is given in Annexures-1B. Our faculty and staff participated in a few workshops, seminars and conferences, details of which are provided in Annexure-2. As reported earlier, our academic and training programs are now limited to fellowship and internships.

Now, I will give an overview of activities during the reporting period and briefly touch upon recent developments during the current year. We will then review the time trend of the Institute's financial performance and consider possible directions for the future. Finally, I will seek your comments and approval of the audited accounts of the Institute.

Reporting Period (2021-22) Events and Activities:

As you all are aware, the Institute pursues five broad types of activities towards improvement of public health. These are (a) Research & Consultancy, (b) Public Services, (c) Training Services, (d) Academic Programmes, and (e) Publications.

A. Research and Consultancy:

The following 4 projects / subprojects were implemented during the reporting period.

1. Sanitary Inspection of Metro Water Service Reservoirs in Hyderabad:

The purpose of sanitary inspection is to check all aspects of a service reservoir (SR) to rule out vulnerabilities and pathways of contamination, if any. Purpose is to identify structural and/or operational deficiencies, if any and recommend measures to improve sanitary integrity and minimise risk of contamination of water stored and distributed from the SR. For example, SRs with unprotected air vents and/or open manholes would be vulnerable to bird droppings. Water safety surveyors are trained to inspect and gather information about air vents, manholes, inlet-outlet arrangements, state of roof & walls, surroundings, history of cleaning, and chlorination arrangements. Reports are prepared based on their initial inputs and follow-up visits for further clarifications. Each report provides actionable recommendations to address sanitary deficiencies, and improve operational integrity of the SR. During the reporting period 22 sanitary inspection of service reservoir (SISR) reports were submitted to the HMWSSB. Another 5 SISR reports have been submitted during current year. This activity is a subproject under the Independent Water Quality Monitoring contract with the HMWSSB. This project was implemented up to 31st Aug 2021.

2. Community Focus Groups for Water Safety in Slum Areas Hyderabad:

The objective of the community mobilisation is to develop strategies for water safety in slum areas and build community awareness among residents. Focus group discussions (FGDs) are conducted regularly in identified slum areas to gather consumer perceptions of metro water supply through domestic connections, public standposts and tankers and to understand consumer concerns on water availability, regularity, and quantity of supply. FGDs also help to understand community knowledge, attitudes and practices about water quality and related issues, usage, storage, handling, hygiene, sanitation, and health status. In addition, the FGDs are used to inform & educate the target group on good hygiene practices and measures to prevent waterborne diseases. Community FGDs are a subproject of the independent water quality monitoring work by the Institute for the MWB. Water safety surveyors, fellows/interns, research assistants, associates, faculties, and other personnel drawn from various sections of the Institute are trained in focus group methodology (Scrimshaw and Hurtado, 1987) and water sanitation and hygiene concepts (CAWST, 2017; WHO, 2015; UNICEF, 2011) to act as FGD resource persons. Two resource persons are drawn for each focus group, one to act as a facilitator and the other as recorder. Monthly about five FGDs are conducted in different slum areas of Hyderabad. 21 FGDs were conducted during the reporting period and reports were submitted along with monthly report

to HMWSSB for follow up action. During the current year 18 FGDs were conducted up to 31st Aug 2021.

3. Metro Water Board Consumer Complaints Surveillance for Water Safety:

This is a research project to evaluate MWB's consumer complaints resolution and grievance redressal system for polluted water, water leakage and sewer chokeage problems. Every month, about 100 consumers are selected randomly from the metro consumer complaints (MCC) database for detailed study. Surveyors visit households and gather detailed information about consumer satisfaction, their complaints resolution experience regarding water supply and sewerage services. Household samples of direct metro water supply and from corresponding service reservoirs are tested for quality & potability. Quarterly or half yearly results are being furnished to the MWB and discussed with senior officers. The 4th annual report for 2020-21 was furnished in Jun 22. The 1st semester field work for the year 2021-22 is in progress. In the meanwhile, we sent proposal for renewal of the MCC project for one more year and we yet to receive the response. In response HMWSSB has sanctioned the project for another six months with project cost of Rs 33.14 lakhs. This sanction helps to complete 5th Annual report for 2021-22.

4. Exploratory Survey of Bottled Water Plants in Hyderabad:

This is an exploratory survey of 34 commercial bottled water plants in greater Hyderabad area commissioned by HMWSSB. Growth of BWPs in Hyderabad is driven by two broad streams of demand, namely, (a) consumer demand for safe and conveniently packaged drinking water, and (b) growing industrial demand for bulk-water. Pharmaceutical and beverage industries are a major drivers of bulk drinking-water plants. All plants depend completely on groundwater and use RO technology. Most micro and small enterprises start by packaging in the 20L drinking water can as it requires least investment and are easily sold directly to households, restaurants and small businesses in the neighbourhood. Larger and established retail plants package water into a variety of containers ranging 2 and 1 litre bottles to 200ml pouches. Bulk drinking-water plants deliver their finished water to industries mostly using 20KL tankers. Most plants do not treat their RO-reject for secondary use and do not do anything to recharge groundwater. Many plants are deficient in quality control measures. About 65% plants did not have any post-treatment disinfection unit such as ozonation, UV or microfiltration to assure microbial quality of their finished product. The study report was submitted in Jun 2021.

5. Patient Satisfaction survey:

Patient satisfaction study is about overall satisfaction of patients or their attendants about the health care encounter with a service institution such as a hospital. IHS made a proposal to develop survey instruments and protocol for conduction of patient satisfaction surveys in teaching AYUSH hospitals in Telangana state like Ayurveda and Naturopathy hospitals with the objectives; (1) To develop survey instruments measurement of satisfaction among inpatients and outpatients, (2) To develop sampling procures and patient/attendant recruitment strategy for monthly patient satisfaction surveys in Government Ayurvedic Medical College Hospitals, (3) To assist AYUSH management towards institutions regular patient satisfaction surveys in ayurvedic hospitals. The proposals were made in the month of March 2022. Subsequently, AYUSH Department of TS Govt has sanctioned the projects for two hospitals; Govt Ayurveda College and Teaching Hospital at Erragadda and Naturopathic

College & Teaching Hospitals, Balkampet. The progress of both the projects are in advanced stage.

