

MU GAMMA CONSULTANTS PVT LTD

MGC Annual Update
October 2020

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From the Director's Desk

With immense pleasure, I take this opportunity to introduce the first newsletter of Mu Gamma Consultants Pvt Ltd.: MGC Annual Update. We are a research and consultancy organization that works to improve the quality of life of communities through environment-friendly solutions by drawing knowledge from global best practices and applying it to the local context.

MGC's overall mission is to create a sustainable society. We aim to support organizations that are committed to contributing toward the success of the United Nations' Sustainable Development Goals (SDGs) by way of helping them identify the right tools, strategies, and actions for achieving sustainable development. Our core competencies include water resource management; waste management; chemical pollution control; public health and environment; climate change adaptation, mitigation and resilience; sustainable policy, governance and advocacy; capacity building and training; and corporate sustainability programs.

The Coronavirus disease (COVID-19) outbreak has left us with important lessons that emphasize the need to enhance our scientific knowledge, diagnostic capability and instrumentation facilities for prospective planning at the global, national and sub-national levels. We, as a scientific community, should rise to the occasion and forge partnerships for peace and prosperity of people and the planet, and ensure that we are better prepared for such eventualities in future.

The different projects and events conducted and participated by MGC during 2019 and 2020 have been summarized in the sections: Projects in brief, Events, Awards, Publications, Collaborations, and Support. The 'Projects in brief' section entails the ongoing and recently completed projects of MGC. The 'Publications' section has the web-links of our recent publications.

We are thankful to all our partner organizations for a successful collaboration and are very grateful to all our funding organizations for supporting us do some good work. We hope you enjoy reading the different updates and topics that we have covered in this newsletter. Please feel free to write to us at *info@mugammaconsultants.com* for questions/clarifications, if any.

Happy reading!

Dr Girija K Bharat
Founder Director

Projects in brief

Monitoring of Community Wastewater for Early Signalling the Spread of COVID-19 in Chennai City (2020-2021)



The project: 'Monitoring of community wastewater for early signalling the spread of COVID-19 in Chennai city' is supported by the Swiss Development Corporation and the Embassy of Switzerland in India. Under this project, the wastewater samples from treatment plants, sewers and freshwater bodies of Chennai are analyzed and monitored using a chemical marker. RNA is being concentrated from wastewater and viral RNA copies enumerated using reverse transcriptase quantitative polymerase chain reaction (RT- qPCR). The estimated RNA copy numbers are observed in the wastewater in order to estimate the number of infected individuals in the catchment via Monte Carlo simulation.

Leh City Sanitation Roadmap (2020)

MGC has been providing technical expertise to Bremen Overseas Research and Development Association (BORDA)-South Asia and the Municipal Corporation of Leh in developing a sanitation strategy which is comprehensive and forward looking and in alignment with the policies, programmes at the National level.

India-Norway cooperation project on capacity building for reducing plastic and chemical pollution in India (INOPOL) (2019-2022)



MGC and its partners are currently implementing the project titled INOPOL aimed at developing coherent systems for data collection and analysis. The goal of the project is to prevent and substantially reduce the scope of marine litter from Tapi and Daman Ganga rivers in Gujarat. The project is funded by Norwegian Ministry of Foreign Affairs / Norwegian Agency for Development Cooperation (NORAD) and Norwegian Embassy in India. The project is being led by Norwegian Institute for Water Research (NIVA) and MGC. The Energy and Resources Institute (TERI), Central Institute of Plastics Engineering & Technology (CIPET), Toxic Links, and SRM Institute of Science and Technology are project implementation partners.

Asian Scientific Alliance for Plastic Pollution and Value Network Management (ASAP) (2020-2023)

The Norwegian Institute for Water Research (NIVA) and MGC would be leading the ASAP project. The primary objectives of the project are hosting an international 'Knowledge Hub' and contributing to reduce marine litter through delivering science-based knowledge on determinants and releases of plastic litter to the sea in rapidly

changing Asian developing countries such as India, China and Indonesia. The international knowledge hub would facilitate dialogue between science and governance. Through the project activities, Norway's role in supporting global efforts to reduce marine litter will be visible to stakeholders and researchers in Asia. This multi-institutional project is being funded by Research Council of Norway and has multiple partners in India, China and Indonesia.

