

ANNUAL MGC UPDATE

NOVEMBER 2022



MU GAMMA
Consultants Pvt. Ltd

CONTENTS

-  Projects in Brief
-  Events
-  Awards
-  Noteworthy Meetings/
Talk Sessions
-  Expert Interview
-  Publications
-  MGC in Social Media
-  Collaborations

DIRECTOR'S DESK

I take this opportunity to present the Newsletter of Mu Gamma Consultants Pvt Ltd. (MGC), which encapsulates the research and consultancy projects and programmes along with our publications and outreach activities in 2022.

Ours is a research and consultancy organisation aimed at improving the quality of life of communities through environment friendly, science-based solutions that inform policy recommendations. MGC draws knowledge from global best practices, and applies them to the regional and local contexts. With the various initiatives being taken all over to manage the COVID-19 pandemic, as an organization, we are optimistic and constantly strive to meet our professional and personal goals.

Our goal is to support organizations working to achieve the Sustainable Development Goals (SDGs) by identifying the right tools, strategies, and actions to achieve them.

Our core competencies include water resource management; waste management; chemical pollution control; public health and environment; climate change adaptation, mitigation and resilience; sustainable policy development, governance and advocacy; capacity building and training; and corporate sustainability programmes. The different projects and events conducted and participated by MGC during the past one year have been summarized in the following pages.

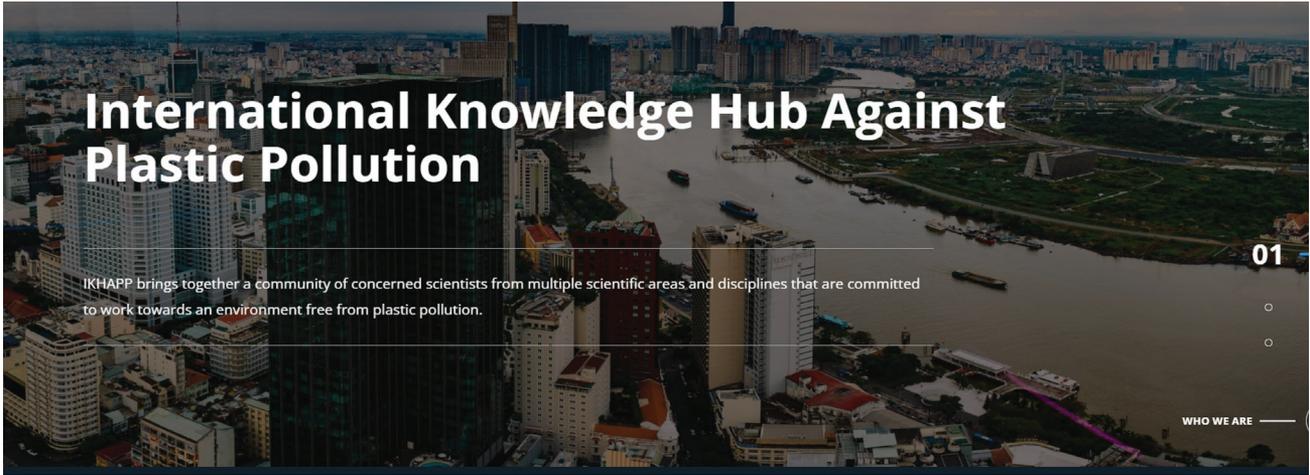
I am grateful to all our funding organizations for continuing to support us to do some meaningful research and policy work. I am thankful to all our partner organizations for a successful collaboration, and to the experts from reputed institutes and organizations in India and abroad who bring fresh insights on wide-ranging topics of sustainability. The passion and dedication with which MGC implements each project is evident in the quality of its outputs and the project outcomes.



Dr Girija K Bharat
Founder Director,
Mu Gamma

Happy reading!

Dr Girija K Bharat



PROJECTS IN BRIEF

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

The multi-institutional ASAP project is funded by the Research Council of Norway and has multiple partners in Norway, India, China, Indonesia and Europe. The project stands on two pillars:

1. Analysis of the conditions, drivers, and mechanisms that result in plastic waste mismanagement, littering, and release to rivers and the sea in three Asian countries.

2. Creation of an international network of experts and local interest groups gathering frequently in a series of thematic conferences/webinars, through the creation of a thematic knowledge hub.

The Norwegian Institute for Water Research (NIVA) leads the primary objective of the ASAP project in hosting an international 'Knowledge Hub' and contribute to reducing marine litter

through delivering science-based knowledge on determinants and releases of plastic litter to the sea, in these rapidly changing Asian developing countries. The key deliverables of the project include annual conferences with published proceedings, stakeholder meetings, intersessional webinars on selected topics, scientific publications by partner organizations, and a website for sharing information www.ikhapp.org

India-Norway Cooperation Project on Capacity Building for Reducing Plastic and Chemical Pollution In India (INOPOL) (2019-2022)

The INOPOL project is led by NIVA and MGC. The project is funded by the Norwegian Ministry of Foreign Affairs / Norwegian Agency for Development Cooperation (NORAD) and Norwegian Embassy in India. The Energy and Resources Institute (TERI), Central Institute of Petrochemicals Engineering & Technology (CIPET), Toxic Links (TL), and SRM Institute of Science and Technology (SRMIST) are project implementation partners. The INOPOL project aims to address

the highly interlinked challenges regarding marine litter, microplastics, and Persistent Organic Pollutants (POPs) in India. The project aims to support India's ambitious targets to reduce plastic releases and to implement the Stockholm Convention on POPs by providing science-based knowledge and strengthening the local and regional capacity to prevent and mitigate the environmental threat posed by plastic and chemical pollution.