Current year (2022-23) proposed research projects:

IHS has made a proposal in the month of May 2022 to Telangana State Pollution Control Board (TSPCB) to empanel IHS and IHS Laboratory by explaining the IHS capacity in Environmental and public health areas. As part of the proposals, IHS has also expressed its willingness to take up environmental water quality testing, wastewater analysis, inspection, and water quality monitoring of lakes & urban water bodies, etc. After examining IHS proposal, TSPCB responded and decided in principle to assign following two projects and requested to send financial proposals:

- a. Monitoring of Lakes and water bodies in HMDA area:
- b. Gap Analysis of Biomedical waste treatment and disposal:

Detailed study was taken up and prepared certain document like (i) Sample Collection and Field Observation Report Format for lakes, (ii) Tank or Lake Water Sample Collection Guide, (iii) Laboratory Test Methods for Lake Water Quality and (iv) Methodology and Work Plan for Gap Analysis of Biomedical Waste Treatment and Disposal. The financial proposal was sent in the month of August 2022.

The TSPCB has responded positively and initially assigned to monitor 60 lakes in HMDA area on pilot basis with project cost of Rs 11.65 lakhs which need to be completed in six months.

B. Public Services:

1. Chemical Laboratory:

After shifting of the laboratory to the SRH campus, we filed an application with NABL for change of address and suitability of the chemical lab in the SRH premises. The assessment was done in Feb 2022 and satisfied with the laboratory environment. NABL has issued revised accreditation certificate with new address in the month of March 2022 which was valid until 05-08-2022. The renewal application has been filed with expanded scope by including parameters for wastewater analysis under the group; Environment & Pollution. The assessment was carried out by NABL in the month of June 2022 and accreditation certificate was issued in September 2022 which is valid upto 05-08-2024.

2. Biology (Microbiology) Laboratory:

We added the new equipment like high-capacity incubator, bio-freezer, deep-freezer. Personnel have been trained for performing bacteriological endotoxin (LAL) tests. We have organised the biolab space and workflow path in new premises i.e SRH campus to comply with NABL accreditation criteria. A consultant has been appointed to guide on the technical issues keeping in view the NABL compliance. The microbiological parameters under the groups (i) Water, (ii) Environment & Pollution (Wastewater) and (iii) Drugs & Pharmaceuticals (Bacterial Endotoxin) are included in the scope while filing renewal application with NABL. The assessment was carried out by NABL in the month of June 2022 and accreditation certificate was issued in September 2022 which is valid upto 05-08-2024.

3. Accessible Water Testing & Analytical Services for Public Health (AWTASPH):

The IHS Laboratory seeks to empower people by easily accessible to water quality testing services. Test-packages are designed for water from different sources for various uses. As of April 2022, the laboratory tests catalogue includes 25 multi-parameter test packages, and 42 single or limited parameter test services. The multi-parameter test-packages include; basic/complete/groundwater/bottled water potability tests (BPT/CPT/GPT/BWP), basic (municipal water distribution) system vulnerability (BSV), dialysis water testing, swimming pool water quality, and waste water analysis.

Notes and recommendations attached to test reports in a unique feature of water quality test services from the IHS laboratory. People usually have concern about safety and suitability of water for an intended use. For example; is this water safe to drink? Can I use my borewell water for domestic purposes? Is it suitable for gardening? Some clients ask if their water suitable for poultry, fisheries or other animal feed. A baker would be concerned about suitability of water for their operations and a food processing industry would want to know if the water is suitable for washing and cleaning of raw fruits and vegetables. To meet various client concerns, IHS faculty refer applicable standards, fact sheets, public health and/or environmental protection agency advisories, industry guidelines, etc. to offer notes and recommendations regarding suitability of the particular water sample submitted for analysis for their intended purpose.

4. Library: The scope for proactive acquisition of bibliographic resources has been limited due to financial constraints. In addition, lack of space and a full-time librarian is a key constraint in developing the library services. To streamline the library, we have weeded out obsolete holdings.

5. Publications: IHS and related publications in the reporting year are listed in Annex 3.

C. Training Activities:

The Institute's training program is now limited to skill development internships in laboratory techniques, field testing, sample collection, sanitary inspection of service reservoirs, water safety, data processing activities.

Table 2: Overview of Internships at IHS, 2021-22.

Sl	Practice & Skill Development	Reporting Year, 2021-22				As on 31-03-22	Current Year 2022-23Ytd			As on 30-09-22
		Intake	Dropouts	Compl	Relieved		Intake	Dropouts	Compl	
1	Laboratory Technique	0	0	1	3	0	2	0	0	2
2	Water Safety Program	0	0	0	0	0	0	0	0	0
3	FTRC & sample collection (WQI)	0	2	0	3	0	0	0	0	0
4	Lab Registry & Front Office	1	1	0	0	1	0	0	0	0
5	Data Processing.	0	0	0	0	0	0	0	0	0
Total		1	3	1	6	1	2	0	0	2

Table-2 shows an overview of internships offered by the IHS during the reporting period and current year. We had to relieve four candidates before completion of the internship, as the field training opportunity shrunk due to closure of the WQM project.

Number discontinued and completed do not add up to the number joined because each of these figures are about join/drop/complete events during the year in respect of persons who might have joined as interns during the current as well as previous periods. An internship is usually of one year duration. Annex-4A gives short biographies of fellows and interns, and Annex-4B gives a list of fellows & interns who left the Institute for various reasons.

D. Academic Programs:

1. Masters in Public Health (MPH): There is no further development since the last meeting.

2. IHS Land-High Court case:

There is no further development since last meeting on the Public Interest Litigation (PIL) case which was filed and the last listed date was on 31/8/2015. Sri D. Prakash Reddy, the Institute's advocate, did argue our case and no final order has been passed by the court.

3. Land Development Charges:

The members are aware that, pending finalisation of the court proceedings, we initiated proposal with HMDA for conversion of land use from recreational zone to institutional zone. We paid an amount of Rs 9,90,000 towards 50% of the development charges on 24/03/2014. Payment of balance 50% of development charges to HMDA along with interest is pending. In March & Jun 2018, we requested HMDA to calculate the balance to be paid along with draft challan. HMDA has referred the issue to TS Govt and further there is no response.

