Clean water for all

ICCW
INTERNATIONAL CENTRE FOR CLEAN WATER

ANNUAL REPORT 2020

INTERNATIONAL CENTRE FOR CLEAN WATER

An initiative of IIT Madras

PREFACE

Water is change. It transforms economies, changes societies and rejuvenates people. Water is the world that connects every aspect of life. Access to safe water can turn disputes into harmony– empowering people and families around the world. The International Centre for Clean Water (ICCW) is the realisation of these maxims. Envisioned by Professor T Pradeep, ICCW, which began its journey in late 2018 is a not-for-profit organisation, located in 21,000 sq. ft space inside the IITM Research Park, Chennai.

ICCW is a first of its kind network of renowned water professionals to ideate, nurture and translate disruptive technologies for sustainable clean water. ICCW works to take start-up ideas on a large scale, delivering sustainable clean water solutions with the collective participation of the global community.

Joining hands with governments, academia, industries, co-operatives, NGOs, and communities, ICCW offers world-class infrastructure for water research, product design, implements sustainable clean water technologies, conducts water quality analysis, validates water technologies, initiates capacity building and training of water professionals and conducts outreach activities to create awareness and water stewardship.

This annual report gives an overview of the activities of the Centre during the year 2020.

CONTENTS

FOREWORD

Objectives of our centre are to ideate, nurture and implement disruptive technologies for sustainable clean water leading to a water-secure world. The year that has just left us has been very different as all of us know. At ICCW, we were just about commencing the activities when the pandemic brought us to a going halt. Soon we restarted with many online activities to connect with stakeholders. While appreciation for all these activities has been substantial, their translation to actions on the field was delayed, naturally. Yet, we took up several initiatives and outcomes that are measurable. You will see a glimpse into all of these activities in the following pages.

ICCW has been able to build an enthusiastic team and it has been possible to maintain the ICCW family in this difficult period. I thank them all who have shouldered every possible responsibility of a growing organisation.

We have received support from everyone - governments, international and national agencies and individuals. The entire ecosystem of IIT Madras has been solidly behind this budding organisation. I thank them all.

I hope that you will enjoy browsing through our activities. Do visit us and give us your critical comments, suggestions and much needed support in every possible form. I look forward to your continued support.

Prof. T Pradeep
Professor Incharge, ICCW

ACHIEVEMENTS

2020: An year of achievements, despite pandemic

If you ask any other species on earth how the year 2020 played out, the answer would be "fantastic", "like never before"! But for us human beings, it has been a disastrous year – socially and economically. ICCW, in its second year of existence, was severely challenged. A majority of colleagues were in just their second or third month of employment when the lockdown was imposed. It speaks volumes for their commitment and grit that we were able to spot new opportunities and convert them into successful projects for the larger social good.

Despite various challenges caused by the Covid 19 pandemic, each vertical made distinct progress during the year. The research team has developed low-cost sensors for fluoride to help citizens in the fluoride affected areas measure fluoride levels in drinking water. We also developed a programmable device that crashes time and cost for prototyping and commercialization of colorimetric or potentiometric sensors.

Our research team is among the ten shortlisted to make the prototype for "*Smart water supply measurement and monitoring system*" – a Grand Challenge thrown by The Ministry of Electronics and Information Technology (MeitY).

New infrastructure facilities such as Gas Chromatograph Mass Spectrometry (GCMS), Scanning Electron Microscope (SEM) and 3D PRINTER were added to bolster our capability. In the Implementation vertical, the reach of CDI technology was extended to aspirational districts of Ramnad (TN) and Birbhum (Bengal) with CSR funds from IOCL & NSE Foundation.

The projects were executed in a consortia model with the involvement of InnoDi Technologies, Hand-in-Hand, Sattva, Water for People. We also received active support from the Addl Collectorate, Ramnad district. CDI technology was also extended to residential government schools in Telangana, where 25 schools were provided with clean drinking water facilities.

Arsenic and iron removal technology developed by Hydromaterials was scaled up to cover 102 sites in rural Punjab as part of the state government's plan to make Punjab arsenic-free.

To address industrial water usage challenges, an online certification course on Industrial water management was conducted, wherein participants were trained to save a minimum of 10 % water in their organisations. This was followed up with online coaching for interested participants to help them achieve the results.

As a precursor to setting up the Incubation Hub, ICCW in partnership with Akamai Technologies executed an Accelerator program for mentoring early-stage start-ups in the water sector. FFEM and ATREE were the two grantees of the 1st Cohort for their ventures into low-cost water test kits and mobile app for lake restoration respectively. To better align the start-ups with their social impact, a Boot Camp was added as part of inputs for the 2nd Cohort.

