



Expression of Interest for ADB e-Marketplace

Company: Maithri Aquatech Private Limited

Product: MEGHDOOT™ Atmospheric Water Generator

Contact Person: Naveen Mathur

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To
Asian Development Bank (ADB).

Sub: Expression of Interest to register for ADB e-Marketplace

Dear Sir/Ma'am,

We are Maithri Aquatech, a company based in Hyderabad who manufacture the MEGHDOOT™ Atmospheric Water Generator, a sustainable solution capable of generating clean, potable water from air, without the need for additional water sources. Our solution is eco-friendly, decentralised and extremely scalable with its modular architecture, capable of meeting requirements from tens of litres to millions of litres per day.

With reference to your notice inviting submission of Expression of Interests dated 16th February 2021, we, hereby submit this Expression of Interest to apply for the ADB e-Marketplace, a platform we believe would give our company the opportunity to be a part of a professional network, and as a solution provide for important social projects across Asia and the Pacific.

In line with the context of this letter, attached along with this letter are details on our corporate profile, product – MEGHDOOT™, and case studies to elaborate on the value addition Maithri Aquatech can bring as a member of this platform.

Thank you for your time and consideration. Keenly looking forward to becoming a part of the ADB e-Marketplace.

Sincerely,

For Maithri Aquatech

Naveen Mathur
Chief Executive Officer (CEO)
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Maithri Aquatech Pvt Ltd

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Maithri Aquatech Pvt. Ltd.

: Company Profile



About the Company

Maithri Aquatech is a water company dedicated to creating a solution to the issues of water availability and water contamination. The company's objective is to aid in creating a future where there is no thirst and exploitation of water resources. In this endeavour, they have developed the **MEGHDOOT™ Atmospheric Water Generator** which is a unique machine that produces potable water using the air as the only source.

Maithri Aquatech is a part of the "Make in India" initiative.



Partnership with CSIR - IICT

To further improve the quality and standardize the water produced by MEGHDOOT™, Maithri Aquatech in 2018 joined hands with the Hyderabad-based *Indian Institute of Chemical Technology (CSIR-IICT)* which operates under the Council of Scientific and Industrial Research (CSIR). They assist Maithri Aquatech in water quality analysis, testing and filtration development. They have also provided Maithri Aquatech with a customizable Dosing system which the company offers to its customers. The Dosing system is able to meet the specific demands of the customers who have specific mineral/nutritional requirements. Maithri Aquatech and IICT have jointly filed a patent for MEGHDOOT™'s technology.



Product Validation

- The **Indian Ministry of Water - the Ministry of Jalshakti** have approved and recommended Maithri Aquatech's MEGHDOOT™ technology.
- Approved by **NIPER** for use of technology in the pharmaceutical industry.
- Approved by **EPTRI** as an **environmentally-friendly technology**.
- Performance Approved by **NORTHERN RAILWAYS (Indian Railways)** and **INS HANSA (Indian Navy)**.
- Validated and enrolled on **Government E-Marketplace (GeM)**.



Market Foray

- Signed a multi-year deal with Indian Public Sector company **Bharat Electronics Limited (BEL)**
- Signed a large deal with UK-based multi-national company to distribute in **Africa and the Gulf**
- Installed the World's First Water from **Air Kiosk at Secunderabad Railway Station**
- World's First Mobile Water from **Air Kiosk cum Water Knowledge Resource Center (WKRC) project with USAID-SWN in Vizag** launching soon
- Installed water solution in **US Embassy, Chennai**
- **Installations for Indian Army, Navy and Coast Guard**
- Exports to Africa and UAE
- Kicked-off a Webinar Series, '**AquaTalks**', a platform to promote **thought leadership** and knowledge sharing in water sustainability



Vision

To become the global leader in water harvesting solutions impacting the lives of 100 million people on a sustainable basis.