Relocation of the Institute and IHS Laboratory:

The circumstances in which the IHS has to relocate to SRH Campus was explained in the last Directors Report 2020-21. On 12th November, 2021, the Institute of Health Systems and the IHS Laboratory moved from HACA Bhavan to Sivananda Rehabilitation Home Campus.

Taking Stock of the Institute's Financial Position:

1. Revenue form Laboratory Services:

In recent years, the laboratory has significantly increased its output and has also been a major source of revenue. An overview of revenue from IHS laboratory services is in Annex-5 which shows that, most of the revenue is being generated from HMWSSB for monitoring water quality at various points of water distribution system operated by them up to the year 2020-21. As the Institute could not continue with the HMWSSB - Water Quality Monitoring overall revenue form laboratory services are fallen in the year 2021-22 and the current year as on date. Similarly, the revenue form general public has fallen from 2020 when compared to 2017-19 may be due to covid19.

2. Overall Revenue Trend:

Classification of the Institute's revenue from domestic and foreign sources as well as by activity is given in Annex-6. In Figure-1 the gross revenue generated by the Institute from the financial year ending in March 1999 has been summarized. The gross revenue during the last three years has been stagnant. However, during 2021-22, the revenue has fallen due to

end of the WM project from HMWSSB. Figure-2, shows that, most of our revenue has been contributed by Research and Consultancy till 2012. Revenue from research activities reduced in the years 2013 to 2017. From 2018 onwards, there is modest increase in revenue from research. This trend is expected to continue for the current year.

Figure 1: IHS Gross Revenue Trend Since 1999

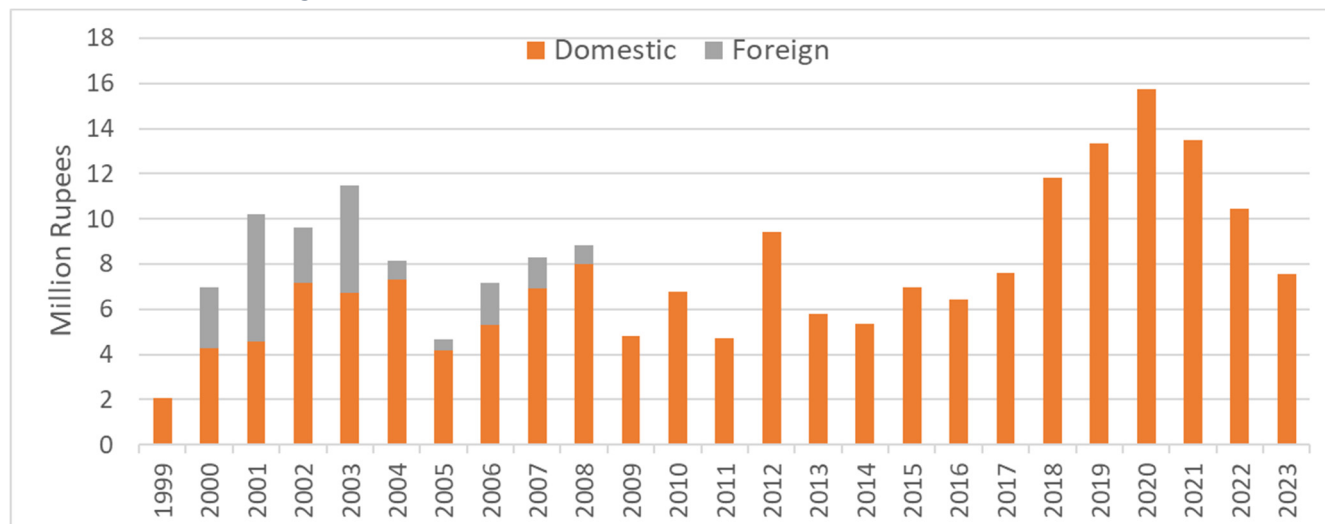
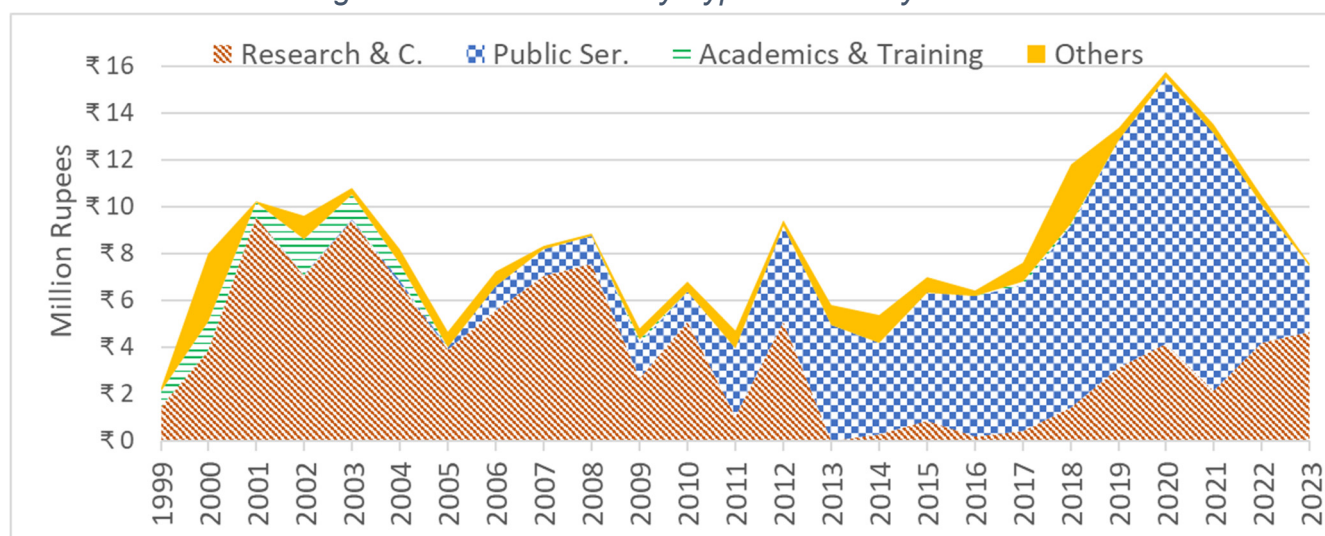


Figure 2: IHS Revenue by Types of Activity



I look forward for your guidance in addressing these important issues.


