

# **Fast Fashion and Water Pollution in Bangladesh**

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# What is Fast Fashion?

- Fast fashion means producing cheap, trendy clothing very quickly.
- Brands release new styles often to keep up with trends.
- Low prices encourage consumers to buy more clothing.
- This increases production, waste, and environmental pressure.



# Bangladesh's Role in Fast Fashion

- Bangladesh is a major center of global fast fashion production.
- Its factories supply brands such as H&M, Gap, and Zara.
- The garment industry is worth about \$55 billion a year.
- Fast fashion exports make up around 80% of Bangladesh's export earnings.
- The industry creates jobs, but many workers still face low wages.



# Why Water Pollution is the Main Environmental Concern

**Textile production creates large amounts of polluted wastewater.**

**Dyeing and washing fabrics produce contaminated wastewater.**

**Untreated wastewater can enter rivers and harm water quality.**

**Water pollution harms aquatic ecosystems and nearby communities.**

**The environmental burden often falls on producing countries like Bangladesh.**

# Toxic Chemicals in Textile Wastewater

Textile factories release wastewater containing synthetic dyes, heavy metals, bleach, and PFAS chemicals.

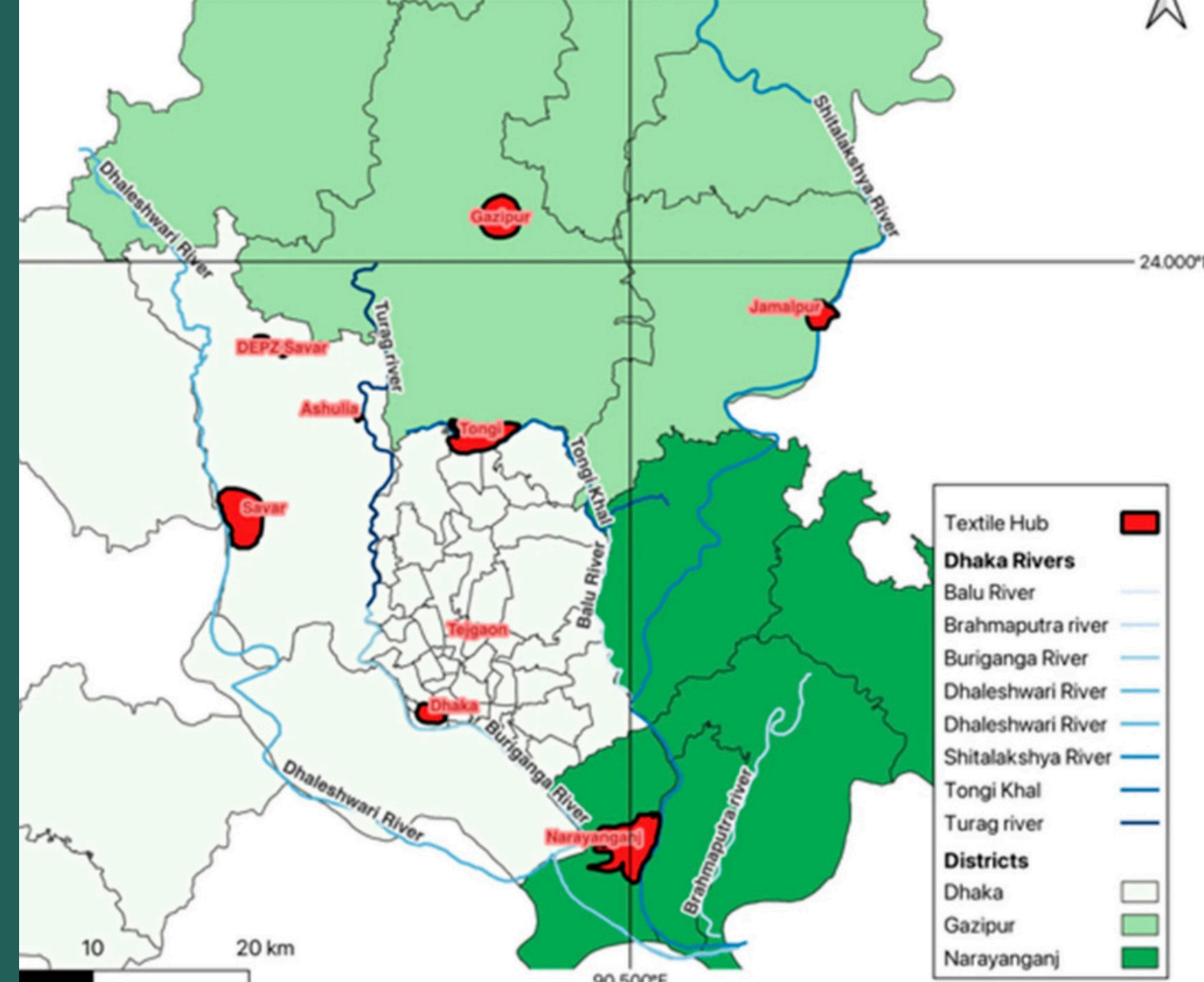
PFAS are widely used in textile manufacturing usually to make fabrics water or stain resistant.