As part of this project, a total of six training programmes were organized with the participation of 500 stakeholders. The other project outputs included two stakeholder consultations workshops, four international events, eight reports, 15 publications, six focus group discussions as well as press release and newspaper coverages in more than 100 national and regional newspapers. The key events conducted under the project were:

<p>1. Virtual Webinar: The informal sector, plastic, and biomedical waste – Perspectives and trends during COVID-19 on 30 November 2020</p>	<p>2021, 30-31 August 2021, and 10-11 May 2022.</p>	<p>project brochure, two stakeholder workshop reports, and two sample analysis reports. Some of the key reports that emerged from the project are as follows:</p>
<p>2. Virtual Webinar on the role of the informal sector in a future international agreement on plastic pollution on 2 December 2021</p>	<p>5. Two Stakeholder Consultation Workshops held on 25 February 2022 in Ahmedabad, Gujarat.</p>	<p>1. Report on the Pilot Study on Plastic and Biomedical Waste Management during the COVID-19 pandemic in Surat and Delhi published in December 2020</p>
<p>3. Virtual Thematic Track event at the World Sustainable Development Summit (WSDS) on 18 February 2022</p>	<p>Several knowledge and capacity building products have been developed under this project. This plastic waste management strategy report for Gujarat, POPs Action Plan for Gujarat and six more reports on the areas of plastic and POPs pollution. In total 30 knowledge products have been developed including three manuals, one documentary, two hydrodynamic models, a gender analysis report, a</p>	<p>2. Baseline Report on Plastic Pollution in India (2021)</p>
<p>4. Three capacity building and training programmes on plastic and POPs pollution held on 26-27 August</p>	<p>2021, 30-31 August 2021, and 10-11 May 2022.</p>	<p>3. Baseline Report on Persistent Organic Pollutants (POPs) in India (2021)</p> <p>4. Factsheet - New Persistent Organic Pollutants (2022)</p>

Safe Reuse of Treated Water (SRTW) in India focusing on SRTW business model recommendations and the development of an SRTW Compendium considering approaches of the European Union (2022)

To enable the sustainable reuse of treated water in India, there was a need to develop and explore funding and revenue options through different business models with respect to technical infrastructure, and potential users of treated water. There was also the need to develop a good practice basis regarding the design, operation, and maintenance of treated water reuse projects also addressing tariff models regarding the trading of treated water for different applications. These good practices should benefit from the European Union (EU) experience and be merged with Indian approaches. The National SRTW Framework /Policy developed under the India-EU Water Partnership Action Phase 1 provides a good basis for the above. MGC is implementing the project activities in four work packages (WP):

WP 1: Inception phase: Understand the feasibility for SRTW at project location

WP 2: Develop an SRTW Solution Document regarding business models for two selected pilots considering European Union and international approaches

WP 3: Develop a Compendium on SRTW business models (European Union, international and Indian examples) to supplement the National SRTW Framework/Policy

WP 4: Support GIZ on a hands-on training approach regarding SRTW during this assignment and undertake an SRTW business model study tour to two selected sites.

Sustainable Cities Integrated Approach Pilot (SCIAP) in India (2021)

The SCIAP project under the Global Environment Facility's Sustainable Cities Programme is led by the United Nations Industrial Development Organization (UNIDO). The aim is to integrate sustainability strategies into urban planning and management, create a favourable environment for investment in infrastructure and service delivery, and build the resilience of cities. The project has three main components— Sustainable urban planning and management; Investment projects and technology demonstration; and Partnerships

and knowledge management, the latter being implemented by the National Institute of Urban Affairs (NIUA).

As part of the project, NIUA conducted a Training and Assistance Need Analysis (TANA) to understand the requirements of stakeholders in the five pilot cities (Bhopal, Guntur, Jaipur, Mysuru, and Vijayawada), based on which, NIUA intended to develop training modules and an integrated training curriculum for various stakeholders



in these cities. Mu Gamma Consultants was the Subject Matter Expert for developing the training module on 'Water Management' for representatives and training participants from Urban Local Bodies (ULBs) of India. The specific tasks included the development of the contents of the training module; development of the training session plan; and delivery of the session in the training workshops as per the session plan. MGC developed the training module on five topics:

- i) The basic concept, definition, and linkages of climate change with water management

- ii) Various climate adaptation strategies including greenhouse gas (GHG) emission reduction strategies that are utilized in the water sector
- iii) A brief on the methods for calculating GHG emissions in the domain of water management from a ULB's perspective
- iv) Brief case studies on climate adaptation strategies and GHG emissions calculation methods in the domain of water management.
- v) A summary of all the important legal instruments of respective States of the project concerning the water sector.