Accounts and Audit Report:

The audited accounts of the Institute for the year 2021-22, as approved by the Executive Committee, have been enclosed. I now request you to consider the same and give your approval with suggestions if any.

Finally, I thank you for having spared the time to participate in this meeting. Your presence is a great inspiration to me, and my colleagues.

I would now request you to consider this report and give your valuable advice and guidance for further development of the Institute. We would like to assure you that we will do our best to translate your ideas and suggestions into action.

Date: 26/11/2022


26/11/2022
G. Surendra, Director

Annex -1A

Faculty and Personnel Profile

Full Time Faculty

G Surendra, Director

Sri G. Surendra has rich experience in various areas of public administration, including; (a) Planning & Statistics, (b) Rural & Urban Development, (c) Information Technology, and (d) Hospital Management. Prior to IHS, he served as Associate Director & Chief Technology Officer of the LV Prasad Eye Institute, and before that he worked with Planning Department of the Government of AP in various capacities. He is a Certified Information Systems Auditor. He was involved in various health related activities such as Health Financing, Health accounts and Various Health related studies. He presented a Poster on Andhra Pradesh Civil Registration System at First Global Symposium on Health Systems Research at Montreux, Switzerland. Some of other publications to his credits are: Gap Analysis in Rural Health care Facilities in Mahaboobnagar District, Drinking Water Quality Monitoring in Service Reservoirs and Urban Slums of Hyderabad City, A Study of Emergency Response Services in three districts of Andhra Pradesh, Andhra Pradesh Civil Registration System Study, Assessment of Doctor Availability in Primary Health centers and provide inputs for Human Resource Planning for Health, Medium Term Expenditure Framework for the years 2008-09 to 2012-13 for the Department of Health Medical & Family Welfare, Govt of Andhra Pradesh, Health Budget & Expenditure Tracking for the department of Health, Medical & Family welfare, for the Govt of Andhra Pradesh, Madhya Pradesh and Kerala. He is also implementing the projects on independent water quality monitoring in service reservoirs and urban slums in Hyderabad city and Metro Consumer Complaints Surveillance on Water Safety in Hyderabad. To manage the IHS Laboratory, he has undergone training on Laboratory Quality Management System and Internal Audit as per ISO/IEC 17025:2005 and also attended the training in update version i.e. ISO/IEC 17025:2017.

Dr. Prasanta Mahapatra, Dean

Dr. Prasanta Mahapatra, is a medical doctor, a Takemi Fellow in International Health and a PhD in International Health Policy & Economics from Harvard University. After practicing for some time as a Medical Officer in the Central Government Health Scheme, Dr. Mahapatra joined the Indian Administrative Service, in 1980. He served in various capacities in East-West Godavari, Nellore, Nalgonda, Krishna and Guntur districts. He is experienced in revenue, general administration, disaster management, rural development, tribal welfare, women welfare, medical, health, information technology, irrigation and school education sectors. His experiences in the health field includes Registrar of the NTR University of Health Sciences, Director Medical Education, Commissioner Medical Services, Senior Faculty at the Administrative Staff College of India, Director Institute of Health Systems, and Director - Vice Chancellor of the Nizams Institute of Medical Sciences. Before his retirement from civil service, he was the Director General of the MCR Human Resources Development Institute and Ex-officio Special Chief Secretary to Govt. of AP. He has served as member of ICMR Scientific Advisory Group, and Core Group of the Department of Health

Research. He was a member of the steering group of the National Nutrition Mission. He was a member of the Scientific and Technical Advisory Group of the WHO - Alliance for Health Policy & Systems Research from 2009-15. Dr. Mahapatra has contributed to the Global Burden of Disease estimates published in the World Bank's World Development Report, 1993. He was a consultant to the Asian Development Bank, regarding development of fund mobilization strategy by the Bhutan Health Trust Fund, and development of ADB's India Health Strategy. He has published articles and books in the fields of general administration, rural development, and public health.

Sudhakar Damera, Faculty & Asst Director

Sudhakar Damera received his Masters' degree in Environmental Sciences from the Osmania University and has an Advanced Diploma in Industrial Safety from DM Polytechnic, Nagpur. Till recently, he was sponsored by the UNICEF as a Senior Research Fellow and NABL Documentation Specialist for Drinking Water & Sanitation Program Management, in the office of Chief-Engineer-cum-Executive Director, Jharkhand Government. Earlier, he was a Research Fellow at the CSIR - National Environmental Engineering Research Institute (NEERI), Nagpur, from 2012-2018. At NEERI, he worked on various aspects of water safety including monitoring and surveillance of water quality in rural areas, research and development of water treatment technologies, and training for capacity building. His work on treatment technologies was about removal of excess minerals and toxic substances like arsenic, chromium, selenium and fluoride from water using electrocoagulation technique. He was a trainer-demonstrator of water quality parameter testing to laboratory staff from various State Rural Water Supply Agencies and Pollution Control Boards. During his Masters' program, he completed a project on estimation of major and trace elements present in soil samples nearby Uppal, Hyderabad.

Dr. Mathru Ramavathu, Faculty & Asst Director

Dr. Mathru Ramavathu did his medical graduation in Naturopathy and Yogic Sciences (BNYS) in the year 2016 and did Master's in Public Health (MPH) from University of Hyderabad in 2019. He also did his PG Diploma in Emergency Medicine from Symbiosis International University, Pune in 2020. He did his internship in Gandhi Nature Cure Hospital, ESIC Medical College, Hyderabad and at Ashray Akriti an NGO (on hearing impairment - Profile writing and camp coordinator). He got one year of clinical experience as General Duty Medical Officer in Covid Care Center, Nuzvid and as AYUSH Medical officer under RBSK for 6 months. He also worked as duty medical officer in various hospitals (Naturopathy and Allopathy) in Hyderabad for 5 years. He worked as a field investigator for the project "Health and Well Being of Cotton Seed Girls" in Telangana and Maharashtra for 6 months. His areas of interest: Monitoring and evaluation of health programme, public health Finance and research, Maternal and child health. Presently he is working in IHS as Faculty and Assistant Director focusing on the development of survey instrument and protocol for patient satisfaction survey for AYSUH hospitals.

