

# MOTHER'S MAGIC BAG

**M**ulti **U**se **T**rash **H**andling **E**quipment for **R**ecycling and **S**ustainability  
to **M**ove towards **A**chieving **G**arbage-free **I**nternational **C**ommunity by a  
**B**an on **A**quatic **G**arbage

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## ***“Achieving Trash Free Waterbodies Goal by Micro Level Cleaning”***

Pollution is a well renowned global problem and it could be brought under different categories. Amongst of all , plastic pollution is more challenging to combat against the preservation of aquatic eco – systems. It can afflict all forms of waterways ranging from small channels to massive oceans. Every day, an equivalent of 2,000 garbage trucks full of plastic are dumped into the various water ways all over the world. Every year 19-23 million tonnes of plastic waste leaks lead to pollution of aquatic ecosystems. Plastic pollution not only alters aquatic inhabitations but also affects wild life and humans thus impacting natural processes, reducing ecosystems, adaptation to climate change thereby affecting livelihood of humans, capability of food production and social well-being. Categorically the size of plastic debris ranges from micro, meso and macro levels are accumulated in the water bodies. Their durable and highly resilient chemical structure towards the natural process of degradation renders large inflow of mismanaged plastic waste into the environment. Hence Marine life is more susceptible to plastic pollution. There is a constant fear of danger and extinction of aquatic resources. The plastics in water bodies result in the triple planetary crisis of climate change, biodiversity loss, and pollution. Hence, UN-Sustainable Development Goal 14.1 focuses on conservation and sustainable use of oceans, seas and other marine resources.



Prof. S. Muthukumar

This goal can only be achieved if the plastic trashes are removed at small canals before being merged with rives and oceans. Hence this micro cleaning of water bodies is indispensable before being polluted at the macroscopic level of seas and oceans. So far there is no simplified, tool to cater this issue. Keeping the welfare of mankind and society, Prof. Muthukumaran from NITT decided to develop a robust, efficient and affordable tool named as Muther's Magic Bag to remove plastic debris and other trashes from small water bodies and upgradable to a larger extent possible. With this goal in mind he designed around 52 valves and spent 600 hours and invented Muther's Magic Bag.



*Trichy Collector Sri M. Pradeep Kumar IAS kick starting cleaning drive using magic bag and*

*Prof. S. Muthukumaran carrying out cleaning of pond with volunteers using Magic Bag*

### ***The Key Features of Muther's Magic Bag***

The brilliance of MUTHER'S MAGIC BAG lies in its simplicity and effectiveness with following key features.

<https://x.com/ANI/status/1896395742258041193?t=IVesyvSZ9Sou3fmHYwEwkg&s=08>

1. The trashes are sucked into the collection vessel without any pump or electrical components
2. The non-returnable valve prevents reverse flow of trashes into the water body during subsequent dipping.
3. The trashes are directly collected into the storage bag and once it is filled it can be sent for recycling and replaced with a new bag within few seconds

The device has been constructed using durable, lightweight materials and is capable of withstanding the rigors of aquatic environments,



Before cleaning



After cleaning with Magic Bag

### ***Broader Impacts and Complementary Innovations***



*Trash removal using Fureboat and Magic Bag*



*Distribution of Magic Bag by Collector*

Beyond the Magic Bag, Dr. Muthukumaran has also invented the FUREBOAT (Furniture cum emergency boat and details are available in the link <https://www.youtube.com/watch?v=D-SG06AFbxg>, a cost-effective invention designed to safeguard lives and valuables during floods, boat capsizes and many more applications. This remarkable innovation addresses disaster preparedness and highlights his dedication to create solutions that exist beyond environmental challenges. FUREBOAT and Magic bag complimenting to each other and simplifies the cleaning of relatively large water bodies. Together with the Magic Bag and FUREBOAT, his interest exemplifies his ability to apply scientific principles to real-world problems, ultimately improving lives and fostering sustainability.

### ***A Vision for a Garbage-Free World***

MUTHER'S MAGIC BAG represents more than just an invention—it is a symbol of hope, resilience, and indogeneity. By offering a practical solution to a pervasive problem, it underscores the power of human creativity to address environmental challenges. The device envisaged to be a forerunner for a garbage-free world, where clean water bodies support thriving ecosystems and sustainable communities.