Developing Case Studies to showcase climate action by cities under the 'Accelerating climate actions through the promotion of Urban Low Emission Development Strategies (Urban-LEDS II)' (2021)

The Urban-LEDS II project is a global initiative being implemented in about 60 cities in eight countries, and is funded by the European Commission and implemented jointly by UN-Habitat and ICLEI – South Asia. Mu Gamma Consultants was involved in developing case studies by summarizing the impacts and results of five demonstration projects implemented in four cities (Thane and Nagpur in India, Rajshahi and Narayanganj in Bangladesh) for wider stakeholder dissemination. MGC was involved in reviewing project information and developing five case studies shedding light on the lessons drawn, the process of developing the technology/approach, and demonstrating the efficacy and impacts. The five case studies included:

- i) Urban greening and biodiversity improvement through pilot plantation (Rajshahi city, Bangladesh)

- ii) Increasing urban climate resilience by introducing an Internet of Things (IoT) based early flood warning system (Thane city, India)
- iii) Installation of air quality monitoring system to support evidence-based air quality management (Narayanganj city, Bangladesh)
- iv) Deployment of rooftop solar PV systems in two building types (public community library and healthcare center) for sustainable energy integration and enhancing resilience (Narayanganj city, Bangladesh)
- v) Development of a Local Biodiversity Strategy and Action Plan (LBSAP) to conserve and enhance biodiversity (Nagpur city, India).

Developing Summary Documents on Climate Resilient City Action Plans under the 'Accelerating climate actions through the promotion of Urban Low Emission Development Strategies (Urban-LEDS II)' (2021)

The Urban-LEDS II project funded by the European Commission and implemented jointly by UN-Habitat and ICLEI – Local Governments for Sustainability (2017-2021) builds on the first phase (Urban-LEDS I, 2012-15). ICLEI South Asia leads Urban-LEDS II implementation in India and Bangladesh with UN-Habitat support. To reduce greenhouse gas emissions and reduce cities' vulnerability to climate change, Urban-LEDS II assists cities in reducing emissions and adopting a climate-resilient development approach. The Climate Resilient City Action Plans have

been developed through the Urban-LEDS II project that includes both mitigation and adaptation measures. A summary document of the Climate Resilient City Action Plans for the four cities (Thane/Nagpur in India and Narayanganj/Rajshahi in Bangladesh) were developed by Mu Gamma Consultants. These summary documents will be shared with the respective State governments for use in city-led plans prepared under the state's climate initiative as well as showcased at the COP and other national and international events.



International Exchange on Monitoring of SARS-CoV-2 in Wastewater (2021)

Under the Indo-German Development Cooperation project "Support to Ganga Rejuvenation" (SGR) in cooperation with National Mission for Clean Ganga (NMCG), an international exchange event on monitoring SARS-CoV-2 in wastewater systems was organized from 11-12 November 2021 by GIZ. The event was held in a hybrid mode in partnership with Hessen Trade & Invest GmbH, Germany, and supported by Mu Gamma Consultants, India. The event was spread across two days and included four thematic sessions structured around the themes: Indian and international research developments on wastewater-based-epidemiology (WBE), the application of WBE for

monitoring SARS-CoV-2 in wastewater, and the policy implications of these research studies specific to the Indian context. The event aimed to facilitate the exchange of the existing knowledge, research, experiences, and application of WBE as an early warning system for controlling the spread of the SARS-CoV-2 virus in specific regions. The speakers included eminent scientists/experts from the European Union, USA, and India. More than 180 participants from various sectors including national and state-level ministries/departments and executing agencies, relevant academicians and researchers, and practitioners from the wastewater monitoring agencies attended the sessions.

Monitoring of Community Wastewater for Early Signaling the Spread Of COVID-19 In Chennai City (2020-2021)

