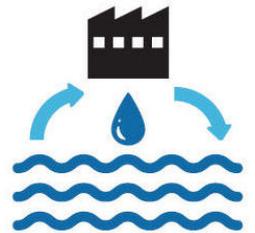


Challenge of Minimizing and Optimizing Water Usage



TOYOTA's Water Environment Policy

Promoting activities globally based on Toyota Water Environment Policy

Striving to consider the importance of water sustainability, Toyota will aim for realizing prosperous societies that will share a sound water environment to the future.

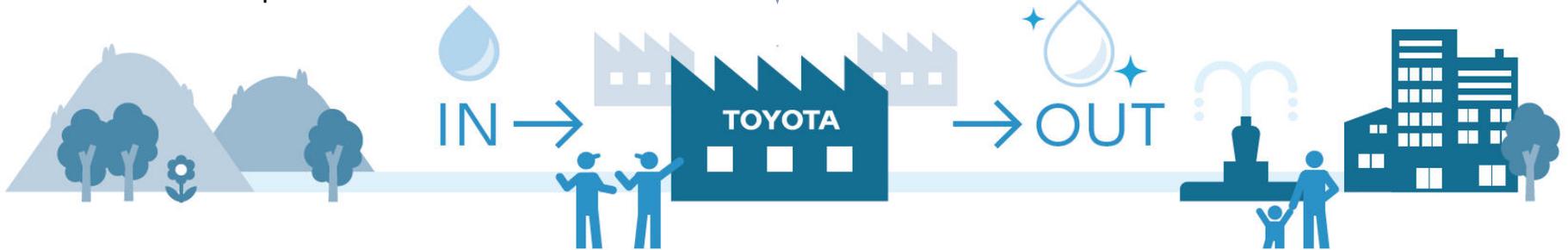
Thoroughly reduce water usage

Minimize the impact on regional water resources by minimizing water withdrawal and utilizing rainwater at each plant

Become 'No.1 regional plant' leading to the prosperity of entire societies

Clean thoroughly and return

Have a net positive impact on the environment by returning clean water in the local water environment



Using local water resources carefully and becoming 'No. 1 regional plant'

Outline of 2030 Milestone

Minimizing impact on water environment

- **Implement measures, on a priority basis, in the regions where the impact on its water environment is considered to be large**

Water quantity

Completed measures at the four Challenge-focused plants in North America, Asia and Southern Africa

Water quality

Completed impact assessments and measures at all of the 22 plants where used water is discharged directly to river in North America, Asia and Europe

