ANNUAL MGC UPDATE

NOVEMBER 2021

MU GAMMA
Consultants Pvt. Ltd



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Director's Desk

The world had been progressing towards achieving many of the targets of Sustainable Development Goals (SDGs). We have been working towards equity, inclusion, peace, and partnership so that 'no one is left behind'. Unfortunately, the COVID-19 pandemic has slowed down many of these efforts. The last year and a half have witnessed several communities slipping below the poverty line, many losing loved ones, countless job losses and numerous impacted in several other ways.

The spread of the COVID-19 pandemic is a reckoner that the air we breathe is the same and we are all connected as one humanity. This is also time to reflect that the not-so-fortunate among us who have slipped down due to financial struggles need support and a helping hand. As Mark Balterson had said: "When God blesses you financially, don't raise your standard of living, raise your standard of giving". Ronald Reagan had echoed the same sentiments when he had said: "We can't help everyone but everyone can help someone". These words should ring a warning bell that we owe a lot to society and it is time for action towards *"Personal Social Responsibility"*. As responsible citizens, we should rise to the occasion and ensure that we no longer live in islands of prosperity in a sea of poverty, but in a more equitable and inclusive society.

Mu Gamma Consultants Pvt Ltd (MGC) takes pride in rendering service to society, working towards environmental pollution control, contributing to economy and achieving many of the SDGs. MGC continues to support organizations identify the right tools, strategies, and actions for achieving sustainable development. I take this opportunity to introduce the Newsletter of Mu Gamma Consultants Pvt Ltd. (MGC), which encapsulates the research and consultancy projects along with our publications and outreach activities in 2021.

PROJECT STATUS

MONITORING OF WASTEWATER FOR EARLY SPREAD OF COVID-19 (2020-2021)

The project on "**Monitoring of Community Wastewater for Early Signaling the Spread of COVID-19**" was jointly implemented by SRM Institute of Science and Technology, Mu Gamma Consultants Pvt. Ltd (MGC) and The Energy and Resources Institute (TERI) during June 2020- March 2021 to analyze the presence of SARS-CoV-2 in the community wastewater of different catchments in Chennai, India. This project has been supported by Swiss Agency for Development Cooperation (SDC) and was successfully completed.



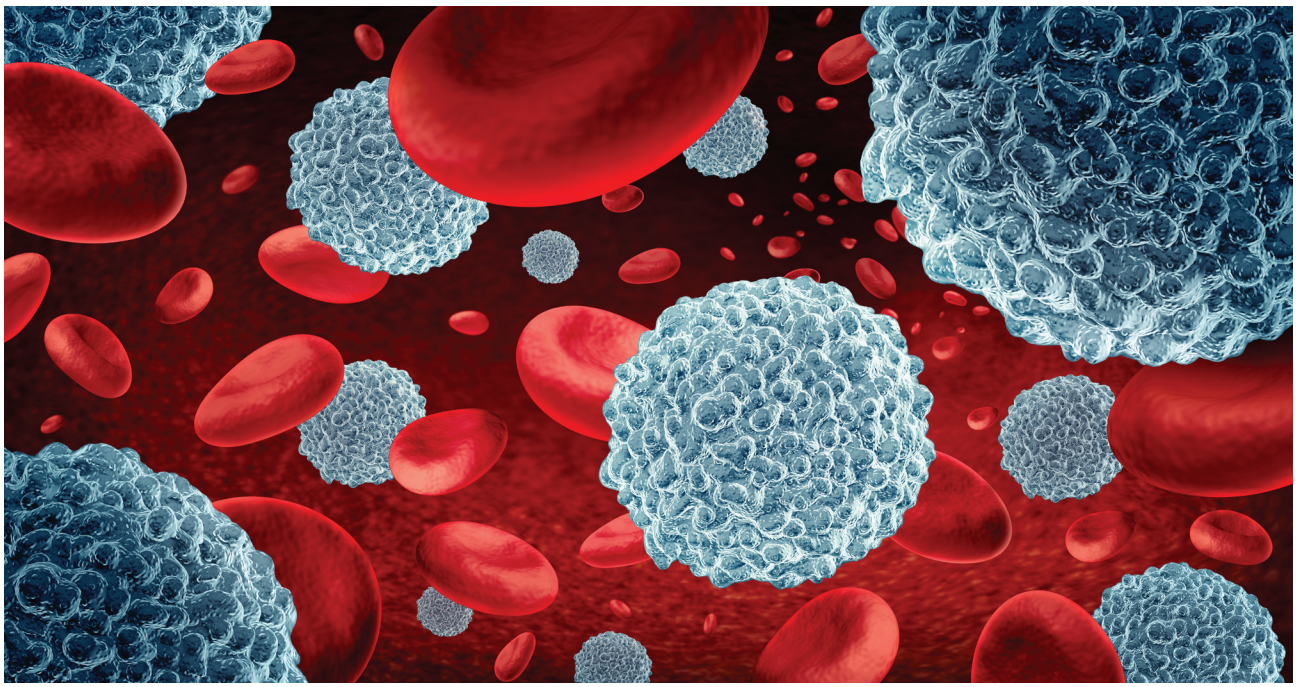
INDIA-NORWAY COOPERATION PROJECT ON CAPACITY BUILDING FOR REDUCING PLASTIC AND CHEMICAL POLLUTION IN INDIA (INOPOL) (2019-2022)