As MUTHER'S MAGIC BAG and complementary inventions like the FUREBOAT continue to gain recognition and support, they serve as reminders that every innovative step, no matter how small, can make a profound difference to mankind. With collective efforts and a commitment towards environmental responsibility, the dream of a cleaner, greener planet is well within the reach.

## Selective news items on Muther's Magic Bag:

The screenshot shows a news article on the Wn.com website. The header includes the Wn.com logo, 'NEWS', and a 'SEARCH' button. The date 'Tuesday, 11 M' is visible in the top right. Below the header is a navigation bar with categories: Top Stories, Live, World, Journalism Review, Business, Science & Technology, Sport, Environment, Arts & Culture, and Health. The main headline is 'Muther's Magic Bag: A revolutionary step towards a garbage-free world'. Below the headline, it says 'Posted 2025-03-03, Beijing News, Headlines'. The article text begins with 'Trichy (Tamil Nadu) [India], March 3 (ANI): Professor Muthukumaran, Head of the Department of Metallurgical and Materials Engineering at NIT Trichy, has developed an innovative waste collection system, 'Muther's Magic Bag' (Multi-Use Trash Handling Equipment for Recycling and Sustainability), designed to remove floating trash... read full story'. To the right, there is a 'Related News' section with a link to 'Mahakumbh 2025: A Faith, Unity, and Tra Information and Bro Republic of India'.

## Video news

- ANI: <https://x.com/ANI/status/1896395742258041193?t=IVesyvSZ9Sou3fmHYwEwkg&s=08>
- V6 News Telugu : <https://www.youtube.com/watch?v=jEP8zqMvBB4>
- Puthiyathalaimurai : <https://www.facebook.com/watch/?v=1162676931453552>
- [https://www.youtube.com/watch?v=\\_NE-4Lms6TU](https://www.youtube.com/watch?v=_NE-4Lms6TU)
- Newsroom Post: <https://www.youtube.com/watch?v=WZNgoDQxm60>
- Dinamalar District News: <https://www.youtube.com/watch?v=l0wW5AQoGGE>

## News Articles

- Beijing News: <https://www.beijingnews.net/news/278071274/muther-magic-bag-a-revolutionary-step-towards-a-garbage-free-world>
- X (formerly Twitter) (ANI): <https://x.com/ANI/status/1896395742258041193?t=IVesyvSZ9Sou3fmHYwEwkg&s=08>
- ANI News: <https://www.aninews.in/news/national/general-news/muthers-magic-bag-a-revolutionary-step-towards-a-garbage-free-world20250303082122>

- **The Hindu:** <https://www.thehindu.com/news/cities/Tiruchirapalli/nit-tiruchi-professor-comes-up-with-a-magic-bag-to-remove-trash-from-waterbodies/article69270428.ece>
- **Latestly:** <https://www.latestly.com/agency-news/india-news-muthers-magic-bag-a-revolutionary-step-towards-a-garbage-free-world-6681854.html>
- **Big News Network:** <https://www.bignewsnetwork.com/news/278071274/muther-magic-bag-a-revolutionary-step-towards-a-garbage-free-world>
- **WebIndia123:** <https://news.webindia123.com/news/Articles/India/20250303/4292920.html>
- **The News Mill:** <https://thenewsmill.com/2025/03/muthers-magic-bag-a-revolutionary-step-towards-a-garbage-free-world/>
- **Daily Prabhat:** <https://www.dailyprabhat.com/muthers-magic-bag-a-revolutionary-step-towards-a-garbage-free-world/>
- **Indore Metro News:** <https://indoremtronews.com/muthers-magic-bag-a-revolutionary-step-towards-a-garbage-free-world-world-news-network-21/>
- **Janta Serishta:** <https://www.jantaserishta.com/local/tamil-nadu/muthers-magic-bag-a-revolutionary-step-towards-a-garbage-free-world-3868095>
- **Asianet News Marathi:** <https://marathi.asianetnews.com/amp/india/muthers-magic-bag-a-revolutionary-step-towards-a-garbage-free-world/articleshow-fxzmqlg>
- **New Kerala:** <https://www.newkerala.com/news/o/muthers-magic-bag-revolutionary-step-towards-garbage-free-world-632>
- **Janta Serishta:** <https://www.jantaserishta.com/local/tamil-nadu/muthers-magic-bag-a-revolutionary-step-towards-a-garbage-free-world-3868095>