Thanks to the pandemic, outreach activities moved online from April 2020. ICCW's subscriber base has grown to more than 6300. A series of webinars were held that included international speakers and participants. Topics covered included water challenges during the pandemic, emerging technologies, innovations and rainwater harvesting.

All webinars have been archived in our YouTube channel and curated version and snippets are being created for dissemination.

Concept notes for creating Regional Centres of Excellence and capacity building to derive the Water Security Index for every block and district in the country have been submitted and discussed with the DDWS and Jal Jeevan Mission.

E Nandakumar, CEO

GOVERNING BOARD

Bhaskar Ramamurthi

Chairman,
(Director, IIT Madras)

T Pradeep Professor

Incharge,
(Institute Professor, IIT Madras)

Ashok Jhunjhunwala

Member,
(Institute Professor, IIT Madras)

Ravindra Gettu

(Professor, IIT Madras)

Ligy Philip

(Professor, IIT Madras)

Tiju Thomas

(Assistant Professor, IIT Madras)

Rajnish Kumar

(Assistant Professor, IIT Madras)

RESEARCH

Development of smart drinking water kiosks for fluoride affected villages & schools

By: Kamalesh Chaudhari (ICCW) and Vijay Sampath (InnoDI Water Technologies)

Funding: IIT Madras Foundation

Objectives:

- To enhance the throughput of CDI from 200 LPH to 500 LPH
- To develop low-cost fluoride sensors for use by common people and an inline fluoride sensor for CDI units

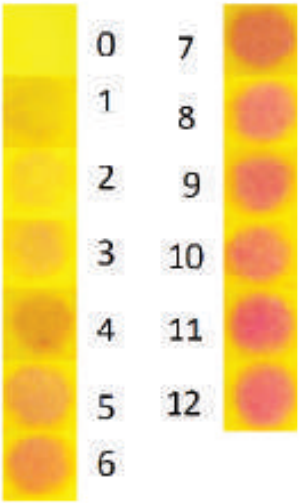
Targeted cost of fluoride sensing = Rs 0.50 per assay

Implementation target March 2021

Social Impact:

- Significant reduction in per litre cost of capital expenditure and operating expenditure
- Greater penetration of CDI technology for clean water
- Quality assurance of fluoride remediation through inline and low-cost offline method
- Empowerment and enhanced awareness of local community

Mobile connectivity for automatic data transfer to cloud



Numbers represent mg/litre of fluoride

Back to top ->>

Smart-water system

By: ICCW and IIT Madras in collaboration with a consortium of companies.

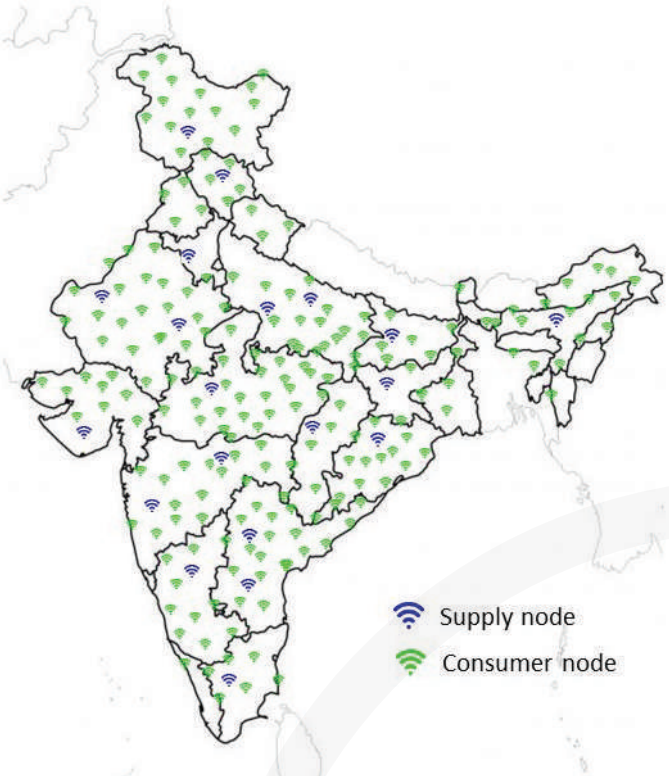
Funding: The Ministry of Electronics & Information Technology (MeitY) through ICT Grand Challenge.

Objectives: Develop IoT based sensing technologies to create a Smart Water Measurement, Monitoring and Control System. Consortium members are InnoDI Water Technologies, WEGoT Utility Solutions and SmarterHomes Technologies. The consortium has been selected for the first stage - ideation and prototyping of an inline sensing unit.