Achievements

- One of the "**Top 50 Start-ups to Watch Out for**" by ET RISE (Economic Times).
- In the **10th Anniversary of the RELX Environmental Challenge (2020)**, the company one of the 7 short-listed applicants among 170 from 43 countries that best demonstrate how they can provide access to safe water on a sustainable basis.
- Top 5 Finalist shortlisted among 119 application for the **Enel Greenpower Ennovation Challenge**.
- Maithri Aquatech was featured as the **Company of the Year 2020** by the Business Connect magazine.
- Maithri Aquatech has won a **FICCI Smart Urban Innovation Award 2020** in the Smart Water category.

Sustainable



Certified



Environment-Friendly



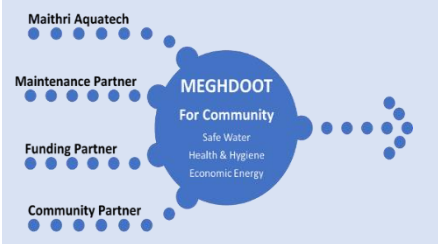
Renewable-Energy Compatible



Decentralised



Economical



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MEGHDOOT™

: Brief Overview

The world needs sustainable technology which does not hurt the environment, is easily accessible, and impacts society for the better.

Renewable Source of Water - Air

The air is a perennial resource of water. At any one instant, the Earth's atmosphere contains 37.5 million billion gallons of water. This is recycled multiple times throughout the year, thanks to the natural water cycle. [CIMSS/SSEC, UW-MADISON](#)

MEGHDOOT™ Atmospheric Water Generator

Atmospheric Water Generation (AWG) is a sustainable technology that operates independent of groundwater and surface water resources, by making use of the water present as vapour in the air around us.



MEGHDOOT™ Magnum +

Our solution – MEGHDOOT™ is **India's first Indigenous** Atmospheric Water Generator (AWG) capable of converting the atmospheric moisture into clean potable water, at a very affordable cost with just the click of a button.

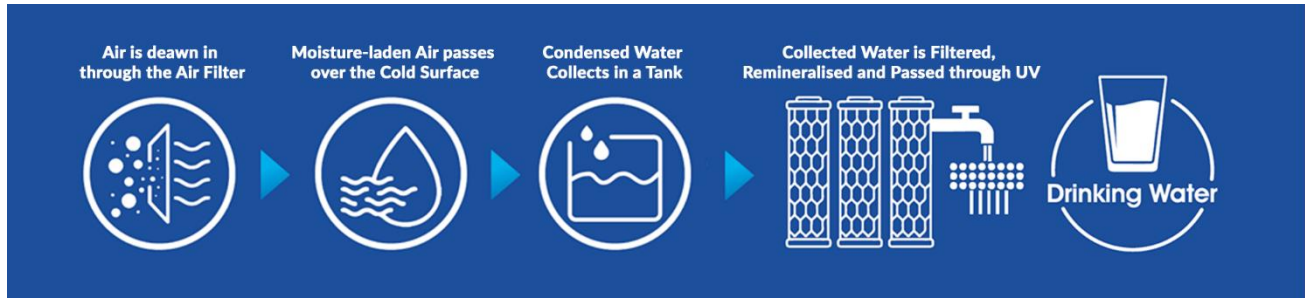
Models

S. No.	MEGHDOOT™ Model	Capacity in Litres Per Day (LPD)
1	Vega	Up to 25 LPD
Classic Series		
2	Classic	Up to 40 LPD
3	Classic +	Up to 60 LPD
Premium Series		
4	Premium	Up to 150 LPD
5	Premium +	Up to 250 LPD
Magnum Series		
6	Magnum	Up to 500 LPD
7	Magnum +	Up to 1000 LPD
8	Signature*	Greater than 1000 LPD

*MEGHDOOT™ Signature is a customised solution which can be tailored to meet the customer's requirements, i.e. 2000 LPD, 5000 LPD, or higher.



Working Process of MEGHDOOT™



MEGHDOOT™ Water from Air Systems harvest water from air, which is safe from most of the contaminants which are seen in surface and ground water sources. Yet, we pride ourselves with our **Multi-Stage Filtration** process to ensure the best quality of water is available to our consumers.