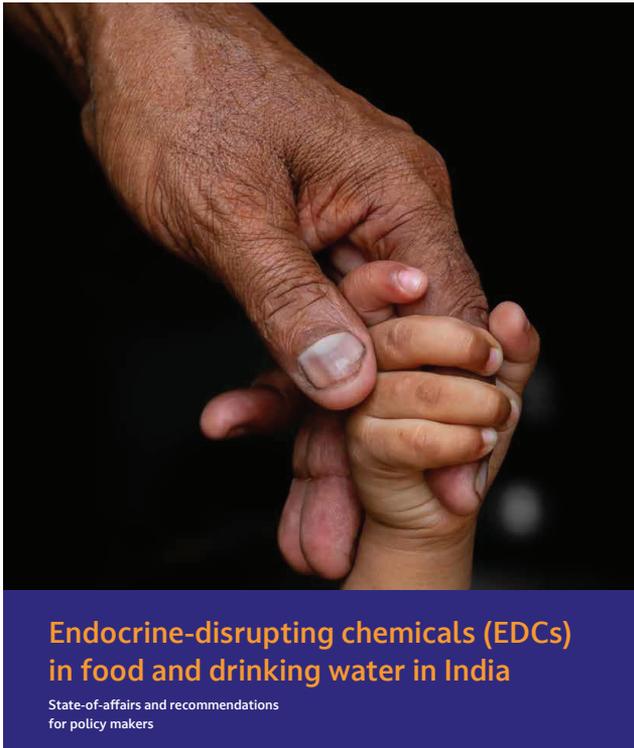
The project, supported by the Swiss Development Corporation (SDC) and the Embassy of Switzerland in India, analysed the presence of SARS-CoV-2 in the community wastewater of different catchments in Chennai, India. Under this project, the wastewater samples from treatment plants, sewers and freshwater bodies of Chennai are analysed and monitored using a chemical marker. The importance of WBE for early signaling the spread of SARS-CoV-2 was an important

finding from this study. The results were in conformity with the clinical data (85%) that established WBE as a cost-effective monitoring system aiding disaster risk reduction and pandemic preparedness. The project facilitated science-based policy decisions and effective utilization of the resources in terms of preemptive measures for controlling the spread of COVID-19. The project partners were involved in building capacities of researchers/scientists/Ph.D. Scholars on WBE



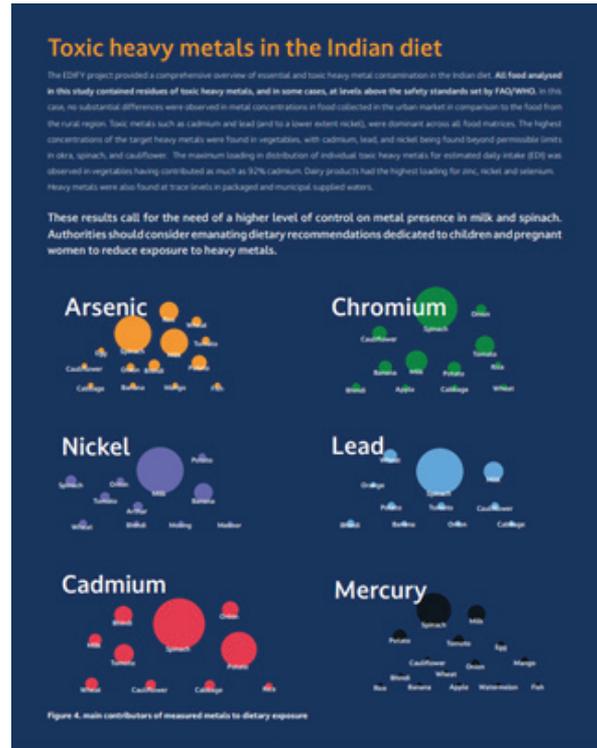
across India. The key deliverables were two research publications, one Policy Brief, one Policy Bulletin, and nine other general publications. NITI Aayog, the premier policy think-tank of the Government of India, invited the project partners for presenting the project findings

before their technical committee following which the research outcomes were shared with the Chief Secretaries of all the States and Union Territories of India for institutionalizing wastewater monitoring and surveillance for managing future pandemics better.



Endocrine-disrupting chemicals (EDCs) in food and drinking water in India

State-of-affairs and recommendations for policy makers



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

NIVA and MGC led the EDIFY project; the objectives of which were to conduct a comprehensive assessment of the exposure of the Indian population to endocrine-disrupting substances (EDS) through the diet (food and drinking water). The EDIFY project helped to assess climate and anthropological drivers controlling levels of EDS in drinking water and agricultural products and identified sound risk reduction measures and management options for reducing exposure to EDS. This helped to establish a knowledge-based fundament for the development of sustainable policies on EDS, with an emphasis on vulnerable populations. The key activities of the project included the following:

- A primary survey in Delhi to assess the high-frequency food items consumed by people in Delhi
- Collection of food and drinking water samples from Delhi and Dehradun (control site)
- Analysis of plasticizers, plastic additives, heavy metals, pesticidal residues in various food items, municipal water, and packaged drinking water
- The project results were published as scientific papers in journals and a Policy Brief was developed with recommendations for the safety of food items.
- The key project deliverables included seven research articles and one international event on endocrine-disrupting chemicals. two videos, press releases and newspaper coverage in 80 national and regional newspapers.
- The findings from this study were shared by the Ministry of Health with the Ministry of Agriculture, Government of India.

EVENTS



INOPOL Final Dissemination Event, 17th October 2022

An event was held on 17th October, 2022 in New Delhi to mark the culmination of The India-Norway cooperation project on capacity building for reducing plastic and chemical pollution in India (INOPOL) and to disseminate its findings. The INOPOL project was a part of India-Norway Joint Marine Pollution Initiative and it involved partnership of key Indian and Norwegian organisations working in the sustainability space to explore various dimensions of plastic and chemical pollution in India. His Excellency the Ambassador of Norway to India Mr. Hans Jacob Frydenlund, Shri Bharat Lal, Director General, National Centre for Good Governance (NCGG) and experts from Indian and Norwegian research organisations released report on "Plastic Waste Management Strategy for Gujarat" and "Action Plan for Reducing Persistent Organic Pollutants in Gujarat."