PFAS or forever chemicals are difficult to remove from water systems and remain in water and soil for long periods.

Untreated industrial discharge contaminates groundwater, rivers, and nearby communities.

PFAS contamination was detected near textile factories in Bangladesh.

PFAS were detected in 87% of tested surface water samples.



# Effects on Rivers and Ecosystems

Textile wastewater from fast fashion factories heavily pollutes rivers near Dhaka.

Rivers such as the Buriganga, Shitalakhya, and Turag have experienced severe ecosystem damage.

Dye pollution lowers oxygen levels in water which makes rivers unsafe for fish and aquatic organisms.

Industrial chemicals and textile dyes contribute to declining water quality and ecosystem degradation.

River water often changes color because of untreated dye wastewater from textile factories.



# Effects on Human Health

Communities living near polluted rivers are exposed to contaminated water daily.

Textile workers and nearby residents face constant exposure to industrial chemicals.

Residents near polluted waterways have reported skin rashes, allergies, and respiratory problems.

Long-term exposure to PFAS may increase risks of liver damage, weakened immunity, and cancer.





# Bangladesh's garment factories pollute rivers, affecting residents' health

Al Jazeera English



Al Jazeera is funded in whole or in part by the Qatari government.



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# Economic Growth vs Environmental Protection

Bangladesh's garment industry supports jobs, exports, and national development.

Cleaner production can raise costs for factories.

Higher costs can make factories less competitive in the fast fashion market.

Ignoring pollution creates hidden costs for communities, rivers, and ecosystems.

These hidden costs are negative externalities that are not included in clothing prices.

The main dilemma is whether short-term economic growth is worth long-term environmental damage.





# Current Solutions and Improvements

## Effluent Treatment Plants (ETPs)

ETPs clean factory wastewater before it is released into rivers. They remove dyes, chemicals, and harmful waste, reducing river pollution.

## Water Recycling Systems

Factories treat used water and reuse it for washing, dyeing, cooling machines, or cleaning. This reduces both freshwater use and wastewater discharge.

## Advanced Filtration Technology

Systems like membrane filtration and reverse osmosis remove small pollutants, salts, dyes, and chemicals that basic treatment may miss.