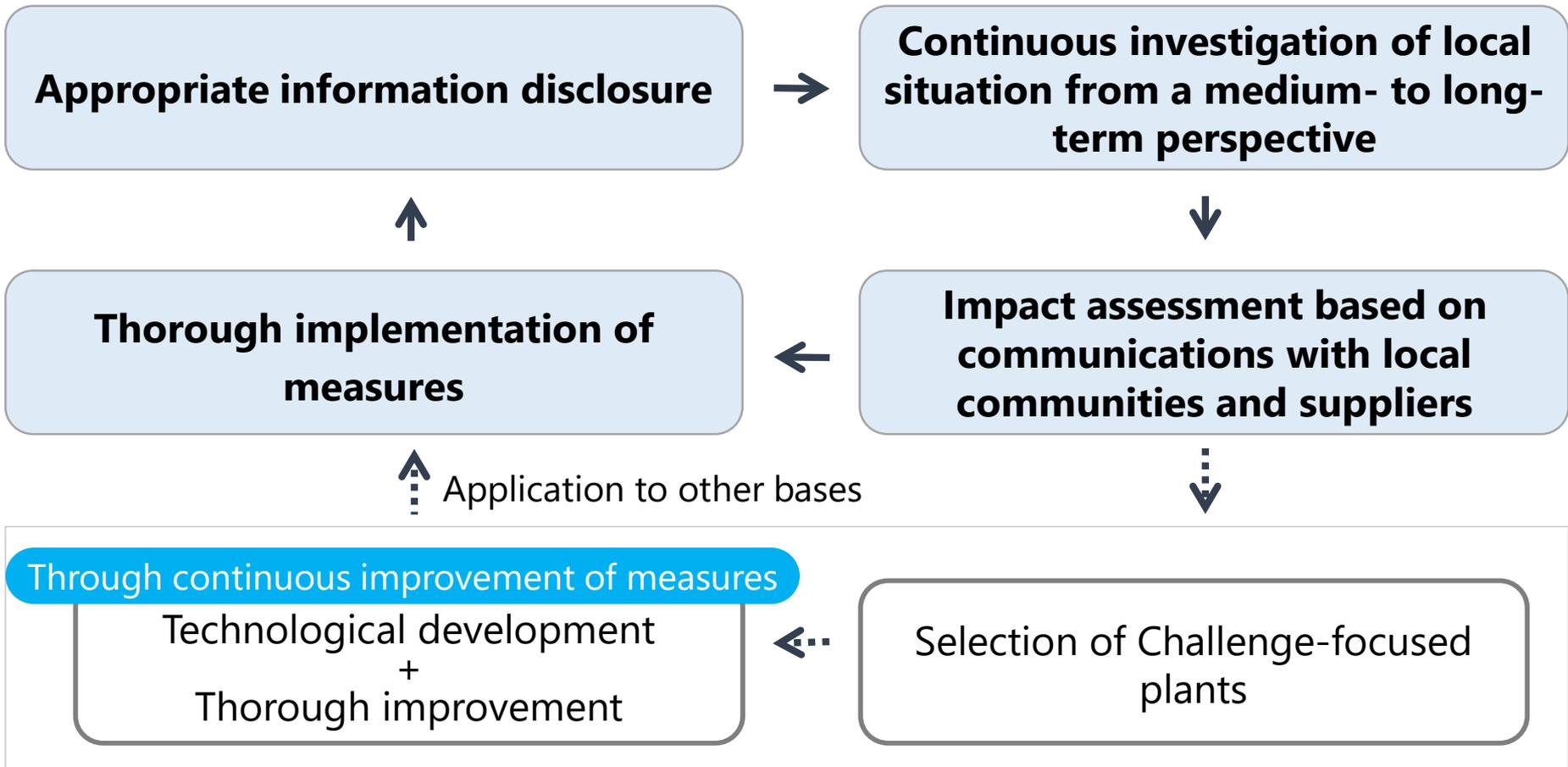


Maximizing communications

- **Disclose information appropriately and communicate actively with local communities and suppliers**

Aiming for realizing minimization of impact on water environment through approaches that match local water situation

Processes toward achieving the Challenge



Promoting the actions for the challenge continuously with taking potential impact from a medium- to long-term perspective into consideration