INOPOL project made significant progress with a preliminary sampling campaign being carried out in December 2020. Over and above the pre-planned activities of the project, to meet the need of the challenging times, the project partners decided to conduct a pilot study to understand the management of plastic and biomedical waste generated during COVID-19. The study also included the socio-economic issues associated with waste handlers (rag pickers, recyclers). The findings of the study were disseminated in a webinar in November 2020. A project report was also published. Two comprehensive baseline reports, one focusing on Plastic Waste Management and the other management of POPs have been published.

ENDOCRINE DISRUPTORS IN INDIAN FOOD: MINIMIZING CHILDREN EXPOSURE AND FOSTERING A SAFER SPACE FOR AGRICULTURE AND FOOD MARKET (EDIFY) (2018-2021)

A range of organochlorine pesticides (OCPs), polychlorinated biphenyls (PCBs), poly-brominated diphenyl ethers (PBDEs), heavy metals, plasticizers, dioxins and furans were measured in several food items collected in an Indian urban (Delhi) and a rural area (outskirts of Dehradun). Food basket contamination data were used to estimate dietary exposure and compare it with that of the average European population estimated from available monitoring data.



ASIAN SCIENTIFIC ALLIANCE FOR PLASTIC POLLUTION AND VALUE NETWORK MANAGEMENT (ASAP) (2020-2023)



The ASAP project is a collaborative alliance between Norway, India, Indonesia and China on combating plastic pollution. This project hosts the International Knowledge Hub Against Plastic Pollution (IKHAPP), which has a repository of knowledge on plastic pollution.

DEVELOPMENT OF NATIONAL POLICY OF INDIA ON 'REUSE OF TREATED WASTEWATER' UNDER 'SUPPORT TO GANGA REJUVENATION' PROJECT (2020)

Dr Girija Bharat is one of the experts drafting the National Policy on 'Safe Reuse of Treated Wastewater' under India-EU Water Partnership (IEWP) jointly co-financed by the European Union (EU) and the German Federal Ministry of Economic Cooperation and Development (BMZ). In addition to the development of the draft policy, Dr. Girija has been part of various panel discussions in the past year to provide inputs and insights on the overall Indian perspective for regulatory, institutional, financial, technical, and other relevant aspects in formulating the policy.



AWARDS AND HONORS

MGC HONORED WITH GLOBAL ENVIRONMENT AWARD 2020

Mu Gamma Consultants received Energy and Environment Foundation's prestigious Global Environment Award during the virtual ceremony held on December 16, 2020. The ceremony was inaugurated by Shri Gajendra Singh Shekhawat, Hon'ble Union Cabinet Minister of Jal Shakti, Government of India. The award was in recognition of MGC's work to promote green development.