TYPE OF FILTER	SPECIFICATIONS	PURPOSE
Air Filtration		
Air Filter	Pore Size: 10 microns	Initial step of filtration which traps pollutants and other particulates as small as 10 microns present in the air drawn into MEGHDOOT™.
Water Filtration*		
Sediment Filter	Pore Size: 5 microns	Designed to remove suspended solids, such as sediment, turbidity or particulate, dirt and rust.
Pre-Carbon and Post-Carbon Filters	Granular Activated Carbon (GAC)	Designed to remove contaminants, impurities, organic chemicals and objectional odours. Enhances the taste of water.
Mineral Cartridge	Proprietary Salt Mixture	Designed to add Calcium, Magnesium, Sodium and Potassium, along with other essential trace minerals to the water.
Pre-Dispensation		
UV Filter	UV Light Disinfection	Disinfects the purified and mineralised water before dispensation by neutralising micro-organisms.

*Post-Condensation, we also make use of an Ozonator in our MEGHDOOT™ Magnum Series and above, which oxidises any contaminants and also functions as a disinfectant.

Impact Potential

MEGHDOOT™ can be used for providing potable water facilities in Schools, Universities, and Hostels, Place of Worship, Railway Stations, Bus stations, Airports, Government Hospitals, and Health Care Centre, Remote Defence Training Facilities and Monitoring Camps, Ocean going vessels, Prisons, etc.

- ✓ Instant pure, clean and safe microbe-free re-mineralized drinking water to millions
- ✓ Allows groundwater recharge as it does not use the same to produce water.
- ✓ Improves life expectancy as water contains negligible levels of bacteria (tested and certified)



- ✓ Reduce drudgery by providing water on-demand, on-site

The MEGHDOOT Advantage

- **Affordable AWG** - MEGHDOOT™ is one of the most affordable Atmospheric Water Generators on the planet, capable of producing water for as low as USD 0.02, and when powered by renewable energy.
- **A perennial source of water** - MEGHDOOT™ produces pure drinking water from the water vapour in the atmosphere, which is a perennial source of water on this planet.
- **Pure, Safe & Clean Microbe-free water** - The purity of water produced, matches the standards recommended by the World Health Organization
- **No Wastage** - The purification process doesn't involve any wastage of water unlike in the case of water purifiers available in the market right now – Reverse Osmosis purifiers waste a very high percentage of water in the purification process. Moreover, the water these machines use is from sources like groundwater, which is very scarce and limited. In a year if one generates 3,650,000 litres (10,000 litres a day) of water from MEGHDOOT™, we would be saving about 7,300,000 litres (20,000 litres a day) of groundwater. It also helps reduce plastic waste.
- **No Harmful Effluents** – There are no harmful by-products or effluents produced by MEGHDOOT™
- **Decentralized Solution** – MEGHDOOT™ is a decentralized solution and do not need huge pipelines, you can make water anywhere.
- **Renewable Source of Energy** – MEGHDOOT™ can run on renewable source of energy, be it **Solar**, **Wind** or others, which would make it a self-sustainable solution.
- **Dependable and Predictable Source**– By installing MEGHDOOT™, one does not have to depend on the supply of potable water by the local municipality or by any other agency. One can make water as and when they want – **anywhere, anytime**.
- **Reduces Man Management** – MEGHDOOT™ helps reduce man-management involved in transport, logistics, and distribution of water.



Case Studies

: A Few Key Projects

Since inception Maithri Aquatech, has innumerable successful case studies wherein MEGHDOOT has been used by various organizations to meet their water requirements. A few case studies affirming MEGHDOOT's feasibility in real-world applications are as follows:

Case Study – 1: Water Harvesting Unit at Mahesh Memorial Pediatric Oncology Centre, Chennai, Tamil Nadu, India

Period:

August 2020 - Present

Description:

The Mahesh Memorial Trust is an NGO based in Chennai, India working towards creating public awareness about cancer, providing financial aid to economically challenged patients, organizing counselling and support for cancer patients and their families and supporting any other form of activity associated with the fight against cancer.