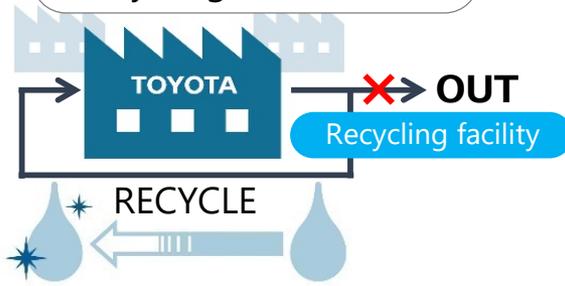
Main Initiatives

Thoroughly reduce water usage

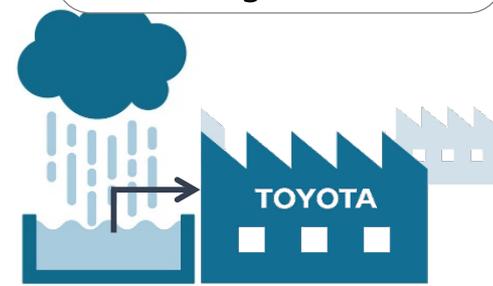
Utilizing water efficiently



Recycling waste water

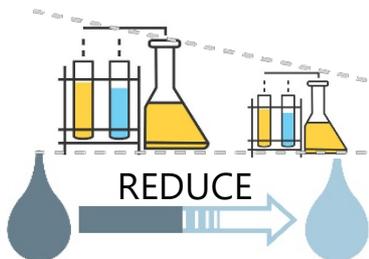


Utilizing rainwater

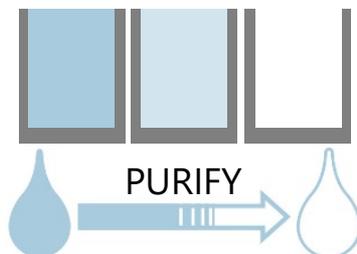


Clean thoroughly and return

Reducing use of environmentally hazardous substances



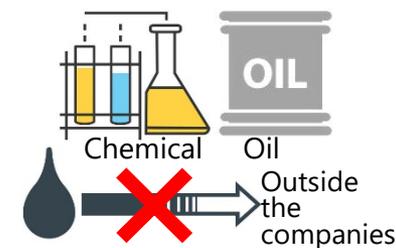
Thoroughly purifying wastewater



Constantly checking water quality



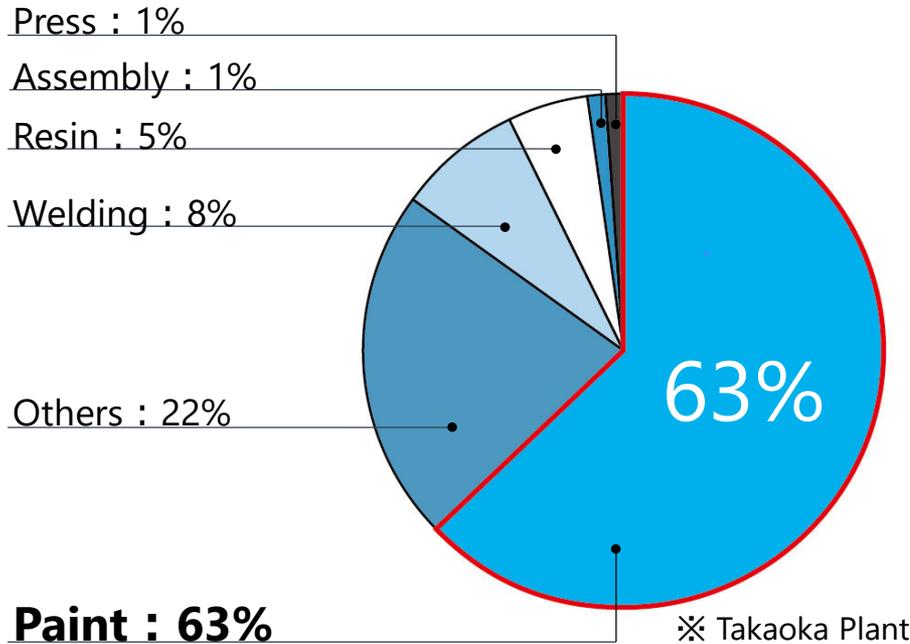
Preventing discharge from the plants



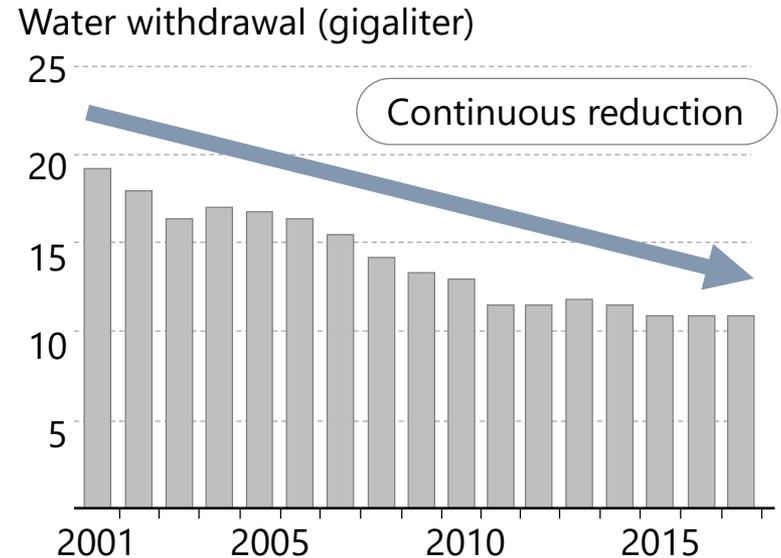
Promoting technological development and actions thoroughly under these 2 initiatives