MGC RECEIVED 'AQUA EXCELLENCE AWARD 2020'

Mu Gamma Consultants was honored with 'Aqua Excellence Award 2020' by Aqua Foundation at the XIV World Aqua Congress under the category of "Outstanding Contribution towards cause of Sustainability from the private sector" at the virtual event held from October 29-30, 2020. The award recognizes the effort, contribution, and motivation of MGC to offer sustainable solutions. Dr. Girija Bharat, Director, MGC was also awarded the 'Aqua Excellence Award 2020' under the "Professional Excellence-Individual" category that is conferred on individuals to acknowledge their exemplary contribution to the water sector.





AWARDS

MGC director, Dr. Girija Bharat was conferred with the prestigious 'Glory of India Award, 2021' by the Indian Achievers' Forum in recognition of her outstanding professional achievements and contribution in Nation building.



PARTICIPATION AT EVENTS, CONFERENCES AND WEBINARS

MGC along with TERI and SRM institute of Science & Technology hosted the event titled "**Monitoring of Community Wastewater for Early Signaling the Spread of COVID-19**" during **World Sustainable Development Summit (WSDS) 2021**, held on February 10, 2021, and supported by Swiss Agency for Development Cooperation (SDC). The Policy Brief developed from the findings of this study was released during this event. WSDS is the annual global flagship event of TERI held from February 10-12, 2021, that brought together governments, business leaders, academicians, scientists, youth, and the civil society in the fight against global environmental challenges.

Dr Girija Bharat was selected for the prestigious executive management programme offered by **IIM Bangalore-Goldman Sachs 10 K Women Entrepreneurs program**. She was a member of Cohort-6 of this program.



Mu Gamma Consultants participated in a One-Day Consultative Workshop on 'Industrial Use and Handling of Mercury in India" at a virtual event held on May 21, 2021. The event organized by Indian Institute of Technology (IIT-Hyderabad) and National Law School of India University (Bangalore), was aimed to strengthen the implementation of the Minamata Convention in India.

Dr Girija Bharat has been appointed by the Director General of Council of Scientific and Industrial Research (CSIR) as a Researh Council Member of National Environmental Engineering Research Institute (CSIR-NEERI)

Mu Gamma Consultants participated in the following **National and International Conferences** on:

- ✓ Resource and Quality Management for Sustainable Development", hosted by CSIR-National Institute of Science, Technology and Development Studies (NISTADs) on July 21, 2020.

Mu Gamma Consultants also participated in the following **International Conferences** on:

- ✓ "Recent Advances in Applied Sciences, Technology & Health" - RASTH, March 5, 2021, organized by SRM Institute of Science and Technology, Chennai.
- ✓ "Jal Jeevan Mission and Access to Water: Rights, Sustainability and Challenges" organized by SAI University, Chennai on March 10, 2021.
- ✓ "India's Performance on the SDG 6 Index: Addressing the data gaps" hosted by Council for Sustainable Development (CSD) held on April 15, 2021.

On November 30, 2020, a Webinar on '**The informal sector, plastic and biomedical waste- Perspectives and trends during COVID 19**' was organized by NIVA, MGC, Toxics Link under Project INOPOL. About seven speakers from various organizations such as Central Pollution Control Board (CPCB), UN-Environment, NIVA, and Kabadiwala Connect delivered a talk in the Webinar. The virtual event was organized to discuss findings of the pilot study related to the impacts of COVID-19 on plastic and biomedical waste streams in Delhi and Surat. The study was conducted as part of Project INOPOL to explore general aspects of waste management ecosystems (generation and handling).



In addition, professionals from Mu Gamma Consultants participated at the following **Webinars** on:

- ✓ "Mines Water Management" organized by the National Water Mission, Ministry of Jal Shakti, Government of India held on September 24, 2020.
- ✓ "Integrated Water Resources Management" organized by Central Board of Irrigation and Power (CBIP), Government of India held on October 27, 2020.
- ✓ "Wastewater Treatment Systems and Technologies-Fit for purpose-Fit for India" organized by the 2030 Water Resource Group, The World Bank, held on January 12, 2021.

SPECIAL BRIEFINGS AND UPDATES



Dr. Girija Bharat of MGC had a meeting with **Mr. Suresh Prabhu**, ex-minister and Member of Parliament, who has a keen interest in water resource management and conservation. The discussion centered on the implementation of wastewater reuse and other policies as well as systematic information dissemination and effective capacity building activities.