## LEED-Certified Factories

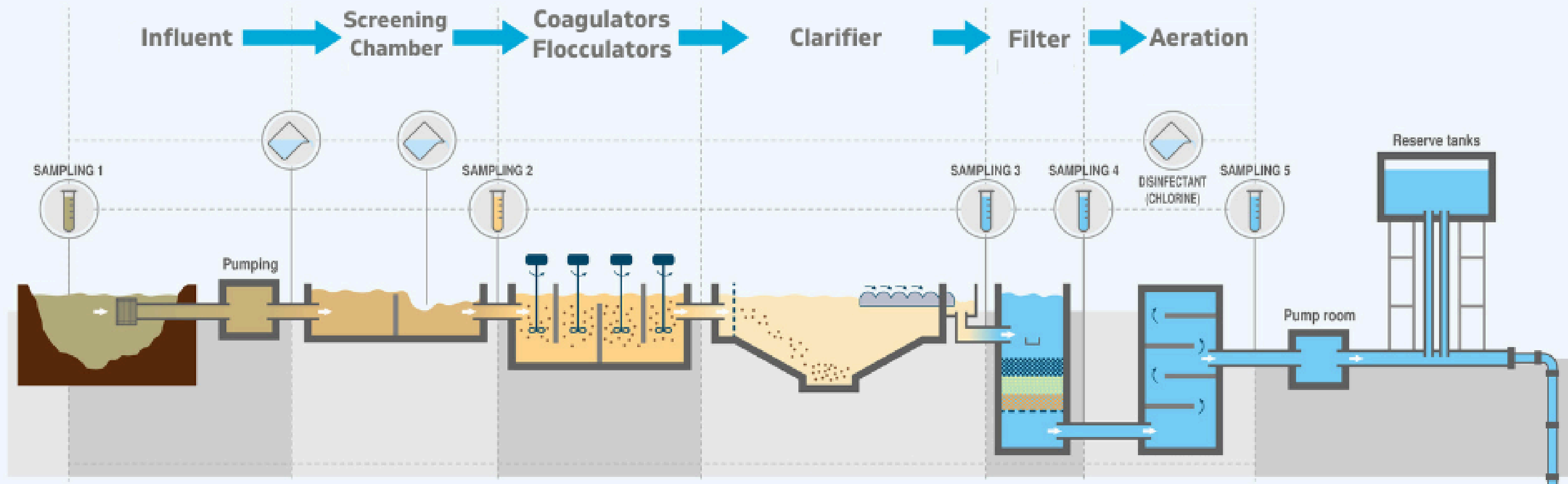
These are factories certified by the U.S. Green Building Council's LEED system for meeting green building standards, such as saving water and energy, reducing waste, and improving wastewater management.