Chennai is currently in the midst of the city's worst water shortages, with a large portion of the city having zero access to clean water, and being heavily reliant on third-party water suppliers. This has occurred due to irregular rainfall and reduced access to groundwater resources. Mahesh Memorial Pediatric Oncology Centre is one of the many institutions affected by this water shortage. While being able to receive water from suppliers in the form of water cans, being a medical institution, they were unsure of the quality of water they were receiving.



Fig.1.1: MEGHDOOT Water from Air Kiosk at Mahesh Memorial Pediatric Oncology Centre

Maithri Aquatech has worked with Mahesh Memorial Trust to install a MEGHDOOT Water from Air system at their Pediatric Oncology Centre. The decision to install MEGHDOOT was taken so they could have control over the source of water, ensuring specific standards of quality were met for their patients for the purpose of drinking.

Feedback:

Installation of MEGHDOOT has provided Mahesh Memorial Trust an assurance of uninterrupted supply of 100% pure and safe water 365 days in a year, while also avoiding the hassle involved in procuring can water, storing them and distributing them to different floors.



Case Study – 2: World’s First Water from Air Kiosk at Secunderabad Junction Railway Station, Secunderabad, Telangana, India

Period:

December 2019 - Present

Description:

India has one of the world’s busiest railway networks with an estimate of over 23 million people commuting/travelling daily. Secunderabad Junction Railway Station is one of India's largest and busiest railway stations. Being the main railway terminus and a commuter hub in the Hyderabad urban area, it is one of four major stations serving the city. The station is the busiest railway station in the state of Telangana with about 170,000 passengers commuting daily on over 200 trains being distributed over 10 platforms.

The passengers can meet their drinking water requirements at the railway station using the free water supplied from public taps, or by purchasing bottled drinking water from stalls. Unfortunately, quality of water from the public taps has become a cause of concern due to aging infrastructure and poor filtration of the water. There is also the case of vendors selling numerous unknown brands of packaged water with questionable quality at a high price.

The South Central Railway (SCR) board, under which the Secunderabad Junction Railway Station operates, was looking for a sustainable water solution in line with their Green Initiatives, and also in line with India’s Prime Minister’s goal to conserve water since India is already a tremendously water stressed country.



Fig.1.2: MEGHDOOT Water from Air Kiosk at Secunderabad Railway Station

Maithri Aquatech has worked with Railways (SCR) officials, and as a part of their Green Initiatives and efforts towards Water Conservation, had developed and installed the ‘World’s First Water from Air Kiosk with Remineralization Technology’ on the platform 1 of the Railway Station. The MEGHDOOT Water Solution in the Kiosk is able to produce up to 1000 litres of clean, mineral-enriched potable water on a daily basis, and at an affordable price. Encouraged by the response of the kiosk company later installed a second kiosk on Platform 10 of the Railway Station able to generate up to an additional 1000 litres of potable water on a daily basis. Both these Kiosks are manned and have provided a means of employment to members from

underserved communities. Both the Kiosks now have a capacity to meet the potable water requirements of over 6000 people on a daily basis.

Feedback:

Since its installation Maithri Aquatech has catered to numerous passengers and members of staff and has received a highly positive feedback from the officials and passengers. Following the success of this project, Maithri Aquatech is working with Indian Railways officials to install multiple Water from Air Kiosks across railway stations in India. Following the positive response and media coverage generated



by this innovative project, the company has been approached by USAID which is now working with the company to replicate the 'Water from Air Kiosk project' in water-scarce areas to provide potable water to underserved communities. These kiosks being installed along with the support of USAID will not only provide access to clean and safe water but will double up as 'Knowledge Centers' and educate communities on the importance of hygiene, clean water and water conservation practices.