Visiting Faculty:

Prof Dayakar Thota

Dr Dayakar Thota is an Ex-Armed Forces Medical officer and also holds his PG in Hospital Administration from University of Pune. He served the Indian Army from 1971 to 1994 and took part in 1971 Indo-Pak war as well as IPKF operations in Sri Lanka. He holds a Masters' degree in Defence Sciences from Madras University. Dr Thota is a qualified Lead Quality Assessor and trained NABH assessor and also a Certified Six Sigma Black Belt.

Prof (Lt. Col) Dayakar Thota was long term Medical Director for Ramdevrao Hospital, a charitable hospital located in Kukatpally, Hyderabad and currently he is executive member of the Ramdevrao Hospital and also the Governing Body of member of HIS. Dr Thota's versatile experience includes; (a) Professor & Head of Department of Hospital Administration at Kamineni Institute of Medical Sciences, (b) Chief Learning Officer, Health Management & Research Institute, Hyderabad (104), (c) Director, Institute of Health Systems, Hyderabad, (d) Medical Director, Emergency Management & Research Institute (108), Hyderabad, (e) Management Consultant & Additional Director (Hospital Services), MGM Medical college Hospital, Aurangabad, (f) Medical Superintendent and Professor, Dept. of Hospital Administration, Nizam's Institute of Medical Sciences (NIMS), Hyderabad, (g) Additional Director, Dhirubhai Ambani Hospital, Lodhivali, Maharashtra, (h) CEO, Lokmanya Hospital, Chinchwad, Pune, (i) Professor of Hospital Administration & Deputy Medical Superintendent, Kasturba Hospital (MAHE), Manipal. He has audited of a number of HCEs for ISO certification. Dr Thota is a life member of professional bodies such as AHA, AHHA, AGE, ISHA, IAMI and IHS.

Research, Laboratory and General Support Personnel:

P. Sravanthi Reddy, Chemical Analyst:

P. Sravanthi Reddy graduated in Chemistry and then did a PG Diploma in Chemical Analysis & Quality Assurance from Osmania University. Her project work during the PG Diploma course was on "Detection and Estimation of Alcohol in Biological Fluids" by Means of Gas Chromatography at Central Forensic Science Laboratory (CFSL), Hyderabad. She worked as a Project Analyst (2005-07) in Telangana Pollution Control Board (TPCB - Central Laboratory), Hyderabad. In 2008 she received Masters Degree in Chemistry from Nagarjuna University. She then worked (2008-09) as Analyst for Universal Enviro Associates Pvt Ltd, dealing with water analysis. Prior to joining IHS, she was Team Leader - Environment in Bhagavathi Ana Labs Pvt.Ltd., Hyderabad and received Internal Auditor training on integrated management systems. Presently she is Chemical Analyst at IHS since 1st Aug, 2017.

B.V. Victoria Microbiologist:

B.V. Victoria, did her postgraduation in Biotechnology in 2017, from University College of Science, Hyderabad, affiliated to Osmania University. She did the project "Isolation & Identification of *E.coli* & Lambda phage by Multiplex PCR" from Mahatma Gandhi National Institute of Research & Social Action, Hyderabad, that is published in International Journal of Applied Research 2017;3(5): 827-829. She attended the seminars related to DNA. Her Internship in Microbiology Lab Technique at IHS, started on 27-04-

2018 and completed by 10th July 2019. She worked as Microbiologist in Vitro Labs from July 2019 to Sep 2019. Currently, she is the lead Microbiologist in IHS Laboratory, from 30th September 2019.

A. Nikitha, Laboratory Technician:

Ms A. Nikitha did her Post Graduation in Microbiology, from Siddhartha Degree & PG College affiliated to Osmania University in 2018. Her internship in Laboratory Techniques at IHS-Biology Lab started from 12th Oct 2020 and completed by 31st Jan 2022. Presently she is working as Laboratory Technician in Biology lab since 1st Feb 2022.

D. Giridhar, Water Safety Surveyor:

Mr. D. Giridhar is an engineering graduate in B. Tech in EEE from Geethanjali College of Engineering & Technology. He worked as a Technical Support Associate in Genpact for Go-daddy process for 13 months. And he also worked in Senior Associate in Wipro BPS for the period of 15 months. His internship in Water Safety Program at IHS started from 01st January 2020 and completed by 28th Feb 2021. After internship he is working in IHS as Water Safety Surveyor since 1st March 2021,

K. Prabhakar, Water Quality Investigator:

Intermediate with Mathematics, Physics and Chemistry from Nava Chaitanya Junior College, Hyderabad affiliated to the State Board of Intermediate Education. Completed internship at IHS on Field Testing of Residual Chlorine & Water Sample Collection (Water Quality Investigation), by 31st Aug 2015. He is working as Water Quality Investigator / Field Surveyor for MCC since June 2017.

D. Ashok Kumar, Water Quality Investigator:

Graduate in B.Sc Botany, Bio-Technology and Chemistry from National Degree College, Palvanha which is affiliated to the Kakatiya University. Completed internship at IHS, on Field Testing of Residual Chlorine & Water Sample Collection, by 24th July 2017. He worked as Water Quality Investigator / Field Surveyor for MCC from 01st Aug 2018 to 07th March 2020. Again, he is reappointed as Water Quality Investigator / Field Surveyor for MCC from 1st Dec 2021.

Nagaraju, Water Quality Investigator:

Intermediate with Mathematics, Physics and Chemistry from Nava Chaitanya Junior College, Hyderabad affiliated to the State Board of Intermediate Education. His internship started at IHS on Field Testing of Residual Chlorine & Water Sample Collection (Water Quality Investigation), from 15th May 2020 and completed by 31st May 2021. After internship, he is working in IHS as Water Quality Investigator from 1st Jun 2021

A. Venkata Sruthi, Accountant cum Front Office Executive

Venkata Sruthi completed her graduation with Microbiology, Botany and Chemistry from Rama Krishna Degree College, Jagtial in 2009. Then she did M.B.A (Finance & Marketing) at Bandari Srinivas Institute of Technology, Hyderabad in 2004. She got 4.5 years of accounting experience from Sri Lakshmi Developers and Sathavahana ISPAT limited from 2011 to 2019. She also worked as Teacher (part-time) in Springboard Pre School from June 2019 to April 2020. She is working in IHS as Accountant cum Front Office

Executive and Lab Registrar since Jun2022. She is conversant with scope of various laboratory services, registration of laboratory test requests, tracking & delivery of test reports. She maintains contact with clients and follows-up to gather client feedback.