Features: Modular inline sensing to monitor pH, TDS, residual chlorine, nitrate and water quantity at the supply nodes, and residual chlorine and water quantity at consumer nodes with IOT backbone.

Impact

- Consumers will get real time information of water consumption and quality, resulting in lower wastage of water and improved health and vitality
- Database and data analytics of water quality and consumption across geographies and time



A dynamic water quality map of India can be generated using inline sensing units installed at each supply and consumer node

Back to top ->>

Other ongoing projects

- Grant received from Indo-Korean joint call for development of sensor for multiple contaminants in water and waste water.
- Geo- temporal water quality mapping across the country using field test kits.
- Fibre optic sensors for rapid detection of bacteria in collaboration with IIT Bombay.
- Water App for integrating all solutions related to water for different stakeholders Developing optic fibre sensors for bacteria along with IIT Bombay.
- Renewable Alternatives Integrated in Novel Buildings for Our World (RAINBOW) under India EU Joint Call in collaboration with IISc Bangalore.

ANALYSIS & CERTIFICATION

Mine Water analysis for an optimised solution in Chhattisgarh

A project involving analysis of groundwater, untreated and treated mine seepage water from Hindalco mines in Gare Palma, Chhattisgarh was completed to understand the recommend measures to support livelihood of local population.

Analysis support provided for:

1. Qualitative and quantitative testing of VOCs for LG Soft India
2. Validation of anti-bacterial and antiviral property of Chlorine jug developed by Serene Envirotech Solutions–a start-up company
3. Determination of Chloride and Fluoride using Ion Chromatograph for BHEL
4. PXRD analysis for Aquaworks

Infrastructure addition

- Quantitative Spectrophotometer
- UV Visible Spectrometer
- Flashforge Creator 3D Printer
- Fluorescence Microscope
- Scanning Electron Microscope

Back to top ->

IMPLEMENTATION

Arsenic and iron removal plants in Punjab

ICCW assisted Hydromaterials in executing a project that is part of the Govt of Punjab's mission to make the state arsenic-free. 102 Arsenic and iron removal plants (AIRP) are to be installed in rural Punjab. Capacities range from 25 KLD to 1000 KLD. The project, signed between the Government of Punjab (GoP) and IIT Madras, aims to ensure that Punjab is free of arsenic and iron in drinking water within a short period. The units would be capable of removing iron as well as arsenic from the groundwater.

Inauguration of Phase 1 Project

CDI Units

CDI units implemented at Telangana Social Welfare Residential Educational Institutions Society (TSWREIS).

Inauguration of drinking water solutions at a school in Telangana

Installed in **25** schools

People impacted **7500**

Back to top ->

The CDI unit with a capacity of 4000 litres per day has been and installed at KREA University at Sricity integrated industrial township Tada Andhra Pradesh near Chennai.

CDI drinking water kiosks have been installed in Ramanathapuram and Tuticorin districts of Tamilnadu. With the CSR intervention of IOCL in collaboration with ICCW-IITM two CDI units with a capacity of 4000 litres per day each and one unit with a capacity of 2000 litres per day has been installed Vedapatti, Veppalodai villages of Tuticorin and Vagaikulam village of Ramanathapuram district.

Pipeline integrity management at Mahindra World City

ICCW has partnered with SOLINAS, to employ robotic solutions to inspect the health of underground sewer pipelines and detect leaks and potential leaks for rectification at Mahindra World City (MWC).

Sripati Cowlagi, Expert Engineer, ICCW presented his perspectives on "*Water resources, risks and opportunities- India and global*" at the capacity building workshop - 'Water Management - The Mahindra Way' at MIQ.

Sripati with other participants of the workshop on February 13, 2020.