## International Pressure

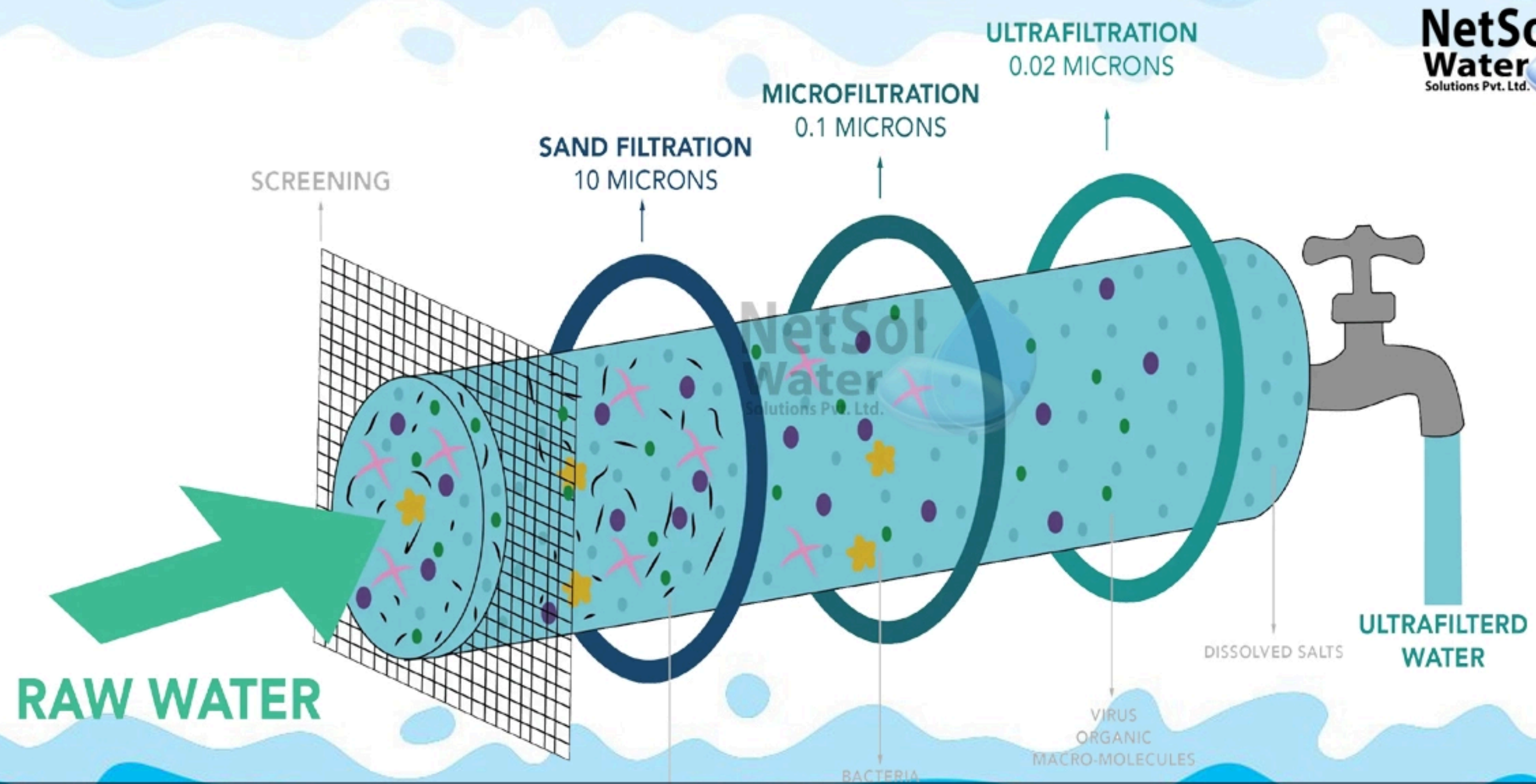
NGOs, global brands, and consumers push factories to follow cleaner production standards and properly treat wastewater.

# Effluent Treatment Plants (ETPs)

## Effluent Treatment Process



# Membrane Filtration



Membrane Filtration Methods for Water Purification

# Challenges in Solving the Problem

- **Weak enforcement:** Bangladesh has environmental rules, but monitoring is not always strong, so some factories still release untreated or poorly treated wastewater.
- **High cost of ETPs:** Effluent Treatment Plants are expensive to install, operate, and maintain, so some factories avoid using them properly.
- **Fast fashion pressure:** Global brands demand cheap and fast clothing production, pushing factories to cut costs instead of investing in cleaner systems.
- **Smaller factories struggle:** Many smaller factories lack the money and technical skills needed for water recycling or advanced filtration systems.
- **Pollution still exists:** Recent reports found PFAS “forever chemicals” near garment factories in Dhaka, showing that current controls are not enough.



# Recommendations for the Future



## Stricter enforcement of wastewater treatment

Factories should be regularly inspected to make sure Effluent Treatment Plants are not only installed, but actually running properly. This matters because untreated textile wastewater is a major cause of river pollution.

## Expand water recycling in textile factories

Factories should reuse treated wastewater in dyeing, washing, cooling, and cleaning. Some recycling systems can reuse around 70–80% of wastewater, reducing both freshwater use and polluted discharge.

## Reduce hazardous chemicals in production

Factories should replace harmful dyes, heavy metals, and PFAS “forever chemicals” with safer alternatives. This would make wastewater easier to treat and less dangerous for rivers and communities.

## Make brands responsible for cleaner production

Global fast fashion brands should help pay for cleaner technology instead of only demanding cheap production. Since Bangladesh produces clothing for international markets, brands share responsibility for the pollution.

# Conclusion

- Fast fashion contributes to severe water pollution in Bangladesh
- Textile wastewater harms rivers, ecosystems, and human health
- Solutions exist, but they require money, enforcement, and cooperation
- Governments, brands, factories, and consumers all share responsibility



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