The INOPOL project has provided valuable knowledge and insights that India can use to achieve its ambitious environmental goals by reducing the amount of plastic and hazardous chemicals. The knowledge from the INOPOL project will also provide the Indian government with scientific knowledge for the upcoming negotiations on the international agreement on plastic pollution, commencing in November.





Virtual Webinar on the role of the informal sector in a future international agreement on plastic pollution (2 December 2021)

A high-level international webinar titled: "Important but ignored? The role of the informal sector in a future international agreement on plastic pollution" was co-organized by INOPOL and the ASAP (Asia Scientific Alliance Against Plastic Pollution) project. The webinar highlighted the importance of recognizing and including

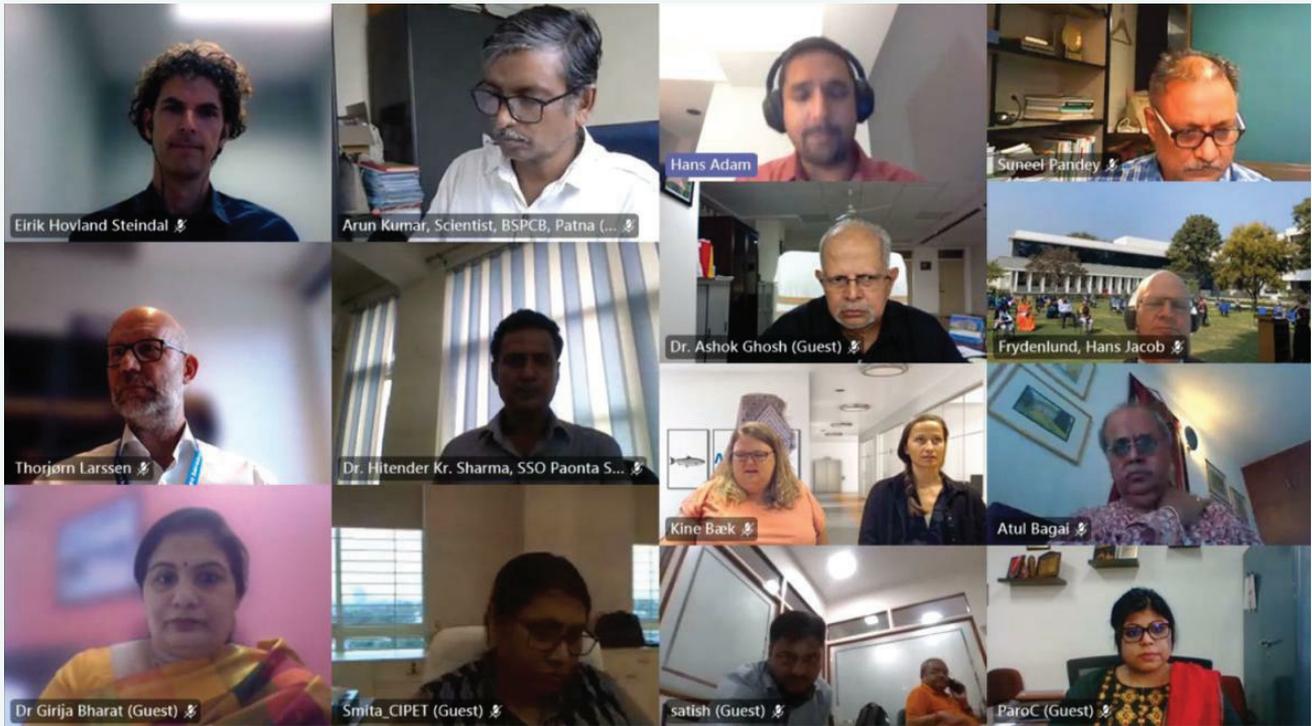
the informal recycling sector when developing a forthcoming global agreement on plastic pollution and facilitated a knowledge-sharing platform for national and international experts in the lead-up to UNEA-5.2. A policy brief was co-produced and published afterward based on the discussions.



Virtual Thematic Track event at the World Sustainable Development Summit (WSDS) (18 February 2022)

A thematic track titled 'Reducing plastic and chemical pollution in the marine environment' was organized by the INOPOL project team during the World Sustainable Development Summit hosted by TERI from February 16-18, 2022. Besides INOPOL scientists, eminent speakers from

aligned ministries of the Governments of India and Norway presented at the event. About 110 professionals attended the event, and it was covered by 80 national and regional newspapers in India. TERI, NIVA, MGC, CIPET, SRMIST, and Toxics Link co-hosted the event.