WORLD WATER DAY 2021

Mu Gamma Consultants participated in the Valedictory Session on World Water Day, a Refresher Course in Earth Sciences, organized by the University Grants Commission (UGC), Human Resource Development Centre, Kannur University, Kerala, that was organized on March 22, 2021.



In April 2021, MGC and Partners (SRM University & TERI) had a discussion at **NITI Aayog** regarding early signaling spread of COVID-19 by wastewater monitoring. The discussions were backed by scientific findings from the study conducted on wastewater surveillance in Chennai. The experts and policy makers at NITI Aayog were presented with possible public health policy recommendations that can be brought into effect for better management of the COVID-19 pandemic.



Mu Gamma Consultants participated in a '**Tiffin Talk**' anchored by Ms Kaveree Bamzai on "Water Solutions from the ground" on July 28, 2020. The panelists included Dr Parameshwaran Iyer, Former Secretary, Ministry of Jal Shakti, Government of India.

PUBLICATIONS

Policy Documents

Chakraborty P, Roy-Basu A., Abraham M, Bharat GK. (2021). **Policy Brief** – Detecting SARS CoV-2 in wastewater - An early warning signal for COVID -19. Swiss Agency for Development and Cooperation.

Chakraborty P, Bharat GK, Abraham M, Roy-Basu A. (2020). **Policy Bulletin** - Monitoring of Community wastewater for early signaling the spread of COVID-19 in Chennai City. Swiss Agency for Development and Cooperation.

Publications

1. Paromita Chakraborty, Mukesh Pasupuleti, M.R. Jai Shankar, Girija K. Bharat, Sundar Krishnasamy, Sakshi Chadha Dasgupta, Shyamal Kumar Sarkar, Kevin C. Jones. 2021. First surveillance of SARS-CoV-2 and organic tracers in community wastewater during post lockdown in Chennai, South India: Methods, occurrence and concurrence. Science of the Total Environment. Vol. 778, 146252. https://doi.org/10.1016/j.scitotenv.2021.146252.
2. Bharat, Girija; Roy-Basu, Avanti. 2021. Common and Emerging Aspects of Water Quality and its Public Health Impacts. IWRA (India) Journal. Vol.10, No.1 (pp 18-25)
3. Adam, Hans Nicolai; Noklebye, Emmy, Bharat, Girija.2021. A Sustainable Development Agenda: Plastic and Biomedical Waste Post COVID-19. Terra Green. Vol. 13, Issue 11, Cover story
4. Balachandran, Anoop. 2021. Sustainable Plastic Waste Technologies: To Derive Energy and Value-added Products. Terra Green. Vol. 14, Issue 1.
5. Nair, Simi S. 2021. Altered River flows and Nature's fury. Terra Green. Vol. 17, Issue 3. Cover Story.
6. Sanjenbam Nirmala Khuman, P.G. Vinod, Girija Bharat, Y.S. Mohana Kumar, Paromita Chakraborty, Spatial distribution and compositional profiles of organochlorine pesticides in the surface soil from the agricultural, coastal and backwater transects along the south-west coast of India, Chemosphere, Vol. 254, 2020, 126699, ISSN 0045-6535.
7. Khuman, S.N., Bharat, G. & Chakraborty, P. Spatial distribution and sources of pesticidal persistent organic pollutants in the Hooghly riverine sediment. Environ Sci Pollut Res 27, 4137–4147 (2020).
8. Chakraborty, P., Bharat, Girija K., Abraham, Mary and Sarkar, S.K. Monitoring of community wastewater for early signalling the spread of COVID-19. Nextrends Asia, January, 2021.
9. Sarkar, SK & Bharat, Girija. (2021). Achieving Sustainable Development Goals in water and sanitation sectors in India. Journal of Water, Sanitation and Hygiene for Development. IWA Publishing. https://doi.org/10.2166/washdev.2021.002
10. Sharma BM, Bharat GK, Chakraborty P, Martiník J, Audy O, Kukučka P, Přibylová P, Kukreti PK, Sharma A, Kalina J, Steindal EH, Nizzetto L. A comprehensive assessment of endocrine-disrupting chemicals in an Indian food basket: Levels, dietary intakes, and comparison with European data. Environ Pollut. 2021 Jul 9;288:117750. doi: 10.1016/j.envpol.2021.117750. Epub ahead of print. PMID: 34265562.
11. Bharat, Girija K. & Goel, Saloni (2021). View: An early warning system will help India improve pandemic preparedness. The Economic Times. 6 Mins Read. Jun 14, 2021.
12. Bharat, Girija K. & Goel, Saloni (2021). Preparedness is Imperative. The Pioneer. 3 June 2021.