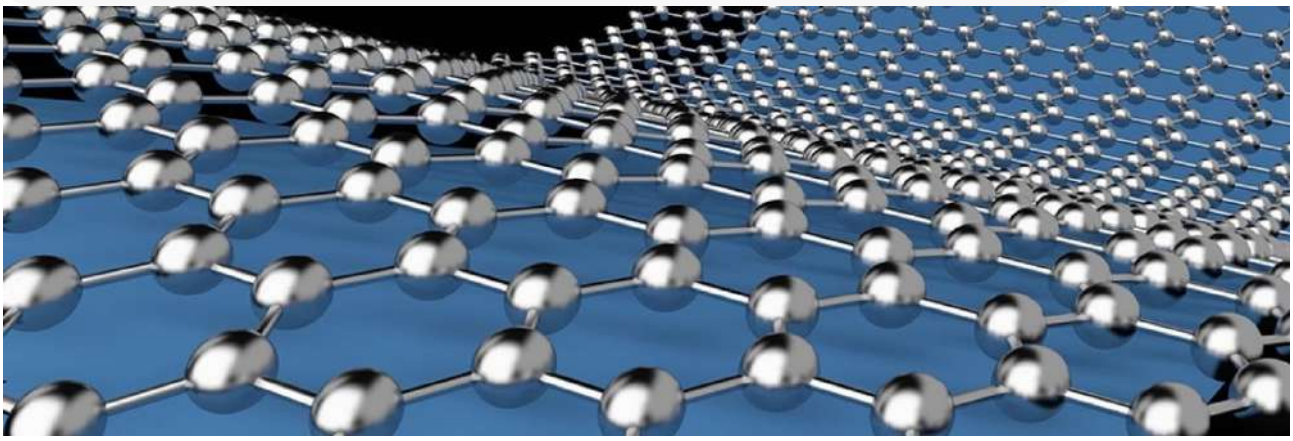
Other projects

- CDI projects to provide clean and healthy drinking water in seven villages of Tamil Nadu and nine villages ofWest Bengal
- Online certification courses on Industrial water management benefited participants to save a minimum of 10 % water
- Installations at Life Insurance Corporation of India, Chennai
- Cater generation – a technology with a favourable water footprint was actively promoted in institutions. Breakthroughs were achieved with Rotary International, New Delhi and ITC Grand Chola, Chennai

COMPUTER MODELLING

Materials modelling for improvements in water technologies and sensors

Computer modelling provide insights and predictions on the materials and help R&D work. Nanomaterials can sense the presence and concentration of various contaminants in water by changes induced. While the details of the microscopic processes may not be completely accessible to experiments an atomic-scale understanding of the mechanism of action gained through simulations could be used to modify the nanomaterial to develop new sensors.



Here we are using materials simulation methods combined with high-performance computers to predict the properties of, and design, new nanomaterials to improve sensors, 2D nanosheet membranes, or the electrodes used in capacitive deionization units.

Setup of the basic models and preliminary simulation results have been obtained in the area of arsenic (III) sensors, while methodology design and planning of the projects are in progress for other areas.

Impact - A Will greatly improve the efficiency and performance of water technologies being developed in ICCW, their partners, and elsewhere.

We are seeking academia-industrial partners to collaborate and also funders for these projects and will provide more details of specific projects on request.