Annex - 1B

Outgoing Personnel in 2021-22 & 2022-23(Ytd).

Faculties & Associates:

Name	Designation	Join date	Leave date	Remarks
2021-22				
1 Dr.D. Neela Priya	Dy Director & Faculty	27-11-2019	30-06-2021	Resignation due to personal reasons
2 Dr. K. Pavan Kumar	Dy Director & Sr. Faculty	02-09-2021	20-10-2021	Resignation due to personal reasons

Data Processing, Research Assistants & Investigators:

Name	Designation	Join date	Leave date	Remarks
2021-22				
1 Y. Sirisha	Data Proc Officer & RA	01-08-2018	08-10-2021	Resignation due to personal reasons
2 B. Hasanathi	Data Proc Officer & RA	26-07-2021	31-08-2021	Relieved due to project closure

Water Quality Lab Personnel:

Name	Designation /project	Join date	Leave date	Remarks
2021-22				
1 S.Pavan Kumar	Joint Chemical Analyst	16-12-2019	31-08-2021	Relieved due to project closure
2 Mohammed Afzal Uddin	Water Quality Investigator	1-8-2018	31-08-2021	Relieved due to project closure
3 K.Karthik	Water Quality Investigator	1-8-2018	31-08-2021	Relieved due to project closure
4 B. Venkateswarlu	Water Quality Investigator	1-10-2018	31-08-2021	Relieved due to project closure
5 M.Pavan Kalyan	Water Quality Investigator	1-11-2019	31-08-2021	Relieved due to project closure
6 Mohd. Moiz Uddin Ahmed	Water Quality Investigator	1-04-2020	31-08-2021	Relieved due to project closure
7 M.Durgaprasad	Water Quality Investigator	1-04-2020	31-08-2021	Relieved due to project closure
8 N.Ravinder	Water Quality Investigator	1-04-2020	31-08-2021	Relieved due to project closure
9 T.Bharath	Water Quality Investigator	1-06-2020	31-08-2021	Relieved due to project closure
10 K.Kalyan Kumar	Water Quality Investigator	1-04-2020	31-08-2021	Relieved due to project closure
11 M. Ajay Kumar	Water Quality Investigator	1-11-2019	31-03-2022	Resigned for better opportunity.

General Support

Name	Designation/Project	Join date	Leave date	Remarks
2021-22				

1	D. Krishnaveni	Front Office Exe & Lab Registrar	1-10-2010	30-04-2021	Resignation due to personal reasons (marriage).
2022-23					
1	K. Anusha	Front Office Exe & Lab Registrar	12-04-2022	30-06-2022	Resignation due to personal reasons (Conceive).

Notes: Join date is the first day of the current spell of personal affiliation with Institute. However, the nature of initial affiliation might have been different from the status at the time of exit. For example, a person may join as an intern or apprentice and may then be employed by the Institute at the end of internship. Similarly, the designation of those employed may change from the date of entry to the date of exit.

Annexure-2

IHS Participation in Training Programs, Workshops, Seminars and Conferences in 2021-22 & 2022-23 (Ytd)

P. Sravanthi Reddy, Chemical Analyst and Research Associate

Course/Workshop Title	Institution	Dates
Awareness training on ISO/IEC 17025: 2017	Training by G. Srikanth Reddy, Consultant from Spark Analytics, Hyderabad.	2022 May 23
India Lab Expo 2022 at Hitex Exhibition centre, Hyderabad.	Analytical Anacon India by Messe Muenchen India Pvt. Ltd. Mumbai	2022 Sep 16

B. V. Victoria, Microbiologist

Course/Workshop Title	Institution	Dates
Internal auditor & Quality manager course in ISO 17025 2017 standards	QGlobal Management Consultants Pvt Ltd	2021 Aug 14-17
Awareness training on ISO/IEC 17025: 2017	Training by G. Srikanth Reddy, Consultant from Spark Analytics, Hyderabad.	2022 May 23
India Lab Expo 2022 at Hitex Exhibition centre, Hyderabad.	Analytical Anacon India by Messe Muenchen India Pvt. Ltd. Mumbai	2022 Sep 16

Sudhakar D, Faculty & Assistant Director

Course/Workshop Title	Institution	Dates
Awareness training on ISO/IEC 17025: 2017	Training by G. Srikanth Reddy, Consultant from Spark Analytics, Hyderabad.	2022 May 23

A. Nikitha, Laboratory Technician

Course/Workshop Title	Institution	Dates
Refresher training on Standard plate count	Internal training at The Institute of Health Systems by B.V. Victoria, Microbiologist.	2022 Jan 13
Refresher training on Heterotrophic plate count	Internal training at The Institute of Health Systems by B.V. Victoria, Microbiologist	2022 Feb 08
Refresher training on Total viable count	Internal training at The Institute of Health Systems by B.V. Victoria, Microbiologist	2022 Apr 18
Refresher training on Bacterial Endotoxin Test (BET)	Internal training at The Institute of Health Systems by B.V. Victoria, Microbiologist	2022 Apr 19

Awareness training on ISO/IEC 17025: 2017	Training by G. Srikanth Reddy, Consultant from Spark Analytics, Hyderabad.	2022 May 23
India Lab Expo 2022 at Hitex Exhibition centre, Hyderabad.	Analytical Anacon India by Messe Muenchen India Pvt. Ltd. Mumbai	2022 Sep 16

V. Harshada, Intern in Laboratory Technique

Course/Workshop Title	Institution	Dates
India Lab Expo 2022 at Hitex Exhibition centre, Hyderabad.	Analytical Anacon India by Messe Muenchen India Pvt. Ltd. Mumbai	2022 Sep 16

Annexure-3

IHS Publications in 2021-22 & 2022-23 (Ytd)

Reports:

- RC64/21 A Study of Consumer Complaints Regarding 'Polluted Water Supply' By The Hyderabad Metro Water Board.
Prasanta Mahapatra, G. Surendra
- RP65/21 An Exploratory Study of Bottled Water Plants in Hyderabad
Prasanta Mahapatra, D. Neela Priya, G. Surendra
- RC66/21 A Study of Consumer Complaints and Water Safety in Hyderabad: 2017-18 Report.
Prasanta Mahapatra, G. Surendra

Working Papers:

Books:

NIL

Annex -4A:

Fellows & Interns, in 2021-22 & 2022-23(Ytd).