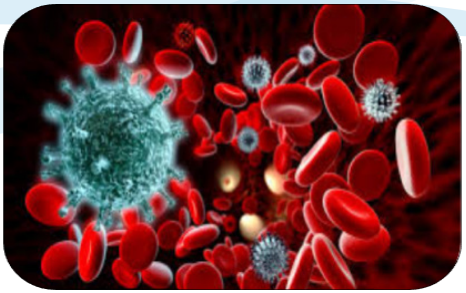
Development of National Policy of India on 'Reuse of Treated Wastewater' under 'Support to Ganga Rejuvenation' project (2020)

In February 2020, Dr Girija Bharat of MGC was appointed as the National Policy Expert of India on 'Reuse of Treated Wastewater' for India-EU Water Partnership (IEWP) that is jointly co-financed by the European Union (EU) and the German Federal Ministry of Economic Cooperation and Development (BMZ). The key responsibility is to draft and develop a robust national policy (for reuse of treated wastewater at appropriate standards), bringing in the overall Indian perspective for regulatory, institutional, financial, technical and other relevant aspects in formulating the policy. It also includes delivering knowledge and evidence-based inputs to the policy document on reuse of treated wastewater.

Developing the River Basin Management Plan of Ganga under the Support Ganga Rejuvenation program (2019-2020)

AHT Group AG with its partner TERI have been contracted by Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) India to develop and implement training modules on river basin management as part of the Support the Ganga Rejuvenation (SGR) project. MGC is supporting AHT and TERI on this project which aims to create responsible stakeholders at national and state levels to increasingly apply integrated approaches for river basin management under consideration of EU procedures. As part of the project, an e-Learning platform is being deployed where the material delivered will be disseminated among the target groups. This project is supporting the ongoing programmes of Department of Water Resources, River Development and Ganga Rejuvenation, Ministry of Jal Shakti, Government of India.

Endocrine Disruptors in Indian Food: Minimizing children exposure and fostering a safer space for agriculture and food market (EDIFY) (2018-2020)



NIVA and MGC are leading the EDIFY project; the objectives of this project are to conduct a comprehensive assessment of exposure of the Indian population to endocrine disrupting substances (EDS) through the diet (food and drinking water). EDIFY would also assess climate and anthropological drivers controlling levels of EDS in drinking water and agricultural products and identify sound risk reduction measures and management options for reducing exposure to EDS. This would establish a knowledge-based fundament for the development of sustainable policies on EDS, with an emphasis on vulnerable populations. This would also examine opportunities of reducing the presence of EDS in agricultural, dairy, poultry, drinking water sectors, and would draw science-based policy recommendations for the Government of India. TERI, SRM University, Toxics Link and Bharat Learn are the other partners of the project.

WASH Economy Report (2016-2019)

The overarching goal of this project was to diagnose the Water, Sanitation and Hygiene (WASH) sector from the viewpoint of its economic aspects as well as from the livelihood perspective in the project geographies of Faridabad, Udaipur and Mysuru. The assessment highlighted the size and contribution of the WASH economy. The project objectives are not only directly contributing to Government of India's flagship programs like *Atal* Mission for Rejuvenation and Urban Transformation (AMRUT), *Swachh Bharat* Mission (SBM) and SMART City Programs. This project was implemented by National Institute of Urban Affairs (NIUA), and was supported by the United States Agency for International Development (USAID). MGC developed the national WASH Economy Report.

Endline Assessment of IHUWASH Project (2016-2019)

The Innovation Hub for Urban Water Sanitation and Hygiene Solution (IHUWASH) Project was implemented by National Institute of Urban Affairs (NIUA) and supported by the United States Agency for International Development (USAID). The three Indian cities of Faridabad, Udaipur and Mysuru were the project locations. MGC prepared the endline assessment of this project, conducted SWOT analysis, and showed the achievements and learnings of each project city. A summary report of each project city, and key recommendations (city-wise and overall), were the key deliverables of the study.