Toyota's Water Use

Water usage ratio by process in automobile manufacturing*



Trend in water withdrawal of TMC



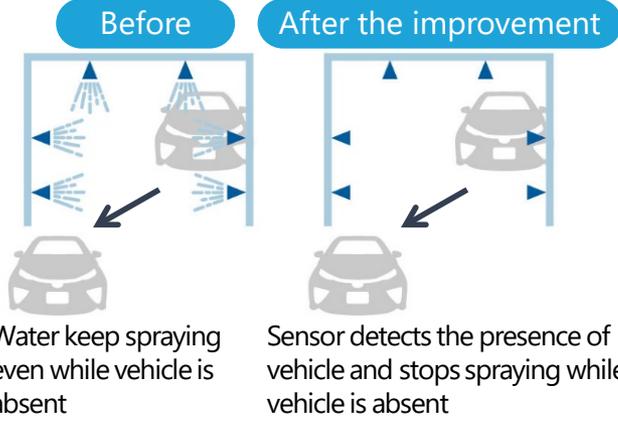
Reducing water withdrawal by promoting reduction in painting process which require high water usage

<Case (1)> Water Saving Technologies in Painting Process

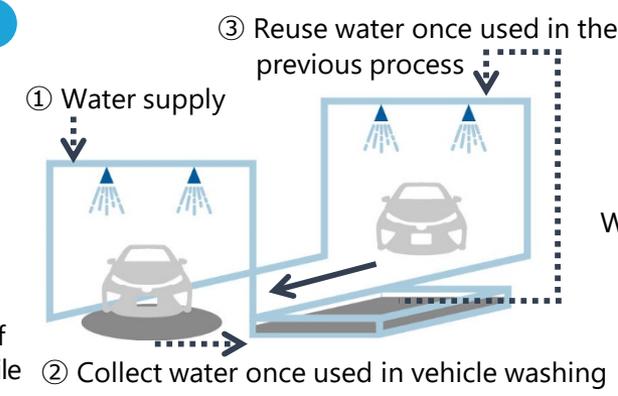
Painting process



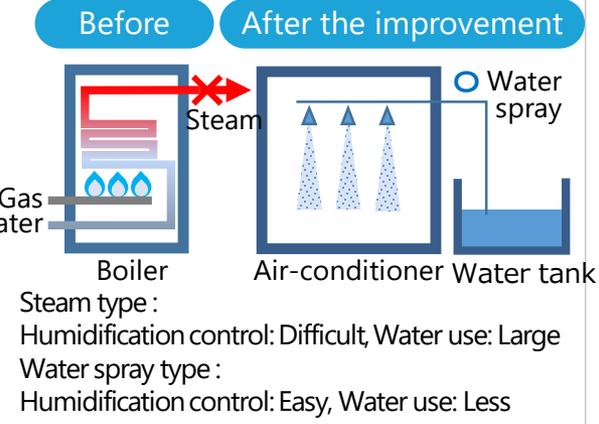
Water supply control of washing water



Reuse of washing water by cascade system



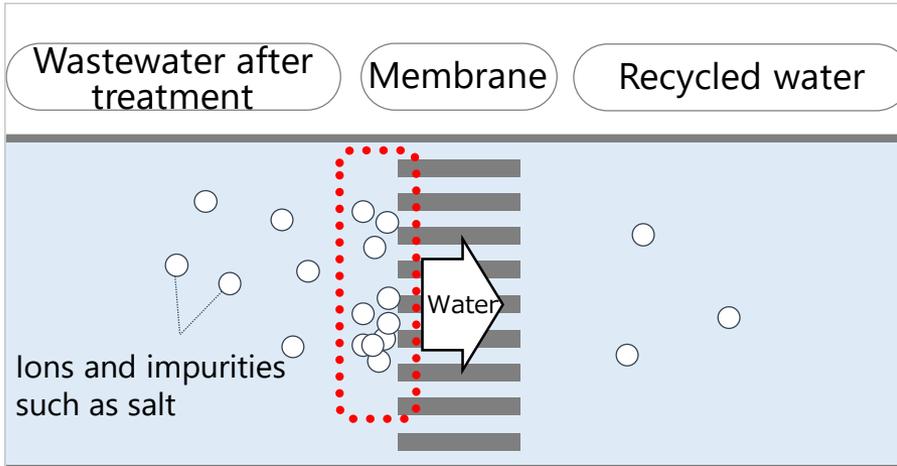
Control of water amount used in air-conditioners