N. Sandeep, Intern in Field Testing and Sample Collection:

Intermediate with Mathematics, Physics and Chemistry from Shantiniketan Junior College, Hyderabad affiliated to the State Board of Intermediate Education. His internship started at IHS on Field Testing of Residual Chlorine & Water Sample Collection (Water Quality Investigation), from 15th May 2020, but terminated on 31st Aug 2021 due to WQM project closure.

Mohammed Jilani, Intern in Field Testing and Sample Collection:

Intermediate with Mathematics, Physics and Chemistry from Sri Sai Vidya Vikas Junior College, Hyderabad affiliated to the State Board of Intermediate Education. His internship started at IHS on Field Testing of Residual Chlorine & Water Sample Collection (Water Quality Investigation), from 15th May 2020 but terminated on 31st Aug 2021 due to WQM project closure

S. Nagaraju, Intern in Field Testing and Sample Collection:

Intermediate with Mathematics, Physics and Chemistry from Nava Chaitanya Junior College, Hyderabad affiliated to the State Board of Intermediate Education. His internship started at IHS on Field Testing of Residual Chlorine & Water Sample Collection (Water Quality Investigation), from 15th May 2020 and completed by 31st May 2021.

K. Bhavani, Intern in Laboratory Technique:

Ms K. Bhavani did her graduation in Life science microbiology, biochemistry and Chemistry, from Aurora Degree & PG College, Hyderabad affiliated to the Osmania University, in 2019. She is pursuing her M.Sc Microbiology from Mumtaz PG College in Hyderabad. Her internship started in Laboratory Techniques at IHS-Biology Lab from 01st July 20 and completed by 31st Aug 2021.

A. Nikitha, Intern in Laboratory Technique:

Ms A. Nikitha did her Post Graduation in Microbiology, from Siddharrtha Degree & PG College affiliated to Osmania University in 2018. Her internship in Laboratory Techniques at IHS-Biology Lab started from 12th Oct 2020 and completed by 31st Jan 2022.

K. Venkatesh, Lab Registrar Cum Front Office Executive:

Mr. Venkatesh, graduated with Electronics and Computer science from A.S.N Degree College, affiliated to the Acharya Nagarjuna University, in 2020. He did his internship in Front Office Management at IHS by from 1st May 2021 to 31st March 2022.

CH. Neeraja, Intern in Laboratory Technique:

Ms CH. Neeraja did her Graduation in Microbiology, from St. Ann's College for Women affiliated to Osmania University in 2020. She started her internship in Laboratory Techniques at IHS-Biology Lab from 22nd Mar 2021 but terminated by 31st Aug 2021 due to WQM project closure.

Shahair Banu, Intern in Laboratory Technique:

Mrs Shahair Banu did her Graduation in Chemistry, from Sujatha Degree College for Women affiliated to Osmania University in 2016. She started her internship in Laboratory Techniques at IHS-Biology Lab from 20th Mar 2021 but terminated by 31st Aug 2021 due to WQM project closure.

M. Krishna, Intern in Field Testing and Sample Collection:

Intermediate with Mathematics, Physics and Chemistry from Mahaboob junior college which is affiliated to the State Board of Intermediate Education. His internship started at IHS as Water Quality Investigator since 27th May 2021, but terminated by 31st Aug 2021 due to closure of WQM project.

V. Harshada Intern in Laboratory Technician:

V. Harshada did her post-graduation in environmental science from Padmashri Vikhe Patil College of Arts, science, and Commerce Pravaranagar loni, Ahmednagar in 2019. she worked in Skylab Analytical Laboratory (Kalyan, Mumbai) as Junior Chemist in water and wastewater analysis in July 2019 to March 2020. Presently she is working in Institute of Health Systems Laboratory as Intern in chemical lab since 1st june 2022

Thota Naga Swetha, Intern in Laboratory Assistantship:

Thota Naga Swetha completed her Graduation in Biotechnology, Botany and Chemistry in the year 2022 from Osmania University, Hyderabad. She did internship in Institute of Genetics and Hospital for Genetic Diseases in the month of December 2021. She took the training on Medical Coding & Billing in Arise Foundation for the period from 25- 09-2021 to 08-01-2022. She received the training on Digital Marketing in Anudeep foundation from September to November 2021. She also trained in IT and English Communication in Anudeep Foundation from April to June 2021. She joined in The Institute of Health System as Intern in Chemical Lab since April 2022. With the training in first semester, she is able to test most of the physical and chemical parameters independently.

Annex - 4B

Outgoing Fellows, Interns and Apprentices, in 2021-22 & 2022-23 (Ytd).

Fellows:

Name 2021-22	Designation	Join date	Leave date	Remarks
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Data Processing Interns:

Name 2021-22	Designation	Join date	Leave date	Remarks
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Water Quality Lab Interns:

Name 2021-22	Practice & Skill	Join date	Leave date	Remarks
M. Suresh	Field Testing & Sample Collection	15-06-2020	31-05-2021	Discontinued due to family problems
Mohd Jilani	Field Testing & Sample Collection	15-05-2020	31-08-2021	Relieved due to project closure
N.Sandeep	Field Testing & Sample Collection	15-05-2020	31-08-2021	Relieved due to project closure
M.Krishna	Field Testing & Sample Collection	27-05-2021	31-08-2021	Relieved due to project closure
Ch. Neeraja	Lab Technique	22-03-2021	31-08-2021	Relieved due to project closure
Shahair Banu	Lab Technique	20-03-2021	31-08-2021	Relieved due to project closure
K. Bhavani	Lab Technique	01-07-2020	31-08-2021	Term Completed
A. Nikhita	Lab Technique	12-10-2020	31-01-2022	Term Completed
S. Rohit	Field Testing & Sample Collection	27-01-2021	28-02-2022	Irregular and not shown up.