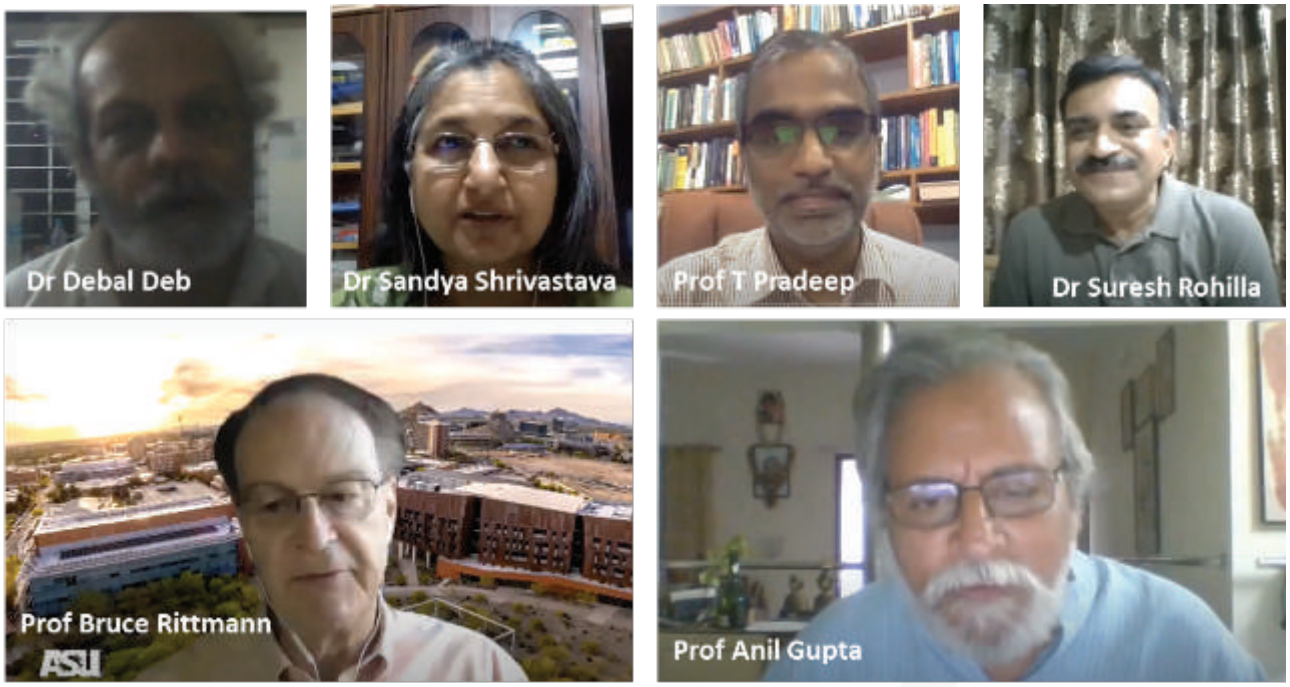
Hydroinformatics

ICCW plans to collect, store water quality data and apply data science, machine learning, and simulation methods. Initially a comparative study of the various open-source and commercial software platforms available for water. The information from this project will be used by ICCW for implementation and research. We participated in internal and online training schemes in hydrological modelling and databases.

OUTREACH

A series of outreach activities enriched ICCW and its various stakeholders in 2020. Activities were held online and were attended by thought-leaders, water warriors, professionals, environmentalists, scientists, academicians, students and were brought together during various outreach events.

Water challenges & needs during and post COVID-19'

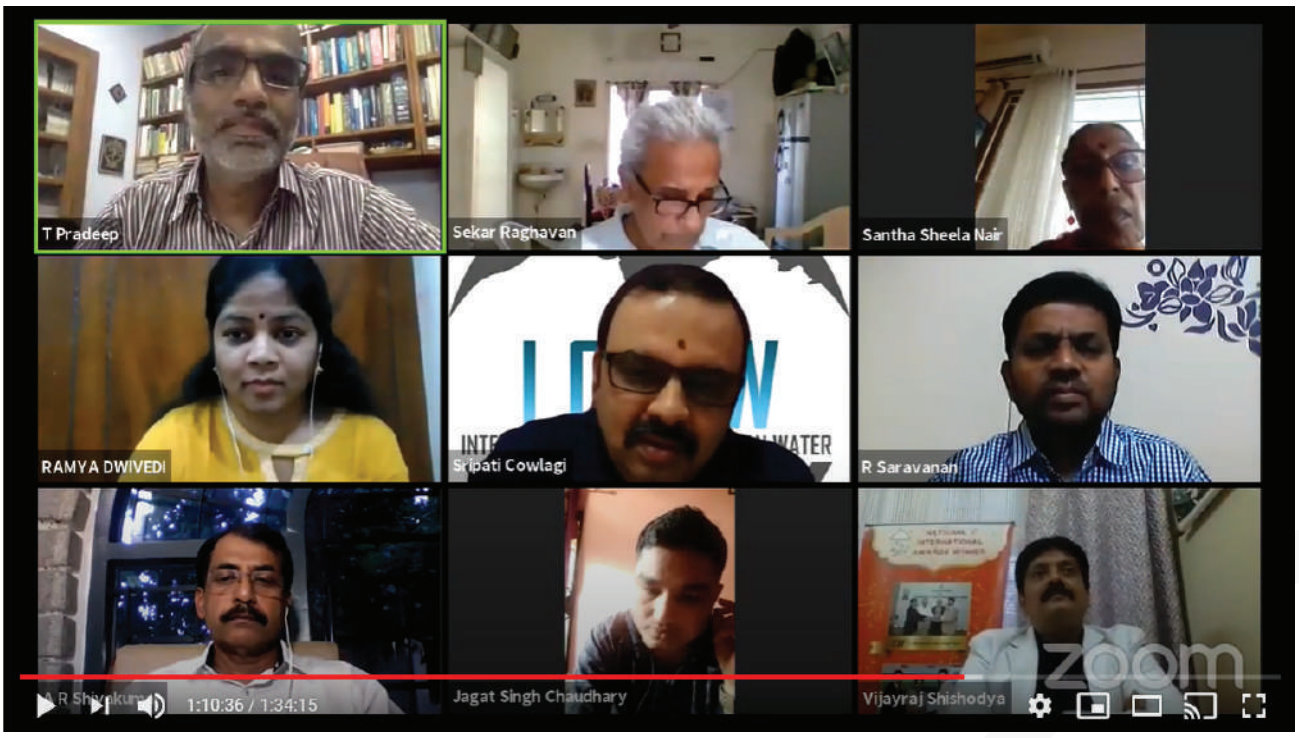


Back to top ->>

ICCW conducted a webinar series on the '*Water challenges & the needs during and post COVID-19'* from May 7– 28. The series was inaugurated by Shri Parameswaran Iyer, Secretary, Department of Drinking Water and Sanitation (DWS), Government of India. There were symposiums on disinfection, detergents and chemicals for disinfection, water and hygiene–best practices and impact of covid-19 on water resources and new opportunities.