Developing production technologies which enable efficient water usage

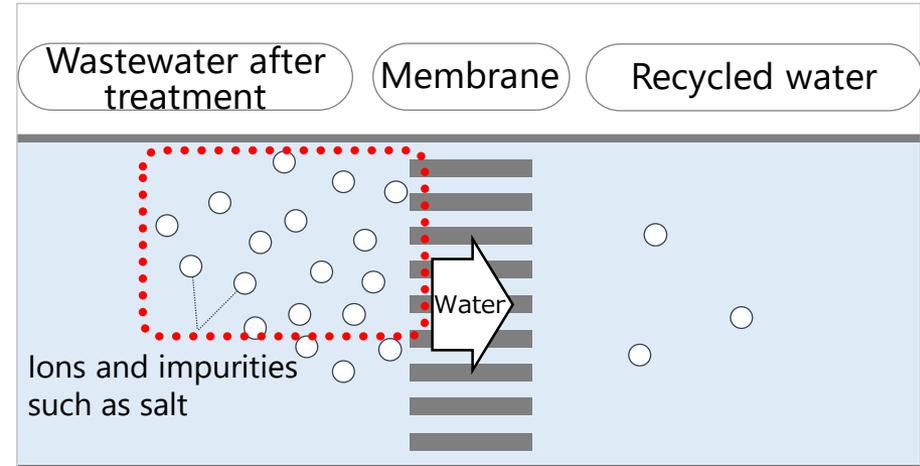
<Case (2)> Improvement of Efficiency in Wastewater Recycling

Before



The membrane is clogged with impurities.

After the improvement



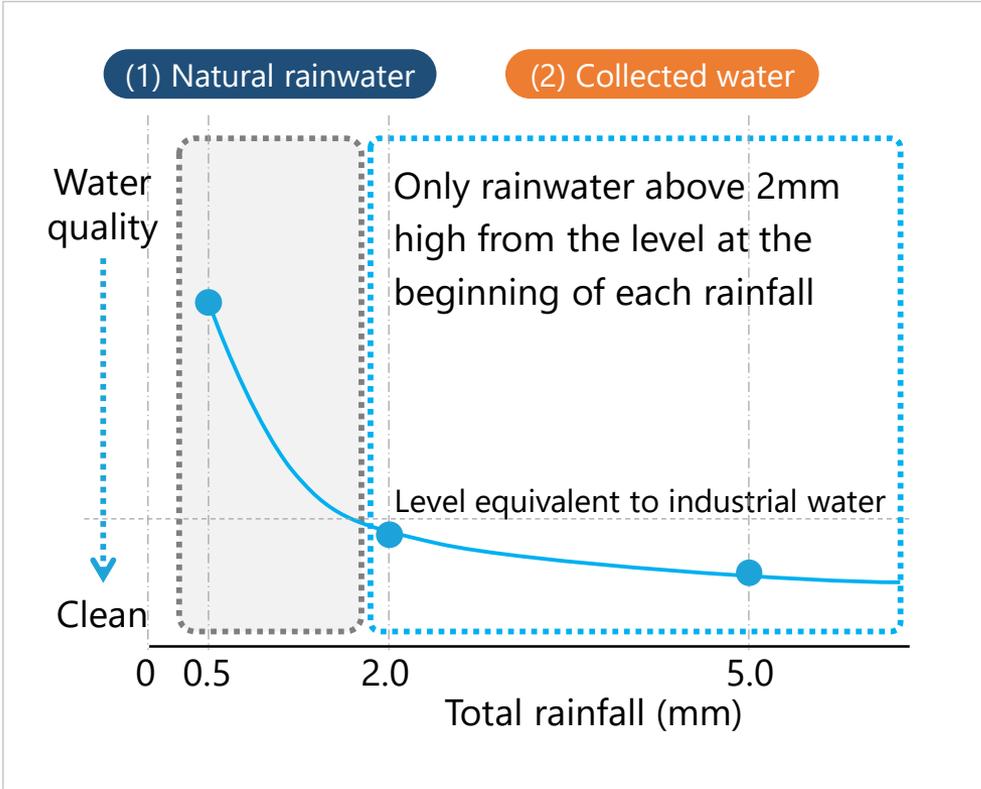
Membrane clogging is prevented by optimizing the treatment conditions and **dispersing impurities.**

* Membrane: Reverse osmosis membrane to pass water but block ions and impurities such as salt

