



Current Status of Domestic Wastewater Treatment and its Management for Centralized and Decentralized Treatment System in Japan

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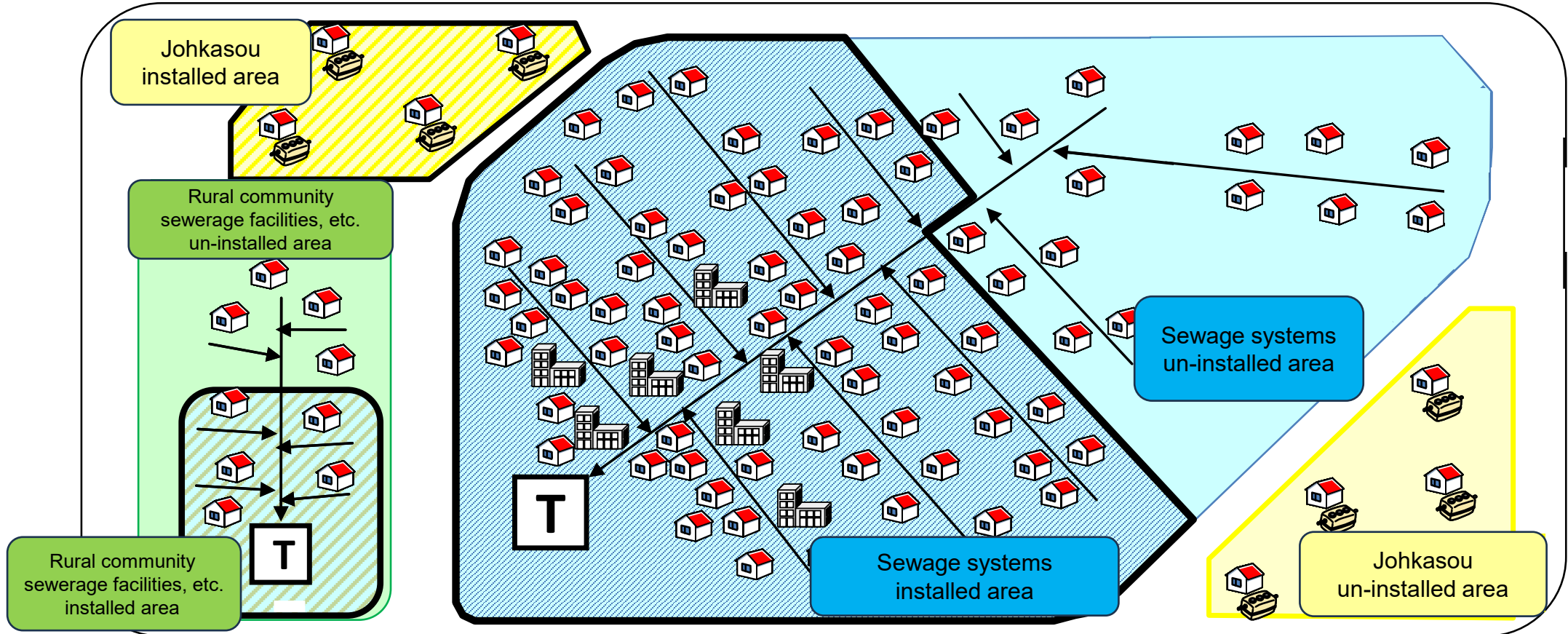
Section Chief, Office for Promotion of Johkasou



Office for Promotion of Johkasou
Waste Management Division
Environmental Regeneration and Material Cycles Bureau
Ministry of the Environment
Government of JAPAN