Events

MGC at the National Workshop organized by National Water Mission

The National Water Mission, Ministry of Jal Shakti, organised a workshop on "Catch the Rain: Rain Water Harvesting and Artificial Recharge Structures for Water Conservation" on March 13, 2020 at Scope Complex, New Delhi, where eminent speakers were invited to share techniques and views on Rain Water Harvesting Structures and Artificial Recharge for Water Conservation. Dr Girija Bharat was one of the invited speakers.



Launch of India-Norway cooperation project on capacity building for reducing plastic and chemical pollution in India (INOPOL)

On February 17, 2020, H.E. Sveinung Rotevatn, Minister of Climate and Environment, Norway, and H.E. Hans Jacob Frydenlund, Ambassador of Norway to India, launched the Indo-Norwegian Collaboration Project on Marine Pollution at Sabarmati Riverfront, Ahmedabad, Gujarat. Our decade-long collaboration with Norwegian Institute for Water Research (NIVA) entered the next phase.



Discussion Paper on Sanitation released in WSDS 2020



A Discussion Paper: 'Aligning India's Sanitation Policies with the SDGs' was released on January 31, 2020 in the Plenary session of World Sustainable Development Summit by a distinguished panel of world leaders: Ambassador Chandrashekhar Dasgupta, Ambassador Hans Jacob Frydenlund, Ambassador Patrick Medecin, Mr Ratan Watal, Dr M Rajeevan and Dr S K Sarkar. The Discussion Paper was authored by Dr Girija Bharat of Mu Gamma Consultants and Mr Nathaniel B Dkhar and Ms Mary Abraham of TERI.

MGC at Stockholm World Water Week



Mu Gamma Consultants co-hosted the event titled: "Women and Water: Breaking Barriers and Transforming Lives" at the Stockholm World Water Week on the August 29, 2019. This event was organized in association with Safe Water Network, USAID, Honeywell India, Saha Global, and Water for People. The session was moderated by UNICEF. The event was attended by a large body of water sector professionals and was very well appreciated.

MGC at India Water Forum



Mu Gamma Consultants participated at the 4th India Water Forum (IWF), held on March 5, 2019, which was co-organized by TERI and the Ministry of Water Resources River Development and Ganga Rejuvenation, Government of India. IWF is an international convention aimed at sharing knowledge on water resources management towards achieving SDG 6. Dr Girija Bharat was the key speaker of the IWF 2019 Plenary Session entitled 'SDG-6: Enabling all SDGs'. The theme of IWF 2019 was "Water for All: Options for Safe, Sustainable and Resilient Future".

Indo-Norwegian seminar on cooperation in Ocean, Climate and Polar research, education and technology



A two-day event was organized by the Nansen Environmental Research Centre – India (NERCI) at IIT Madras Research Park on February 5-6, 2020. It was an academic program on the occasion of the 20 years of bilateral cooperation in marine, climate and polar research between Norway and India, with participation of a high-level delegation from the Norwegian Ministry of Education and Research. There was also a panel discussion on "Indo-Norwegian cooperation related to ocean, climate and polar research and education" where Dr. Thorjørn Larssen, Research Director, NIVA and Dr. Girija Bharat, Director of MGC participated.

Awards

Dr Girija Bharat received The Global Water Leadership Award

ET NOW has presented the “51 Fabulous Global Water & Water Management Leaders” award to Dr Girija Bharat during the World CSR Day Congress & Awards held on February 18, 2020 in Mumbai. This event was aimed at showcasing leaders of the world who setup a big example of transformation and change. This talent listing is a benchmark of excellence as it is deeply researched. The award is endorsed by the World Federation of CSR Professionals.

Dr Girija Bharat honored as “Inspiring Women Achiever 2019”



Dr Girija K Bharat received the ASSOCHAM “Inspiring Women Achiever of the Year (Environment Sector)” award from Smt Smritl Irani, Hon’ble Union Minister for Textiles and Women & Child Development, on November 13, 2019 in New Delhi. This award was given to identify, recognize, influence, innovate, inspire and celebrate the outstanding leadership and achievements demonstrated by women that are reflected by the distinct innovations, initiatives and contributions in various fields.