Case Study – 3: Sustainable Water Project at Amazon Hyderabad Campus, Hyderabad, Telangana, India

Period:

June 2019 - Present

Description:

A large number of organizations are looking to drive innovation and change towards sustainability, and to align themselves with the United Nations SDGs. With Global Warming and Climate Change being major topics of concern across the planet, most organizations are looking to implement environment-focused projects.

Hyderabad is an IT Hub in India with a large number of big corporates operating in the city. To meet their in-house water requirements, most corporations make use of large-scale filtration systems to filter water received from the city's Municipal water body. Due to irregular rainfall and water shortages, very often these corporates have also opted for vendors of bottled water to meet their requirements of potable water, as the water received from the Municipal water body is insufficient to meet their requirements. Amazon India is one of those corporations in Hyderabad heavily reliant on vendors for meeting their inhouse potable water requirement. Moreover, in line with their global commitment of having a net zero carbon footprint by 2040 they have been looking to implement sustainable projects which would aid them in achieving this goal.



Fig.1.3: MEGHDOOT Pilot Project in Amazon Hyderabad Campus

In line with their goal, Maithri Aquatech has worked with Amazon India to generate healthy mineral-enriched potable water using MEGHDOOT right inside their Hyderabad campus. This also helps to reduce their carbon footprint caused due to ferrying water. Not only does this project make Amazon water positive but it also helps in eliminate the external procurement of water in plastic bottles. In this endeavor, Maithri Aquatech has installed a pilot water project capable of generating up to 1000 litres of water on a daily basis to meet the drinking water requirements of Amazon's employees. The water solution has been successfully able to provide water to the campus, even during the COVID-19 lockdown where third-party

water suppliers were unable to provide water. Amazon has become the first corporation in the world to have an in-house sustainable water solution capable of not just purifying, but generating water.

Feedback:



Following the success of this project, Maithri Aquatech is in discussion with Amazon, who are planning to replicate this project on a much larger scale across their other facilities. Maithri Aquatech is also in advanced stages of discussions with other global organizations to provide them MEGHDOOT to meet their in house potable water requirements.

Case Study – 4: Water for Animals Project, Elephant Corridor, Kenya, Africa



Fig.1.4: Maithri Aquatech's Ambassador for Wildlife,
Patrick Kilonzo Mwalua

Description:

With a global increase in temperatures from man-made causes fueling climate change, many surface water bodies across the planet are being evaporated completely. Tropical and Arid locations such as the Savannahs of Africa are hit by water scarcity the worst due to high temperatures and vast stretches of flat plain-like environment. Major water holes are drying up leaving no water available for wildlife.

Patrick Kilonzo Mwalua has been working to recharge such water holes in Kenya's Elephant Corridor and has been travelling large distances with his tanker to re-fill the dried water holes. His contribution to supporting wildlife through this act of providing water has earned him the names "the Waterman of Tsavo" and "the Kenyan Waterman", with global acclaim. Patrick has been working with various beneficiaries to develop a stable system of transporting water to the waterholes. But with Kenya as a country itself being water-scarce, the ability to source water to fill his tankers has made his project difficult. Patrick has reached out to Maithri Aquatech and the company has provided him with several units of MEGHDOOT Water from Air Systems to generate water for wildlife without relying on external water sources. MEGHDOOT has already been exported to Kenya for this cause. Under this project the energy requirements for MEGHDOOT will be met by renewable source of energy i.e. solar.