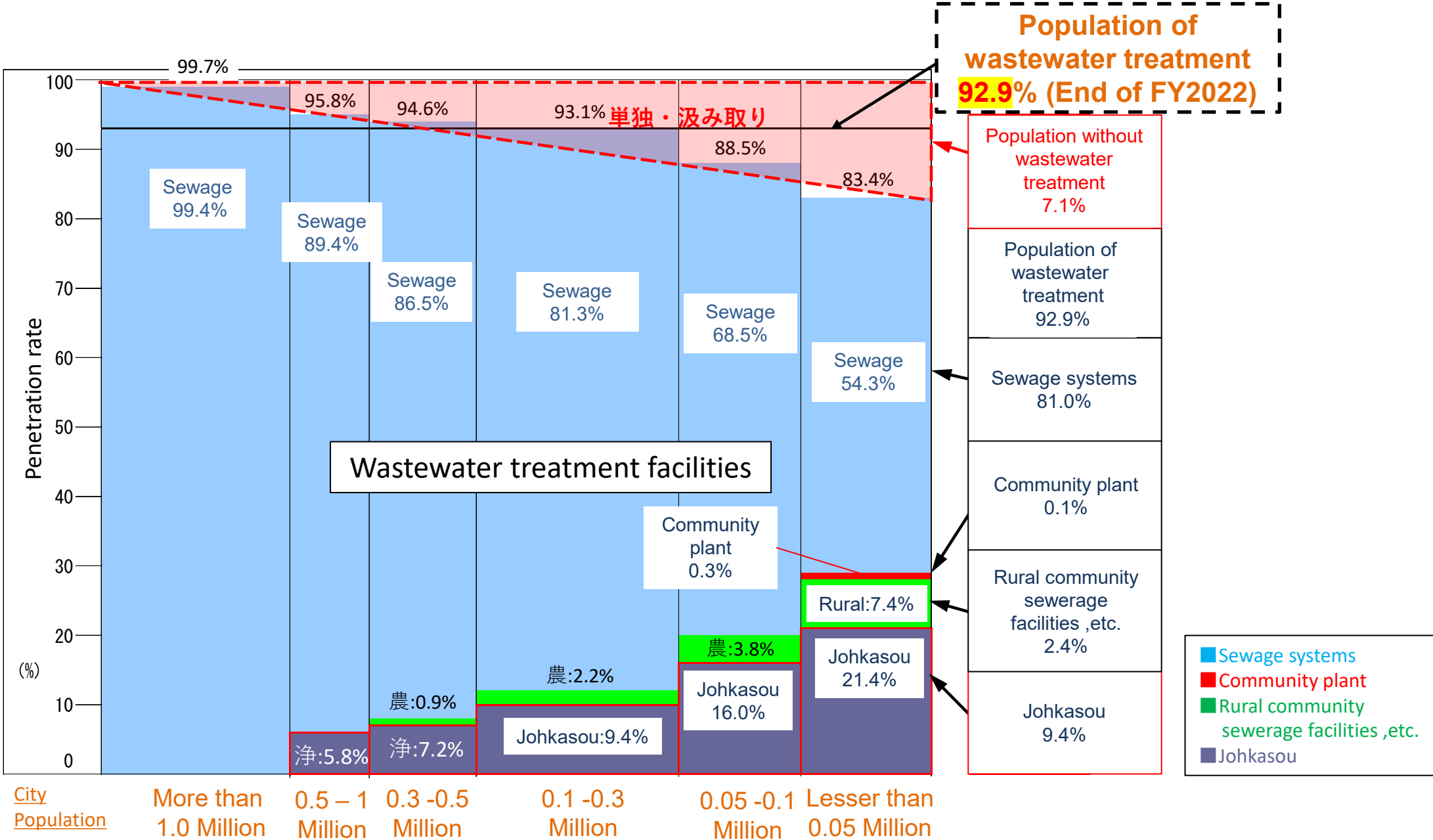
<https://www.env.go.jp/recycle/jokaso/>

Domestic Wastewater Treatment Systems in Japan



- **Sewage Systems** : managed by the Ministry of Land, Infrastructure, Transport and Tourism
- **Rural community sewerage facilities, etc.:** managed by the Ministry of Agriculture, Forestry and Fisheries
- **Johkasou**: managed by the Ministry of the Environment

Trend of Johkasou's spread status by City size



Current situation of population served for treating domestic wastewater by different wastewater treatment facilities