Prof G Arunkumar, Founder Director of Manipal Institute of Virology, Dr N B Mazumdar, Chairman, International Academy of Environmental Sanitation and Public Health, Nicolas Osbert Chief, WASH UNICEF India, Prof Bruce Rittmann Stockholm Water Prize laureate of 2018, Prof Anil Kumar Gupta, CSIR Bhatnagar fellow, R C Panda, Chairman Taskforce, JJM, Ministry of Jal Shakti, Padmashri C N Raghavendran Chairman IGBC Chennai Chapter and Dr Pawan Labhasetwar (Chief Scientist and Head, Water and technology management division, CSIR-NEERI) spoke during the symposiums. The symposiums were attended by over 800 people across the world.

Rainwater harvesting



ICCW hosted a webinar series on 'Rainwater harvesting' from June 1–5.
The series was aimed at creating a mass movement for actions on rainwater harvesting and was attended by over 2000 participants.

Back to top ->>

Seminar on clean water

A series of webinars on clean water emerging frontiers were held from June 29 to July 8, 2020. Distinguished professors from across the world including Eric Hoek, from UCLA, Rahul Raveendran Nair, University of Manchester, Sung Jae Kim, Seoul National University, Praveen Linga, National University of Singapore, Thundat, Thomas -University at Buffalo, Esben Gad and Dr.JorgVog from Denmark presented very interesting topics on clean water.

Prof: Eric Hoek, from UCLA

Innovation during and after the pandemic

The online event was held on August 6, 2020, to discuss the innovation during pandemic. Dr. RA Mashelkar, FRS, National Research Professor, Prof Anil K Gupta, FNA, CSIR Bhatnagar Fellow, Prof Ashok Juhunjunwala, IIT Madras spoke during the session. Prof T Pradeep moderated the event.

WaterTalk 4

M B Nirmal, founder and chairman of Exnora International delivered WaterTalk 4 on January 29, 2020. The talk that was held at ICCW; it was based on “WATER – Water Available To Everyone Really”.

Sharing his life experiences towards making a water-secure living for people, he emphasized the importance of recycling and reusing.

Back to top ->

WaterTalk 5

Speaker: Dr Nimish Shah, MD, Toilet Board Coalition, India

Subject: 'Water Sanitation and Hygiene (WASH) the Impact of inaction, new technologies and mass implementation' on October 7,2020

There is a need for a circular economy where waste is a resource. This will make cleaner water bodies lower greenhouse gas emissions and improved energy security. Opens entrepreneurship, wealth creation, jobs skills and livelihoods.

WaterTalk 6

Speaker: Vikranth Raja, Secretary to the Chief Minister of Puducherry

Subject: "Public participation for water security'. The talk was held on November 6.

Raja stressed on the Nam Neer project he launched at Karaikal district, Puducherry when he was the district collector. The project revived 178 traditional water bodies, 81 kilometres of major canals, 640 km of minor channels in three months and increased the storage capacities of tanks and water repositories and created behavioural change in people.

WaterTalk 7

Speaker: S Vishwanath, Water & Urban Planning Expert, Director, Biome Environmental Solutions

Subject: The practice of Integrated Urban Water Management in Bengaluru on December 18, 2020. on October 7,2020

IUWM should be entrepreneurship ecosystem and require dynamic 'nudges' through knowledge, legal and economic means rather than physical plans alone. Sharing various examples, he said that urban water management requires not a 'water supply' institution but a 'systems design thinking' institution.

School engagement

The high school kids from Gurgaon were introduced to science and research at ICCW and IIT Madras during a 4-day partnership program with the Danish Water Forum (DWF), during February 24-27, 2020.

Gurgaon school children with ICCW team members.

- Awareness program conducted for government school children of Telangana on the health and ecological benefits of CDI technology.
- ICCW also produced various water test kit training videos including testing of various chemical parameters, bacterial parameters and on arsenic and iron removal plants.

Back to top ->

INCUBATION HUB

Various incubation programmes happened at ICCW in the year 2020.

From 2nd Cohort bootcamp

Under the Akamai's Flagship Accelerator program, ICCW is mentoring water-based startups Ashoka Trust for Research in Ecology and the Environment (ATREE) and the Foundation for Environmental Monitoring (FFEM) in developing their innovations. The boot camp started with new startups for the second Cohort. Sattva is our mentoring partner in this program.