Capacity Building and Training Programme on Plastic and POPs Pollution (26-27 August 2021, 30-31 August 2021, 10-11 May 2022)

The INOPOL team held three virtual capacity building and training programmes on plastic and POPs pollution in August 2021 and one in May 2022. Scientists, experts from the Central and State Pollution Control Boards (26-27 August 2021) and the broader research community (30-31 August 2021), and all the stakeholders (10-11 May 2022).

The focus was on contemporary plastic waste management issues, including single-use plastics

and extended producer responsibility, environmental and health concerns of microplastic pollution, analytical techniques, and sampling matrices for macro-and micro-plastics. It provided an overview of national and international implementation of regulations on persistent organic pollutants (POPs), environmental standards and best practices, health impacts, and analytical techniques and matrices for POPs sampling. The events also launched the technical baseline reports on plastic and POPs developed under Project INOPOL.

Stakeholder Consultation Workshop, Ahmedabad, Gujarat (25 February 2022)

Two multi-stakeholder consultation workshops were held in Ahmedabad under the INOPOL project to discuss challenges associated with plastic pollution and the management of POPs in Gujarat, guided by specific questions of interest to the study. An analysis of the transcripts from the interviews and stakeholder consultations has been conducted and reports have been prepared summarizing the findings. These stakeholder consultations have provided important policy inputs to the Gujarat POPs Action Plan and Plastic Waste Management Strategy reports.



Beach Cleanup for International Coastal Cleanup Day, 17th September, 2022



As part of the International Coastal Cleanup Day on the 17th September, 2022, Mu Gamma Consultants Pvt. Ltd. and INOPOL Project partner institutions: SRM, TERI, NIVA, CIPET and Toxics Link jointly organised a beach clean-up program at Besant Nagar Beach, Chennai.

The event was led by Ms. Beate Kvaernes Langset, Counsellor for Climate and Environment, Royal

Norwegian Embassy in New Delhi, Dr. Paromita Chakraborty, Mr. Nathaniel Bhakupar Dkhar and enthusiastic students of SRMIST volunteered for the initiative and prepared attractive posters. After the coastal clean-up drive, experts from Norway, India and UNEP shared their reflections on various aspects of marine pollution followed by the youth sharing their experiences, in a virtual event hosted by the organisers.

Second MGC Retreat



On 30 July 2022, MGC held its second annual retreat. After a long virtual coordination stint, the MGC team met in person. It was an honour to have our partners and guests join us virtually and in person.

The retreat this year focussed on all the achievements of MGC with its partners. We have made exponential progress in sustainable development through diligent work, dedication, and patience. Our director, Dr. Manish, gave a special address. Our guest speakers were Dr Joep Verhagen from Global Centre on Adaption, The Netherlands and Dr. Satya Priya of The World Bank. With subsequent thoughts on the way forward for MGC, they shared their vast experience in managing water resources sustainably. In conclusion, our partners discussed ways to enhance their collaborations with MGC. We were joined virtually by Dr.

Paromita Chakraborty (SRM Institute of Science & Technology), Ms. Sakshi Chadda Dasgupta (Swiss Agency for Development and Cooperation, SDC), and Dr. Brij Mohan Sharma (Masaryk University). Team members were motivated by the ideas that were discussed.

Ms. Manisha Jain received the MGC Professional Excellence Award 2022. As the retreat concluded, the team was grateful and excited to have met in person. Making a positive impact on society is the goal of MGC.





AWARDS

AWARDS RECEIVED BY MGC

Mu Gamma Consultants received the '**Aqua Excellence Award 2021**' under the category 'Water Company of the Year - Private Sector' at the World Aqua Congress held in **September 2021**.



MGC COLLEAGUE AS OMLAS FELLOW 2022-23

MGC Colleague Mr. Nathaniel Bhakupar Dkhar, has been selected for NELIS- One Million Leaders Asia Fellowship among 24 fellows from 11 countries of Asia. The fellows will receive training in transformative and ethical leadership, sustainability, social entrepreneurship and social innovation. They will spread sustainability leadership to more young leaders throughout Asia.



'**Save the Environment (STE) Annual Awards – Water**' in **January 2022** organized by STE, Hindu College, Delhi University, in association with CSIR- NEERI, RSC London- North India Section, and Environment and Social Development Association (ESDA) , Delhi.

AWARDS RECEIVED BY DR GIRIJA K BHARAT

The prestigious **Women Transforming India (WTI) Award** by NITI Aayog (India's think tank) in **March 2022**. The WTI Awards were conferred to 75 women achievers from across the country to celebrate their contribution towards a *Sashakt Aur Samarth Bharat*, as part of the celebration of 75 years of India's independence (*Azadi ka Amrit Mahotsav*).

AWARD RECEIVED BY MS. AVANTI ROY-BASU

Aqua Foundation's Excellence Award 2021 under the category 'Women in Water – Private Sector' at World Aqua Congress held in **September 2021**. This is in recognition of her exemplary contribution to the water sector.