Type of treatment facility	Population served (x1,000 people)	
	End of FY2022	End of FY2021
<u>Sewage systems</u>	<u>101,280 (81.0%)</u>	<u>101,181 (80.6%)</u>
<u>Rural community sewerage facilities</u> including Facilities for fishing villages, Facilities for forestry villages, Simple wastewater facilities	<u>3,018 (2.4%)</u>	<u>3,103 (2.4%)</u>
<u>Johkasou</u>	<u>11,784 (9.4%)</u>	<u>11,758 (9.4%)</u>
Municipal Johkasou Installation Program	825	831
Johkasou Installation and Maintenance Program	6,229	6,203
Other Johkasou	4,730	4,725
<u>Community plants, etc.</u>	<u>160 (0.1%)</u>	<u>171 (0.1%)</u>
Total population served	116,242	116,213
<u>Percentage of population served</u>	<u>92.9%</u>	<u>92.6%</u>
Total population	125,065	125,540
Total population not served	8,823	9,327
<u>Un-installed rate</u>	<u>7.1%</u>	<u>7.4%</u>

Comparison of Sewage, Johkasou and Septic tank

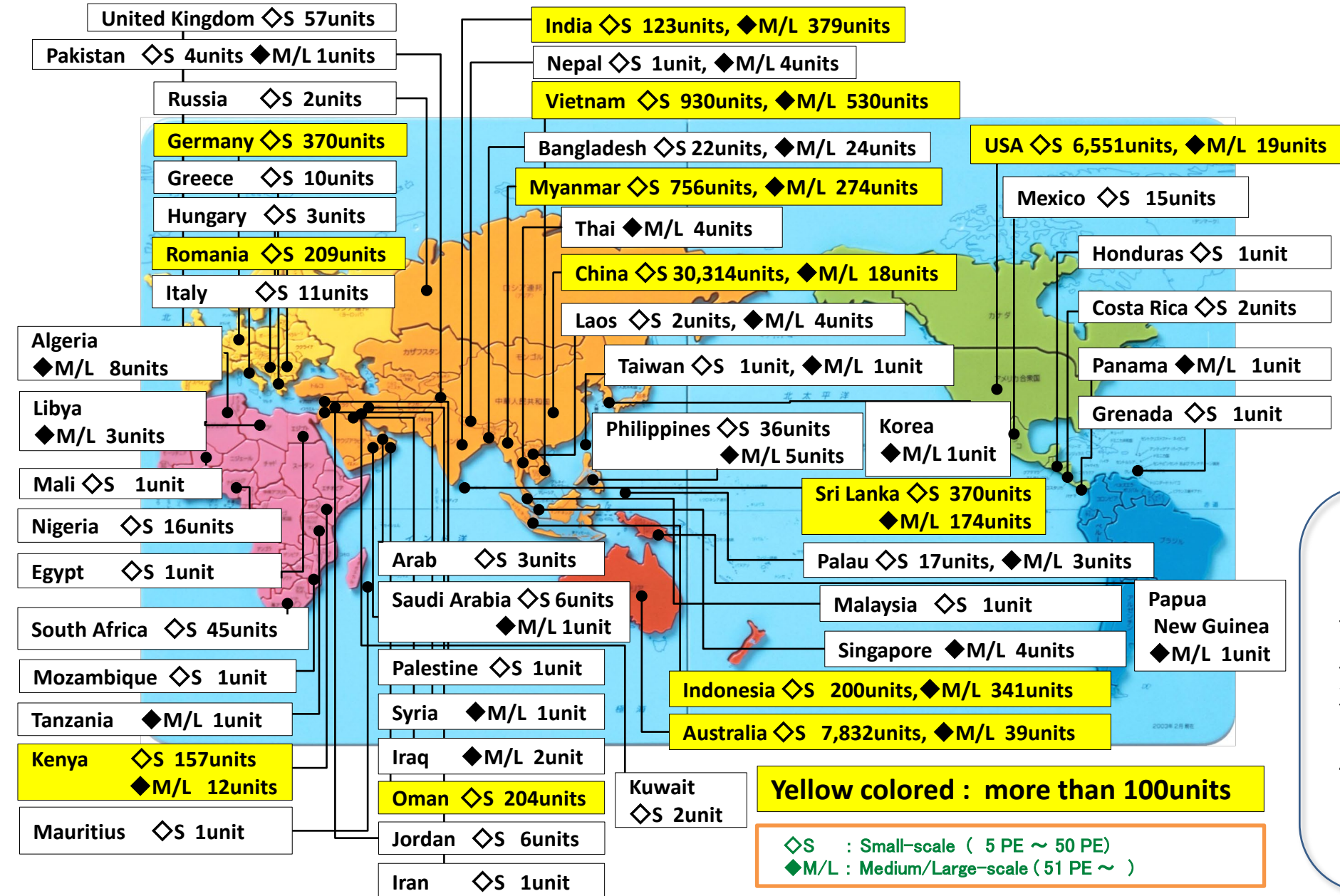
	Sewage (STP) *	Johkasou	Septic tank
Category	Centralized	Decentralized	
Capacity(m ³ /day)	Large	Small to middle	Small
Application	City covering with pipeline network	For household, building, housing complex, community, hospital, school, public toilet, etc.	
Target	Black water & Gray water		Black water
Method	Aerobic (plus Anaerobic)		Anaerobic only
Treated water quality	- Good - BOD <20mg/L - Nitrogen & Phosphorous can be removed		- Poor, BOD ≈ 100mg/L - Nitrogen and Phosphorous can't
Discharge	Clean discharge is discarded directly to the river, lake, sea and so-on.		- Dirty discharge is penetrated into ground - Gray water is discarded without treatment
Main body	Civil structure constructed at site	FRP manufactured in factory	Civil structure constructed at site
Maintenance works	Checking and adjustment, desludging, inspection, changing spare parts		Desludging only (every 3 to 5 years)
Total period for operation start	Long for planning, financing, construction	Short	