Back to top ->>

MEMORANDUM OF UNDERSTANDING (MOU) SIGNED

1. MoU between Government of Punjab and IITM for providing drinking water solutions, partnered through ICCW

2. MOU with Akamai Technologies India CSR Trust for the project "An accelerator program" to support innovators in the water sector.

3. MOU with the Danish Water Forum (DWF) on knowledge sharing, capacity building and MOU with the Danish Water Forum (DWF) on knowledge sharing, capacity building and joint research resource mobilisation

4. MOU with IITMF for ''Enhanced CDI performance and inline of fluoride sensing''

5. MOU with Saraya, Osaka to provide stewardship in raw water and wastewater with implementations of a proven technology Arsenic and Metal ion Removal by Indian Technology (AMRIT) - for arsenic remediation, field testing of emerging technologies and developing new technologies.

Back to top ->>

6 MOU with Anarde Foundation.

MOU with Japanese firm DG TAKANO to develop innovative products to solve environmental challenges in providing clean and safe drinking water across the globe. 7

ICCW IN MEDIA

ICCW, Japanese company tie up on clean water tech

DC CORRESPONDENT
CHENNAI, NOV. 5

A memorandum of understanding for the partnership between ICCW and DG TAKANO was signed recently to collaborate on projects on clean water and to develop innovative products

The International Centre for Clean Water (ICCW) at Indian Institute of Technology-Madras (IIT-M) will collaborate with a Japanese firm, DG TAKANO, to introduce new clean water technologies in India.

A memorandum of understanding for the partnership between ICCW and DG TAKANO was signed recently to collaborate on projects on clean water and to develop innovative products that will solve existing societal and environmental challenges in the area of clean and safe drinking water globally.

Prof. T. Pradeep, professor-in-charge, ICCW, said that DG TAKANO will provide expertise on Japanese sustainable technologies to develop new products and related services.

Mr. Amuro Osman, head of global sales and marketing, DG TAKANO, said that the projects would focus on clean water, water treatment, water security, groundwater conservation and wastewater. 'ICCW will also conduct research, testing and validation of various water technology solutions of DG TAKANO', he said.

Report in Deccan Chronicle

Back to top ->>

NEW TEAM MEMBERS

Dr. Ganapati Natarajan joins as Principal Scientist in the modelling and simulation vertical

Mr. Umang Khanna joins as a Project Engineer.

Dr E Jayanthi joins as a Project Scientist.

Mr. P. Mareeswaran joins as a Lab Technician.

Ms Khadambari Bhaskaran joins as a Junior Scientist.

Montu Lakhani is Project Manager.

Nagarjuna Tirumalasetty joined as Assistant Project Manager.

KTP Radhika joined as the Outreach and Communication Manager

Rishav Kumar joined as Analyst

Narmada G joined as Research Associate

Back to top ->>

OUR COLLABORATORS

P M Ajayan, Professor, Rice University.
Marc Anderson, Advisor, IMDEA Energy Institute.
Tony Cass, Professor, Imperial College London
R. GRAHAM COOKS, Professor, Purdue University
Alok Dhawan, Director CSIR-Indian Institute of Toxicology Research
Haiwon Lee, Professor, Hanyang University
Professor A K Ghosh, Baba Atomic Research Centre
Praveen, Linga Associate Professor, National University of Singapore

Subhas Mukhopadhyay, Director, Macquarie University
Jane Catherine Ngila, Professor, University of Johannesburg,
Seeram Ramakrishna, Professor, National University of Singapore
Dr Ing Andrea Iris Schäfer, Professor, Karlsruhe Institute of Technology Thomas Thundat, Empire Innovation Professor, University of Buffalo

Ajayan Vinu, Professor, University of Newcastle
Jianping Xie, Associate Professor, National University of Singapore
Richard N Zare, Professor, Stanford University
Dr Marta I Litter, Professor, UNSAM
Dr Yoram Oren, Emeritus Professor, Ben-Gurion University of the Negev

ADVISORY BOARD

Murali Sastry, CEO, IITB-Monash Research Academy
K E Seetha Ram, Senior Consulting Specialist, Asian Development Bank Institute Dr Sanjay Bajpayee, Department of Science and Technology, New Delhi.
Kana Sureshan, Associate Professor, Indian Institute of Science Education and Research, Thiruvananthapuram.

OUR TEAM MEMBERS

E Nandakumar, C Sripati, Kamalesh C, Ganapati N, Jayanthi E, Mareeswaran P, Radhika K.T.P, Rekha G, Vidhya S, Vishnu V, Khadambari. B, Montu Lakhani, Umang Khanna, Nagarjuna T, Rishav Kumar Narmatha G.