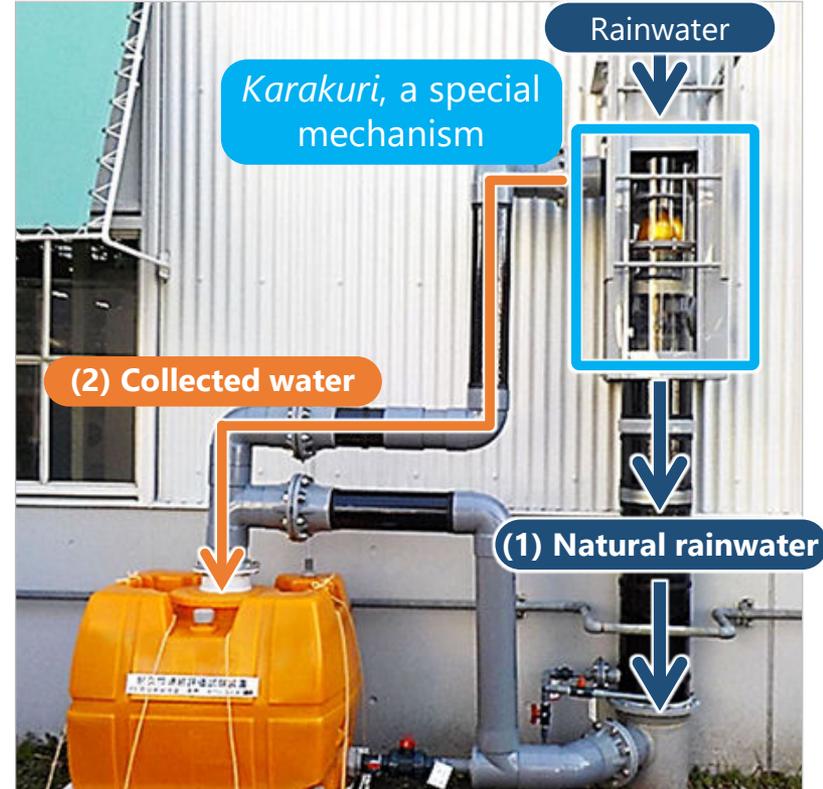
Preventing degradation in efficiency due to clogged membrane

<Case (3)> Efficient Use of Rainwater

Collection according to rainwater quality



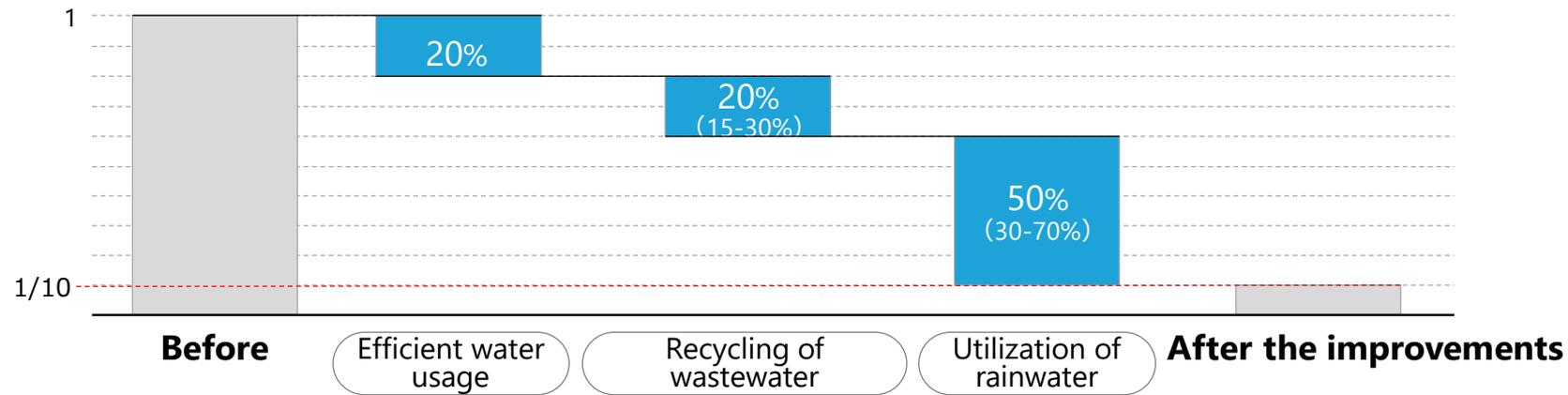
Separation of natural water using *Karakuri*