*STP:
Sewage treatment plant

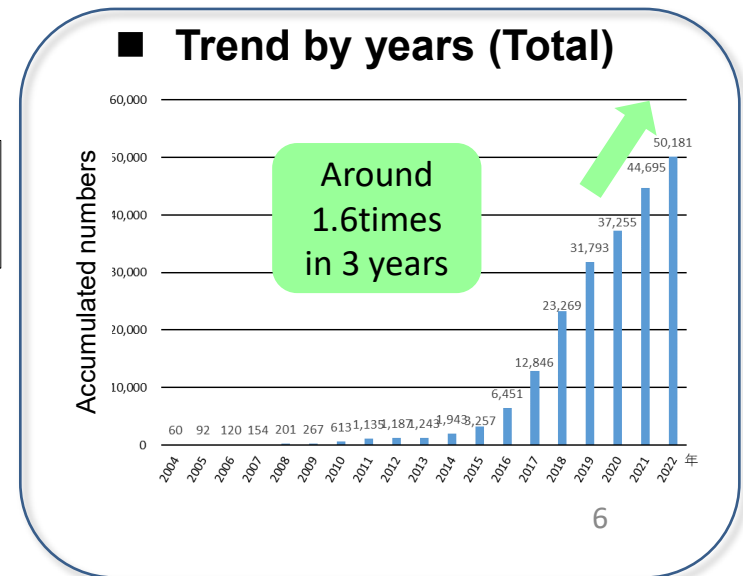
Johkasou can be recognized as a “prefabricated small scale sewage treatment plant” in wastewater management

Installation records of Japanese Johkasou Overseas

As of the end of December 2022 (Total) by Johkasou System Association



● **2022 recent (Total)**
 Small size 48,325units
 M/L size 1,856units
 Total 50,181units
 Total 51 countries