PROJECT BASED PUBLICATIONS

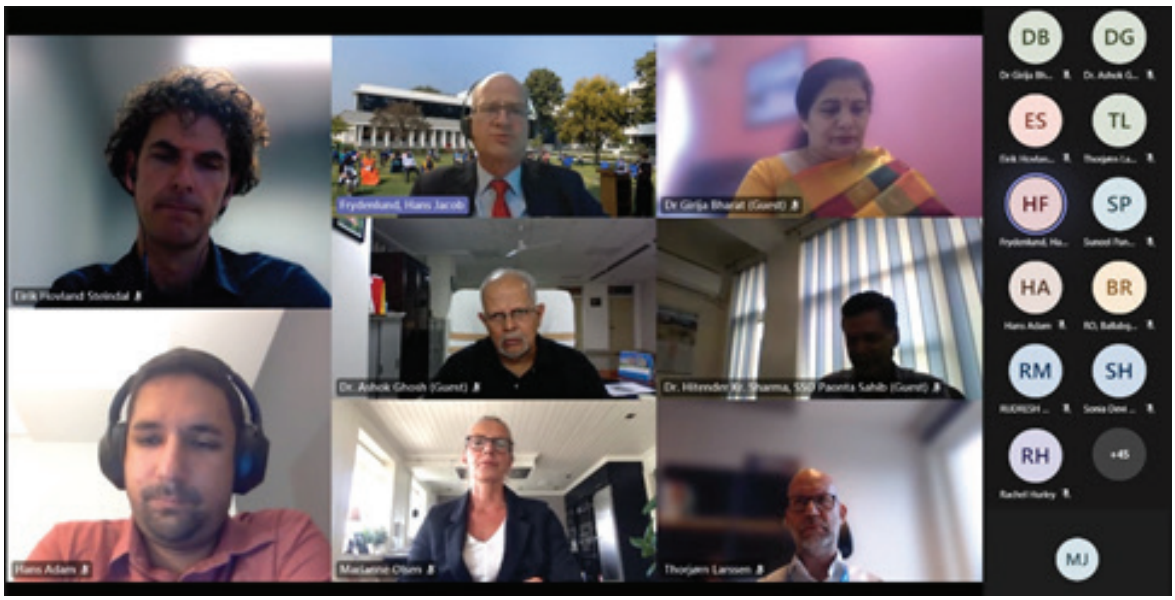




INOPOL (2021) Baseline Report on Persistent Organic Pollutants. India-Norway Cooperation Project on Capacity Building for Reducing Plastic and Chemical Pollution in India. INOPOL (2021) Baseline Report on Plastic.

The Indo-Norwegian collaborative project titled **'India-Norway cooperation project on capacity building for reducing plastic and chemical pollution in India' (INOPOL)** has conducted capacity building programmes of different groups of stakeholders across India, such as the **Scientists and Experts at the Central and State Pollution Control Board** (on 26-27 Aug, 2021), **faculties and scholars from research and academic institutions** (on 30-31 Aug, 2021). The programmes gave insights on reducing the releases and impacts of plastic pollution and the 'new' POPs listed under the Stockholm Convention, which India has recently decided to ratify.

The capacity building and training was organised and carried out by a team of international experts from Norway (NIVA), and leading institutions in India (TERI, Mu Gamma Consultants, SRM Institute of Science & Technology, Central Institute of Petrochemical Engineering & Technology (CIPET), Toxics Link) through online sessions.