AWARD RECEIVED BY MS. MANISHA JAIN

MGC Professional Excellence Award for 2022 was received by Ms. Manisha Jain



NOTEWORTHY MEETINGS/TALK SESSIONS



Dr. Girija Bharat had the pleasure of meeting Mr Jeremy Harrison, Minister of Trade and Export Development, and Minister of Immigration & Career Training, Government of Canada.



The MGC team along with colleagues from NIVA had the opportunity of interacting with the ambassador at the Norwegian Embassy, where Dr. Girija was felicitated for receiving the NITI Aayog award for Women Transforming India and her exemplary work in transforming the sustainable development space in India.

Meeting with the Additional Secretary, Ministry of Steel, Government of India (GoI) for discussing potential areas in which MGC can work to provide solutions to the issues of over-exploitation and contamination of water resources by the steel industry.



MGC had the pleasure of interacting with Dr. Matt Francey, CEO, of Alluvium Consultants, and his team.

Dr. Girija inaugurated learning –cum– competitive skillathon, SKILLATHON 2.0 organised by Being Artifex priSM, a renowned society of IIT (ISM) Dhanbad



Dr Girija Bharat delivered a talk on "Policy and Regulatory Framework for Management of Persistent Organic Pollutants-Indian Perspective" during the 5 day training program on 'Monitoring of Persistent Organic Pollutants in the Environment' conducted by CSIR NEERI as the Stockholm Convention Regional Centre of Asia and sponsored by UN Environment Programme. The training programme was attended by representatives from pollution control boards and other government organizations from across the country.



MGC Colleague, Ms. Mary Abraham, Senior Consultant delivered a technical session on Water Management and Climate Adaptation under the Capacity Building Workshop for ULB officials held at ATI MYSURU organized by National Institute of Urban Affairs (NIUA) and UNIDO, under the Sustainable Cities Integrated Approach Pilot in India (SC-IAP) project funded by GEF's Sustainable Cities Programme.

MGC colleague, Mr. Nathaniel Bhakupar Dkhar conducted a workshop on 'Youth in the Water Sector' for Global Water Partnership SAS Workshop, Youth and Young Water Professionals' Platform (YYP) (YYPP)

Global Water Partnership
South Asia
India Water Partnership

GWP SAS WORKSHOP
YOUTH AND YOUNG WATER PROFESSIONALS' PLATFORM (YYPP) SOUTH ASIA

TOPIC
YOUTH IN THE WATER SECTOR

22nd December, 2021
6 PM IST Onwards

Register Here:

Nathaniel Bhakupar Dkhar
• Consultant, Mu Gamma Consultants
• Honorary Advisor, Happie Yeti

Prof. Kaluvali Yella Reddy
• VPH, ICID
• Dean, ANGR Agril Univ, India

MGC colleague, Ms. Mary Abraham with her expertise in the development sector contributed to the behavioral change aspect of water management, in an elaborate virtual session 'Interactive session on resilient and circular water economy for Kuttanad region'.





Our Directors at KIIT Bhubaneswar

<p>Our directors, Dr. Girija Bharat and Dr Manish Kumar visited Kalinga Institute of Industrial Technology, Bhubaneswar (KIIT) and KISS - Kalinga Institute of Social Sciences, Bhubaneswar, India and were honored to meet with the visionary Founder of KIIT and KISS, Dr Achyuta Samanta, Member of Parliament, Lok Sabha, Kandhamal, Odisha.</p>	<p>They were highly impressed with the high quality faculties and professionals, the infrastructure and the ambience at KIIT and KISS. Mu Gamma Consultants look forward to a great partnership with KIIT and innovate together for an environmentally sustainable future.</p>
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EXPERT INTERVIEW

Hans Nicolai Adam, Research Scientist, Norwegian Institute for Water Research



1. NIVA's commitment in research on environmental contaminants, microplastic pollution in marine environment is laudable. How do you see these research activities scaling up in India?

Over the last several years, there have been many progressive developments in India with respect to the regulation of plastic, as well as raising broader

awareness of consequences of plastic pollution. For example the Plastic Waste Management Rules (PWMR) amendment, 2021 aims to ban many single use plastic items, and many campaigns and programmes have been launched by the government, civil society and private sector to address marine plastic pollution. Nevertheless, more research is required to understand the precise incidence of plastic pollution, its sources and fate. Research gaps remains as well, for example when attempting to understand the various human and ecosystem health impacts of plastic pollution, or assessing recycling rates. NIVA, in collaboration with MGC has contributed to the research agenda in India over the past years and there is a need for scaling up these efforts, given India's growing economy, population and potential health threats emanating from plastic.

2. How does NIVA connect with international experts, national governments, and citizens aiming towards reducing environmental contaminants?

Moving from research to action is never an easy task. Translating research into effective policy requires a deep understanding of societal dynamics. For policy to be effective, a solid scientific base is required – but as past experiences show – scientific insights alone are seldom enough to tackle environmental problems on their own. NIVA is very aware of this and thus aims to form broad coalitions to disseminate insights, but also gather them. Linking with citizen fora, reaching scientific consensus with (interdisciplinary) experts and having government stakeholders on board has been part and parcel of NIVA projects. This can be done through social media, conference and workshop organization but also disseminating information that are accessible and understandable by the common person. These happen at international, national and local levels.