ENGAGING WITH US

Any water-related problem needs a well-planned approach, meticulous research, technological solutions, and thoughtful implementation. Our engagement models are evolved considering all of these.

Consortia Memberships

Consortia membership is available, in different tiers, for any organization/institution who would like to have privileged or intensive access to ICCW facilities and resources. InnoDi Technologies and Marmon Water Inc. are Gold Tier Members.

Joint Developments

We invite individuals, industries, corporates and NGOs to collaborate in joint development projects; where the expenses are covered by the sponsors and the intellectual property can be mutually shared.

InnoDi Technologies: Development of ultra-pure water for medical applications, home water purifiers using CDI.

SMARTNet Solutions: Water network mapping, detecting leakage and automation for reduction of non revenue water (NRW) in transmission and distribution network.

Solinos: Robotic imagery and data analytics of pipeline conditions to identify and predict leaks for rectification.

Sponsored Projects

From prototype to full-scale implementation and five-year operations & maintenance support of emerging technologies in water purification and testing - could also involve educating and training end-users on the new technology for autonomous management. *Development of high flow rate CDI systems coupled with inline fluoride sensors*," sponsored by IITMF (IIT Madras Foundation - US).

Consultancy Services

Water audits, water resource security assessments followed by interventions to enhance the availability and quality of water in a sustainable manner.

WAY AHEAD

Clean water problems can be grouped under two broad categories - Lack of availability and poor quality. In most cases, it would be a combination of the two. ICCW, as a not-for-profit organisation will be focusing on social good through enhanced availability of clean water.

Emerging technologies, such as AMRIT for arsenic remediation and CDI for fluoride control and TDS reduction, will be scaled up to help eradicate arsenic and fluoride induced health issues in India and other affected countries in Asia and Africa. We will explore atmospheric water generation in arid, hilly or coastal areas to reduce the stress on ground and surface water extraction. Atmospheric water generation also eliminates the cost of packaging and distribution of water. In addition to providing clean water technology, ICCW will provide quality assurance through development of low-cost and inline sensors for monitoring quality with IOT integration.

A critical area in water security is involvement of common people. ICCW will reach out to schools, colleges, village communities and water professionals to bring awareness on the need to conserve water and increase usage efficiency. We will also focus on building human capacity to test and protect our water resources and adopt new technologies that do not pollute and conserve energy. With the considerable advances in technology, solutions exist for almost every water related problem, the challenge is to connect the various stake holders and solution providers in a consortium approach to deliver the solution. Through this approach, we can guarantee social benefits and actively seek financial support from individuals, organisations and governments to make it happen. We encourage you to subscribe to our centre through the different schemes listed in our website.

Water is life and no life, as we know it, can exist without water. More than two thirds of our planet is water and so we expect it to be free. But we are indirectly paying a heavy price for it due to our disjointed way of working. Let us come together in such a way that clean water comes to us not at a cost, but with abundant benefits!

FINANCIALS

The 2020 year end financial performance was positive for ICCW.

An increased contribution from collaborations leading to impactful work output, from memberships and donations, also added to this positive outcome.

A revenue generation target of Rs 25 crores has been proposed for the year 2021 from the ICCW verticals and its relevant activities.

Income - 2020	Amount	Expenditure - 2020	Amount
Grant	₹1,859,599	Consultancy	₹3,104,320
Implementation	₹104,320,907	Implementation payout	₹72,264,583
Membership Income	₹25,700,000	Equipment	₹4,237,881
Outreach activities	₹86,367	Outreach expenses	₹21,000
Lab services	₹3,042,511	Infrastructure	₹22,765,074
Other income	₹267,193	Overheads	₹11,829,485
	₹135,276,577		**₹114,222,344**
Accounts Receivable	**₹36,595,878**	Accounts Payable	**₹35,049,461**

Acknowledgement

We thank our team members for their hard work. Board members, advisory board, collaborators for their support and guidance. We are grateful to our donors, funders and IIT Madras for their continued support.

International Centre for Clean Water (ICCW)

An initiative of Indian Institute of Technology Madras (IITM), ICCW began its journey in 2018. Located at the IITM Research Park, Chennai, India, ICCW is a team of enterprising water professionals connecting industry with academia. The centre is one of the best ecosystems of its kind in the world to ideate, nurture and translate disruptive technologies for sustainable clean water.

CONTACT US

INTERNATIONAL CENTRE FOR CLEAN WATER (ICCW)
2nd Floor, B-Block, IIT Madras Research Park, Kangam Road,
Taramani, Chennai, India – 600 113.

Website: www.iccwindia.org

info@iccwindia.org

Designed by GETS Global www.gets-global.com