Women Super Achiever Award bestowed upon Dr Girija Bharat

Dr Girija Bharat has received the “Woman Super Achiever” award in the World Woman Leadership Congress held on February 17, 2020 at Taj Lands’ End, Mumbai. The awardees are recognized for their thought leadership in upholding gender equality.

Dr Girija Bharat receives WEF Award of Exceptional Women of Excellence



Dr Girija Bharat was bestowed with the prestigious Award of ‘Exceptional Women of Excellence’ at the Women Economic Forum (WEF) held in New Delhi on April 13, 2019. The key theme of WEF 2019 was ‘Reimagining Societies: Reclaiming Humanity with Gender Equality’. WEF is a multinational forum that enables women leaders from all walks of life to expand opportunities and enhance personal influence through networking across borders and be inspired by some of the world’s most successful entrepreneurs, authors, thought leaders and celebrities. Dr Girija Bharat was also one of the Honorable Speakers at the WEF 2019 Plenary Sessions entitled ‘Reclaiming Collaborations with Trust’ and ‘Why we need more women in sanitation?’.

Publications

- Bharat, Girija; Dkhar, Nathaniel B and Abraham, Mary. 2020. Aligning India's Sanitation Policies with the Sustainable Development Goals, TERI Discussion Paper. https://www.teriin.org/sites/default/files/2020-01/aligning-Indias-sanitation-policy-with-the-SDGs.pdf

- Roy-Basu, Avanti; Bharat, Girija; Chakraborty, Paromita and Sarkar, S.K. 2020. Adaptive co-management model for the East Kolkata wetlands: A sustainable solution to manage the rapid ecological transformation of a peri-urban landscape, Science of The Total Environment, Volume 698. https://www.sciencedirect.com/science/article/pii/S0048969719341804

- Chakraborty, Paromita; Sampath, Srimurali; Mukhopadhyay, Moitraiyee; Selvaraj, Sakthivel; Bharat, Girija and Nizzetto, Luca. 2019. Baseline investigation on plasticizers, bisphenol A, polycyclic aromatic hydrocarbons and heavy metals in the surface soil of the informal electronic waste recycling workshops and nearby open dumpsites in Indian metropolitan cities, Environmental Pollution, Volume 248. https://www.sciencedirect.com/science/article/pii/S0269749118330161

- Sharma, Brij Mohan; Bharat, Girija; Šebková, Kateřina and Scheringer, Martin. 2019. Implementation of Minamata Convention to manage Mercury Pollution in India: challenges and opportunities, Environmental Sciences Europe, Volume 31, Article number: 96. https://enveurope.springeropen.com/articles/10.1186/s12302-019-0280-3

- Khuman, S.K., Bharat, G., Basu, A.R., Mohapatro, P., Chakraborty, P. 2019. Endosulfan: Practices, Policies, and Eco-Toxicological Impacts in India. In book, Endosulfan Uses, Toxicological Profile and Regulation (pp. 51-80), Nova Science Publishers.

Collaborations

Mu Gamma Consultants Pvt Ltd (MGC) is an institutional member of Chemical and Waste Management Directorate, under the aegis of Stockholm Convention Regional Centre (SCRC) for Asia. This is supported by the United Nations Environment Program (UNEP) and hosted by CSIR-NEERI. The aim of SCRC is to bring organizations working in the area of Persistent Organic Pollutants (POPs) together in order to have uniformity and quality of the information leading to increased sharing of ideas and knowledge. This also includes collection of data and preparation of inventories of certain chemicals which are ready to go under the Stockholm Convention.



Our implementing partners include the following organizations:

NIVA Norwegian Institute for Water Research

NIBIO

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

MUNI | RECETOX

BORDA SOUTH ASIA

CIPET सिपेट probe · perform · practice · Plastics

Toxics Link for a toxics-free world

नीरी NEERI

BHARAT LEARN Kuch naya karein!

teri The Energy and Resources Institute

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

NIUA National Institute of Urban Affairs

SRM Institute of Science & Technology (Deemed to be University u/s 3 of UGC Act, 1956)

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

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