3. What has NIVA's contributions been in the upcoming Plastic Convention?

NIVA has several projects that research and build capacities on plastic pollution. These projects are based in Norway, the European Union as well as in Asia. Understanding the causes of plastic pollution, and its various dimensions and consequences are often context-dependent, and differ from country to country, and from region to region. Over the past years, NIVA's wide understanding and accumulation of knowledge from various disciplines and regional contexts has been coalesced into contributions that inform the upcoming Plastic Convention. For example, the role of the informal sector in plastic waste management has been examined in detail with various workshops held and policy briefs formulated, which draw on empirical research from India and beyond. This is a continuing process and a key contribution towards the upcoming convention by NIVA, with key support of MGC and other partners.

4. How is this Plastic Convention addressing the role of informal sector plastic waste workers?

This is an ongoing dialogue, but so far one of the issues that is under deliberation is to provide for a clear acknowledgement of the role that the informal sector plays in addressing plastic pollution globally. The Plastic Convention will thus hopefully provide clear guidelines and mechanisms that enable fair compensation, as well as addressing health and livelihood concerns of the vulnerable people working in this sector, while utilizing its capacity to reduce plastic pollution.

5. MGC has highly valued the collaboration with NIVA. What are some of your thoughts about this collaboration?

NIVA's collaboration with MGC has been extremely fruitful and resulted in many important research advances and policy translations in India and internationally (be it on POPs, plastic or other environmental issues of concern). The collaboration is characterized by mutual trust and MGC has consistently delivered high level research outputs and proved itself to be an extremely important driver of joint, interdisciplinary research and capacity building not just with NIVA, but within the larger Indo-Norwegian context. I congratulate MGC for its consistent focus on addressing environmental issues, improvement of human well-being and doing so with significant policy impact through high quality research. I and NIVA envision that this collaboration will continue to flourish and that we continue to jointly address growing environmental problems in the years to come!



PUBLICATIONS

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Management of used water and SDG 6.3 - Challenges and Opportunities for India

The availability of water in India is under pressure due to increasing population, urbanisation and the impact of climate change. The situation is further exacerbated by water pollution caused by anthropogenic and geogenic factors. Among the anthropogenic factors, inadequate treatment of used water is a major concern in India. Approximately 70 per cent of used water being untreated is one of the main sources of pollution in surface and groundwater, writes Mary Abraham, Nathaniel B Dkhar and Girija K Bharat, MuGamma Consultants, Gurugram.



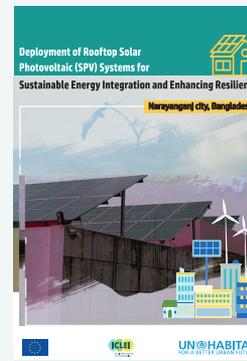
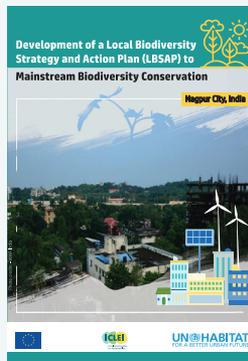
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MGC IN SOCIAL MEDIA

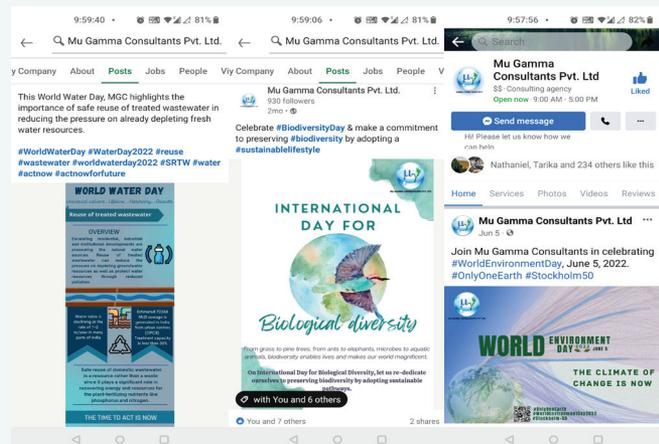
MGC is very active on social media and has used the platform to share news, events, and create awareness on important environmental themes, and other meaningful discourse on environmental and sustainable development. Using social media, our reach has increased by ten times in the past year and has allowed us to engage users in a real conversation about sustainability and the environment.

We have sought to raise awareness and encourage stakeholders to take responsible action for a positive change in the areas of marine litter, emerging contaminants, wastewater reuse, and plastic waste management among others through our social media campaigns.

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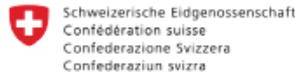
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- Start-up India Recognition by Department for Promotion of Industry and Internal Trade (DPIIT), Government of India <https://www.startupindia.gov.in/>
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OUR PEOPLE

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.