PARTNERSHIPS

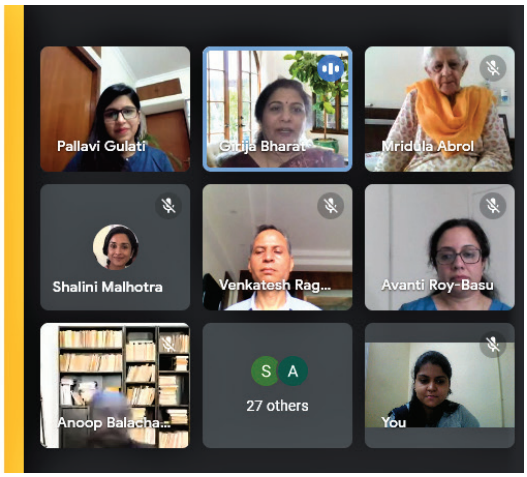
Partnership with Rowan University, USA

Rowan University (https://www.rowan.edu/), a public research university in Glassboro, New Jersey, USA, is one of the new partners of Mu Gamma Consultants in North America. MGC and Rowan University intend to build a network with like-minded institutions, develop strong proposals and implement projects related to water pollution control (as well as water resource management at large) for the North American region. We believe that the blend of technical/scientific knowledge and expertise of these two organizations will lead to meaningful policy outcomes and deliver effective programs on complex issues that involve significant public health and environmental risks.

Partnership with IIT (ISM) Dhanbad

Mu Gamma Consultants has partnered with IIT (ISM) Dhanbad in organizing the summer skill building course: BEING ARTIFEX, which aims to promote technical knowledge in computers and web-based applications. This also has various events such as Hackathons and Skillathon for students of Grades 6 to 10.





MGC ANNUAL RETREAT 2021

The first retreat (virtual) of MGC held on 31st July 2021, was symbolic of all that an organization stands for excellence, perseverance, and passion. Our journey of five years has been one of hard work, dedication, and patience for exponential progress in the field of sustainable development. Despite the innumerable challenges posed by the COVID-19 pandemic, the team at MGC accomplished significant work. The retreat was an excellent opportunity for the team to reflect, reboot and refresh.

MGC strongly believes in giving back to society to make a difference besides the professional service that already contributes to development. With this benevolent thought, MGC supported the education of meritorious students of 'NeeV', a learning center for the under-served in Gurugram. The retreat served as the opportune occasion for the award ceremony where seven bright students of NeeV were virtually felicitated and one student was awarded an annual academic scholarship. **The MGC Professional Excellence Award 2021 was awarded to Ms. Avanti Basu-Roy** for her meticulous efforts with the professional work and guiding the younger team members.





The guest speaker **Mr Venkatesh Raghavendra, Sr Vice President, Safe Water Network, New York, USA**, also a social entrepreneur with nearly three decades of philanthropy and development experience and delivered a very inspiring address to the MGC team. The retreat culminated with a motivational address by the Director for the advancement of self and the organization with the hope that the next retreat is an in-person one.

Support

Our work is supported by various national and international departments and agencies:

- The World Bank
- Norwegian Ministry of Climate and Environment
- USAID-United States Agency for International Development
- UNEP-United Nations Environment Programme
- The Swiss Agency for Development and Cooperation
- Ministry of Environment, Forest & Climate Change
- Ministry of Jal Shakti, Government of India (GoI)
- NIUA-National Institute of Urban Affairs, Ministry of Housing and Urban Affairs, GoI
- GIZ- Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
- Norwegian Embassy in India
- NORAD-Norwegian Development Agency
- RCN-Research Council of Norway

OUR PARTNERS

Our implementing partners include the following organizations:

Our Partners

NIVA Norwegian Institute for Water Research
NIBIO
giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
MUNI | RECETOX
BORDA SOUTH ASIA
CIPET सि पे ट
Toxics Link
NEERI
BHARAT LEARN
teri The Energy and Resources Institute
Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra
National Institute of Urban Affairs
SRM Institute of Science & Technology

We are Supported by

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Goverment Of India
The Research Council of Norway
THE WORLD BANK
NORWEGIAN MINISTRY OF CLIMATE AND ENVIRONMENT
USAID FROM THE AMERICAN PEOPLE

OUR PEOPLE

We are a team of highly motivated professionals, driven by the deep interest in catering to sustainable social and economic development of India. We are distinguished by our diverse professional backgrounds and our rich work experience as ex-staff members of the World Bank, United Nations, Indian Administrative Service, CSIR, Universities and organizations of international repute.

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