General Support Interns:

Name 2021-22	Designation/Project	Join date	Leave date	Remarks
K. Venkatesh	Front Office and lab Registration	1-5-2021	31-03-2022	Resigned for better opportunity

Apprentices:

Name 2021-22	Designation	Join date	Leave date	Remarks
None				

Annexure-5

Revenue from IHS Laboratory Services

Year	Source of Revenue				Total
	HMWSSB	EM-ResPj	IM-ResPj	Public	
2006-07	1,280,650	212,521	0	20,575	1,513,746
2007-08	1,263,000	450,000	0	34,465	1,747,465
2008-09	1,178,680	412,670	0	45,913	1,637,263
2009-10	1,519,475	100,800	0	75,375	1,695,650
2010-11	3,057,846	203,500	0	96,325	3,357,671
2011-12	3,966,215	8,400	0	92,700	4,067,315
2012-13	4,832,964	0	0	89,775	4,922,739
2013-14	3,670,530	132,750	0	90,000	3,893,280
2014-15	5,295,762	35,040	0	131,450	5,462,252
2015-16	6,347,591	16,000	0	245,925	6,609,516
2016-17	6,607,801	225,368	159,000	365,265	7,357,434
2017-18	8,238,634	171,269	600,000	465,252	9,475,155
2018-19	8,866,030	0	1,061,000	416,001	10,343,031
2019-20	9,424,789	117,350	1,511,400	323,200	11,376,739
2020-21	9,905,261	111,209	756,000	220,060	10,992,530
2021-22	4,155,000	252,295	1,188,000	336,554	5,931,849
2022-23 Ytd	0	224,712	1,350,000	297,732	1,872,444

HMWSSB = Hyd Metro Water Supply & Sewerage Board - monitoring of residual chlorine in reservoirs, and slum area; ResPJ-EM = Water quality testing services for research projects in other (extramural) agencies, ResPj-IM = Water quality testing services for research projects in IHS, Public = Over the counter, water quality testing services to general public.

Annex-6:

IHS Revenue Trends by sources and by activity

Year	Gross Revenue			Revenue by Type of Activity			
	Domestic	Foreign	Total	Research & Consultancy	Public Services	Academics & Training	Others
1999	₹ 20,66,525	₹ 0	₹ 20,66,525	₹ 14,40,625	₹ 42,542	₹ 6,65,900	₹ 1,41,553
2000	₹ 42,49,243	₹ 27,20,925	₹ 69,70,168	₹ 38,34,275	₹ 21,569	₹ 12,37,020	₹ 28,65,737
2001	₹ 45,60,092	₹ 56,68,363	₹ 1,02,28,455	₹ 95,27,906	₹ 36,152	₹ 5,96,257	₹ 68,140
2002	₹ 71,62,946	₹ 24,51,095	₹ 96,14,041	₹ 70,29,835	₹ 37,236	₹ 15,56,105	₹ 9,90,865
2003	₹ 67,18,690	₹ 47,84,857	₹ 1,15,03,547	₹ 93,89,693	₹ 53,384	₹ 10,43,050	₹ 2,79,991
2004	₹ 73,29,734	₹ 8,26,363	₹ 81,56,097	₹ 66,76,243	₹ 1,42,190	₹ 7,44,408	₹ 6,20,288
2005	₹ 41,80,215	₹ 4,70,160	₹ 46,50,375	₹ 38,72,674	₹ 98,175	₹ 0	₹ 6,79,526
2006	₹ 53,19,507	₹ 18,45,761	₹ 71,65,268	₹ 55,55,979	₹ 10,45,095	₹ 0	₹ 6,12,519
2007	₹ 68,98,526	₹ 14,14,996	₹ 83,13,522	₹ 70,10,918	₹ 11,64,000	₹ 0	₹ 1,38,604
2008	₹ 79,85,882	₹ 8,40,277	₹ 88,26,159	₹ 75,64,690	₹ 11,74,555	₹ 0	₹ 86,914
2009	₹ 48,08,436	₹ 0	₹ 48,08,436	₹ 26,47,624	₹ 15,15,120	₹ 1,75,000	₹ 4,70,692
2010	₹ 67,74,122	₹ 0	₹ 67,74,122	₹ 50,54,076	₹ 12,85,368	₹ 0	₹ 4,34,678
2011	₹ 46,99,440	₹ 0	₹ 46,99,440	₹ 10,30,706	₹ 29,07,903	₹ 0	₹ 7,60,831
2012	₹ 94,08,422	₹ 0	₹ 94,08,422	₹ 50,88,933	₹ 40,77,380	₹ 0	₹ 2,42,109
2013	₹ 58,09,751	₹ 0	₹ 58,09,751	₹ 0	₹ 49,22,964	₹ 0	₹ 8,86,787
2014	₹ 53,56,163	₹ 0	₹ 53,56,163	₹ 2,72,700	₹ 38,95,080	₹ 0	₹ 11,88,383
2015	₹ 69,65,291	₹ 0	₹ 69,65,291	₹ 8,53,800	₹ 54,62,252	₹ 0	₹ 6,49,239
2016	₹ 64,19,805	₹ 0	₹ 64,19,805	₹ 1,68,000	₹ 59,80,642	₹ 0	₹ 2,71,163
2017	₹ 75,90,076	₹ 0	₹ 75,90,076	₹ 4,32,859	₹ 62,15,371	₹ 1,62,000	₹ 7,79,846
2018	₹ 1,18,02,862	₹ 0	₹ 1,18,02,862	₹ 14,27,577	₹ 77,47,882	₹ 70,000	₹ 25,57,403
2019	₹ 1,33,50,640	₹ 0	₹ 1,33,50,640	₹ 31,49,653	₹ 96,79,790	₹ 10,000	₹ 5,11,197
2020	₹ 1,57,34,668	₹ 0	₹ 1,57,34,668	₹ 41,27,949	₹ 1,13,76,739	₹ 0	₹ 2,29,980
2021	₹ 1,34,89,654	₹ 0	₹ 1,34,89,654	₹ 21,20,352	₹ 1,09,92,530	₹ 0	₹ 3,76,772
2022	₹ 1,04,54,718	₹ 0	₹ 1,04,54,718	₹ 41,64,165	₹ 59,31,849	₹ 0	₹ 3,58,704
2023	₹ 75,36,305	₹ 0	₹ 75,36,305	₹ 46,39,683	₹ 28,38,444	₹ 0	₹ 58,178

Institute's financial years are from April to March. Here each financial year is represented by the calendar year in which the financial year ends. For example, 1991 = FY 1990-91.

Figures for current financial year (2022-23) is an estimate based on year to date + anticipated receipts.

Date: 26/11/2022

G Surendra, Director