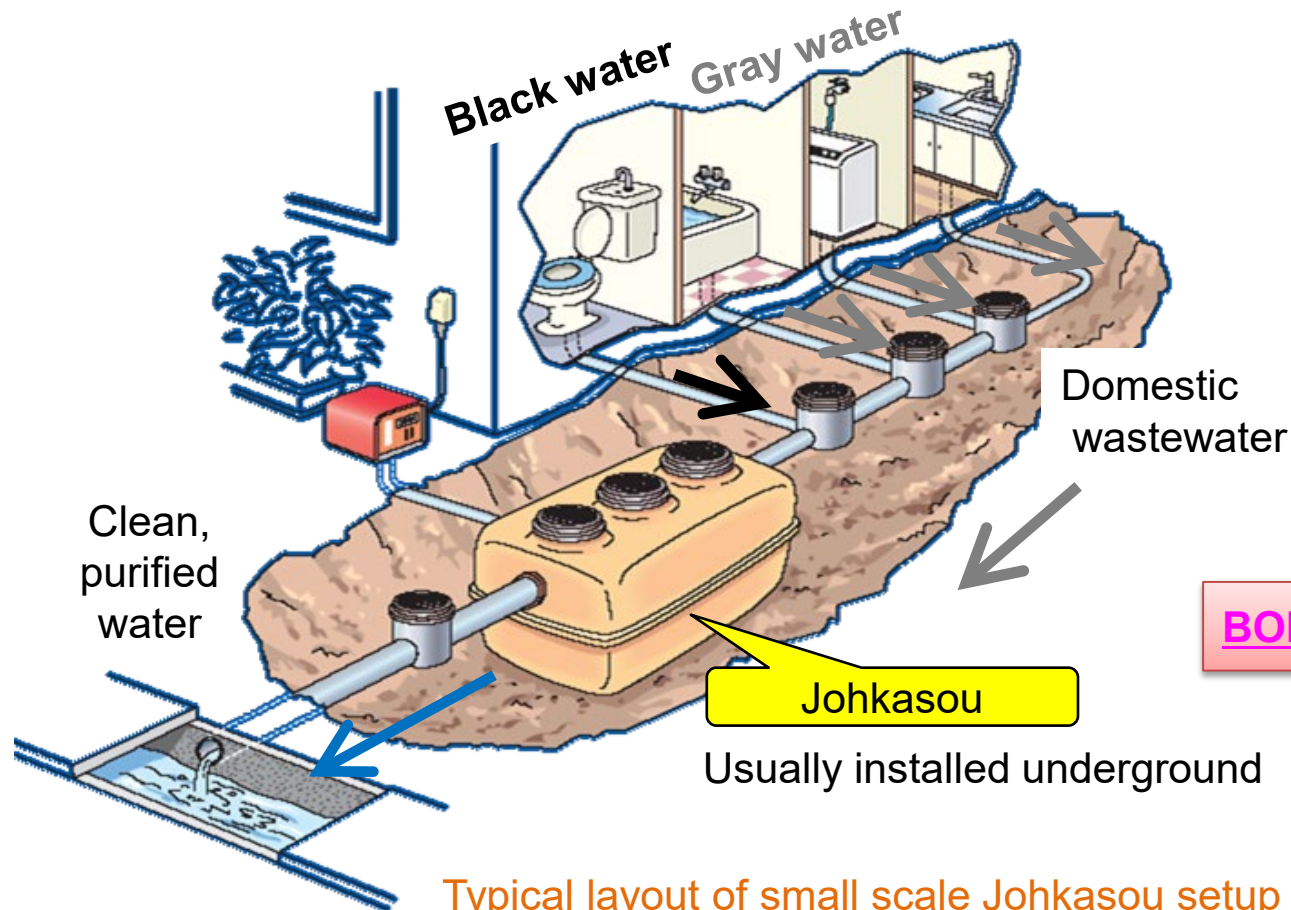
THANK YOU FOR YOUR KIND ATTENTION.

At Kikuchi Gorge, Kikuchi City, Kumamoto Prefecture



(Reference) Information of Johkasou

- “Johkasou” is categorized as decentralized wastewater treatment system for domestic wastewater discharged by household, building and so-on.“
- Johkasou have a combined purification structure capable of treating both night soil (black water) and miscellaneous wastewater (gray water)
- Johkasou attains high and stable performance as same as that of sewage treatment plant and it has been installed totally more than 3.9 million unit in Japan.



Industrial wastewater, Domestic wastewater

Sewage treatment, Decentralized treatment

Septic tank, wetland, DEWATS, etc., Johkasou

BOD removal, Nitrogen and/or Phosphorous removal

Typical layout of small scale Johkasou setup for household