Efficiently utilizing clean rainwater

<Achievement> Reduction Water Withdrawal in TMMF (in France)

Amount of industrial water withdrawal



Waste water in painting used in preliminary washing



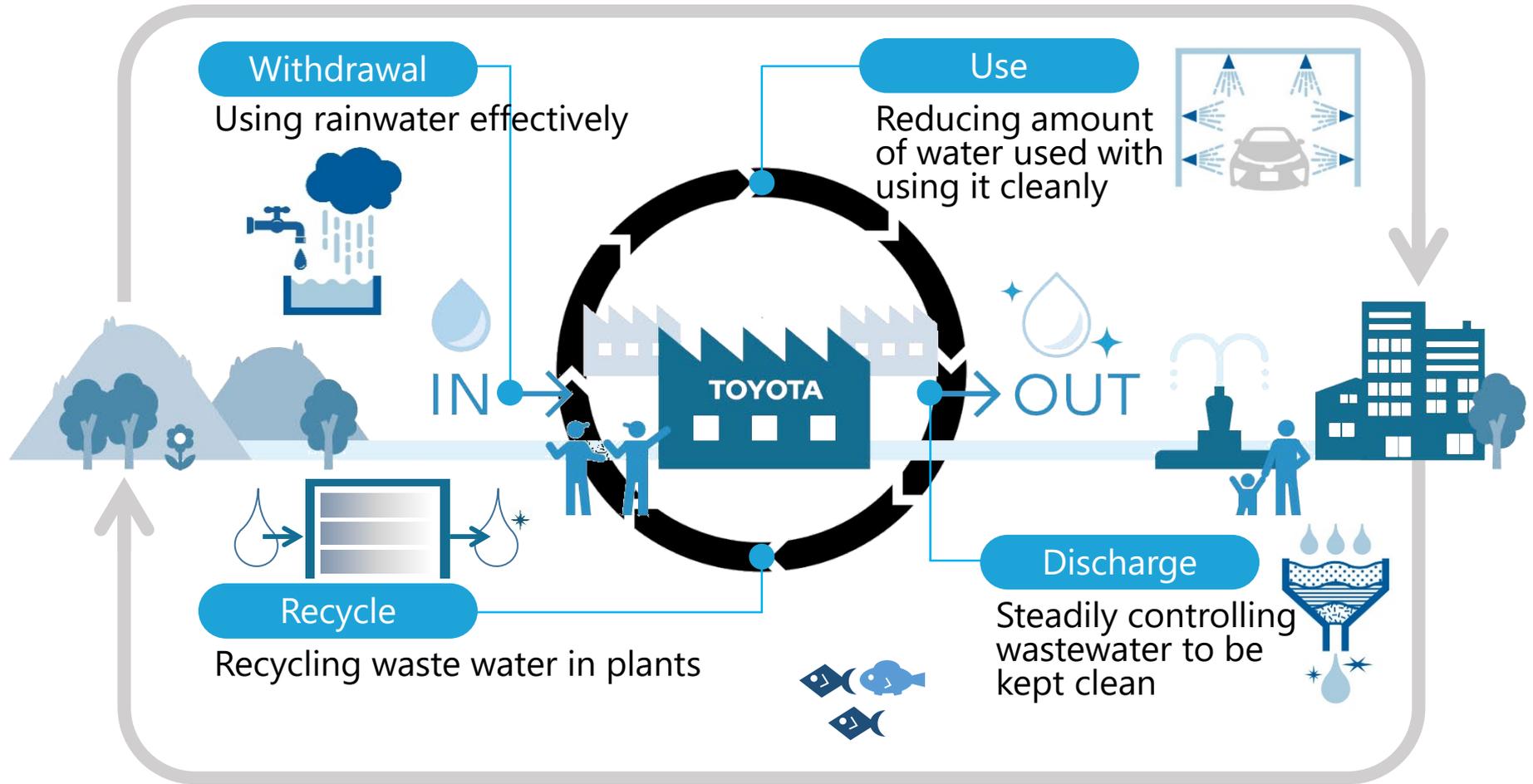
Waste water treatment plant



Rainwater reservoir

Reducing industrial water withdrawal by 90%

Minimizing Impact on Water Environment



Maximizing water circulation in plants
but minimizing the impact on the local water environment