Feedback:

Patrick has been very happy with the performance of MEGHDOOT and has now become Maithri Aquatech's Ambassador for Wildlife. This is what he has to say of MEGHDOOT:

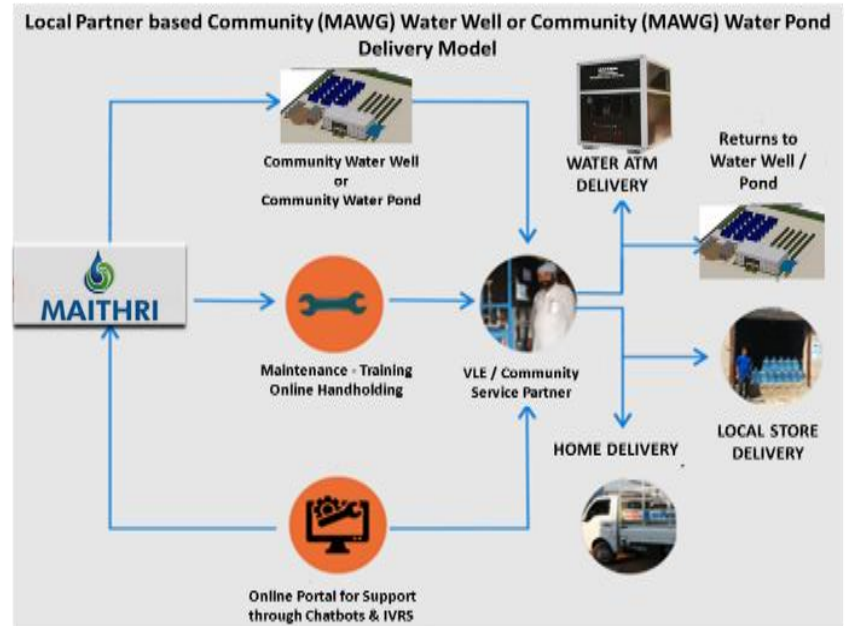
<https://youtu.be/TphIKxRUFTc>



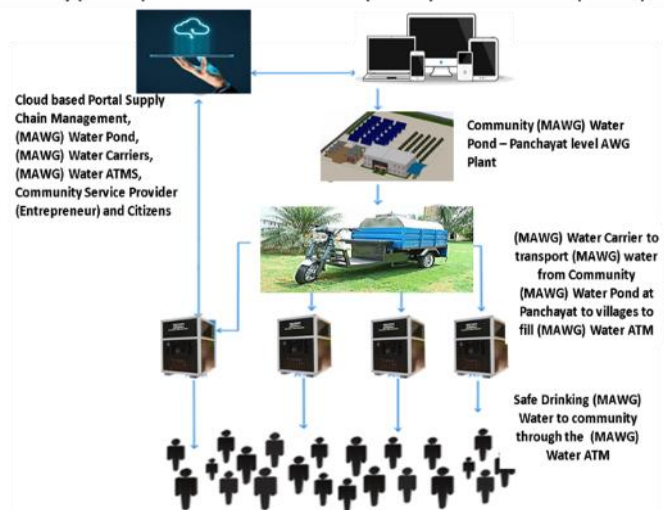
MEGHDOOT for Rural Communities

: A Solution Proposition

- Community-level safe drinking water to the under-served, built upon the foundation of quality control, operational accountability and price transparency.
- Proprietary technology plays a vital role in providing a comprehensive solution for delivery of low-cost drinking water at the last mile
- Designed and deployed various business models keeping this in mind to provide reliable and sustainable delivery of safe drinking water to rural and urban communities
- Provide purified water at Point of place hence discard Plastic bottles
- Get rid-off of waterborne diseases, ensuring better health and environment for the Universe
- Enhances scale of impact and optimizes net investment per installation, Establishes water-price transparent markets
- Ensures water quality accountability at the last mile
- Aesthetically attractive and robust modular unit design
- Assures 24x7 access to safe drinking water
- Presents option to provide direct-targeted subsidies through government run programs.
- Provides the community automatic access a 24x7x365 basis. The water dispensing facility in quantities of 250 ml, 1 litre and 20 litres.
- Hub & Spoke mode - Cost-effective distribution to close-by communities / villages, through Water-on-wheels concept.
 - Integrated with mobile app for e-payments and orders
 - 1:5 Ratio –5 WOWs for every fixed ATM



HUB - Community (MAWG) Water Pond and SPOKE - (MAWG) Water Carrier to (MAWG) Water ATMs



on

