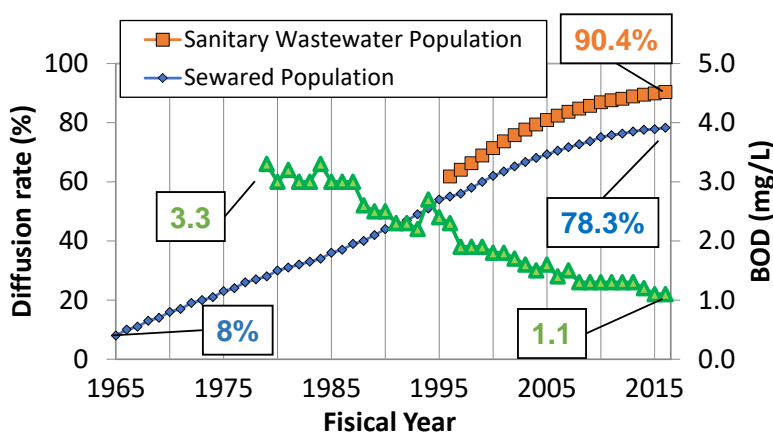


Efforts towards achievement of SDGs 6.3



Current Situation in Japan

- Low population rate with wastewater treatment service about 50 years ago
- Made legal systems on environmental standards and water pollution control
- Goals set and a step-by-step approach taken to increase the coverage rate



Term	Actual Coverage (%)	Goal (%)
1963-1966	16%	27%
1967-1970	20%	33%
1971-1975	23%	38%
1976-1980	23%	40%
1981-1985	30%	44%
1986-1990	36%	44%
1991-1995	44%	54%
1996-2002	54%	66%
2003-2007	65%	72%
2008-2012	84%	93%
2013-2017	87%	95%



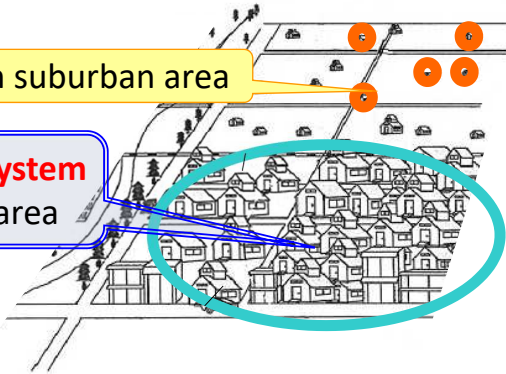
Improvement of water quality at Kita-Kyushu City

Coverage rate of wastewater treatment service

National Plans of wastewater management

Johkasou in suburban area

Sewerage system in urban area



Small size Johkasou for household

- Treat wastewater anaerobically and aerobically (using blower) to achieve higher performance (BOD 20mg/l or less) and to remove ammonia nitrogen.
- Quick installation (1 week for household size)

National Government

- Vision
- Law/Regulation
- Technology Standards
- National Subsidy

Sharing Responsibility

Local Government

- Sewerage Master plan
- Ordinance
- Construction, Operation and Management of sewerage facility
- Advice and guidance on Johkasou operation and maintenance

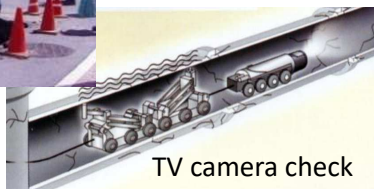
Issues and challenges

Operation and Maintenance

Pipeline Check



Road collapse due to the pipeline deterioration



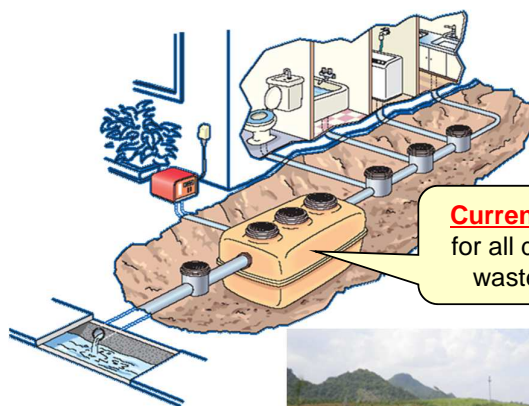
TV camera check

Pipeline generation method



- Pipelines can be repaired while sewage is flowing.
- Sewage pipes can be repaired without digging up roads.

- Renovation of old models (for black water only) to current models



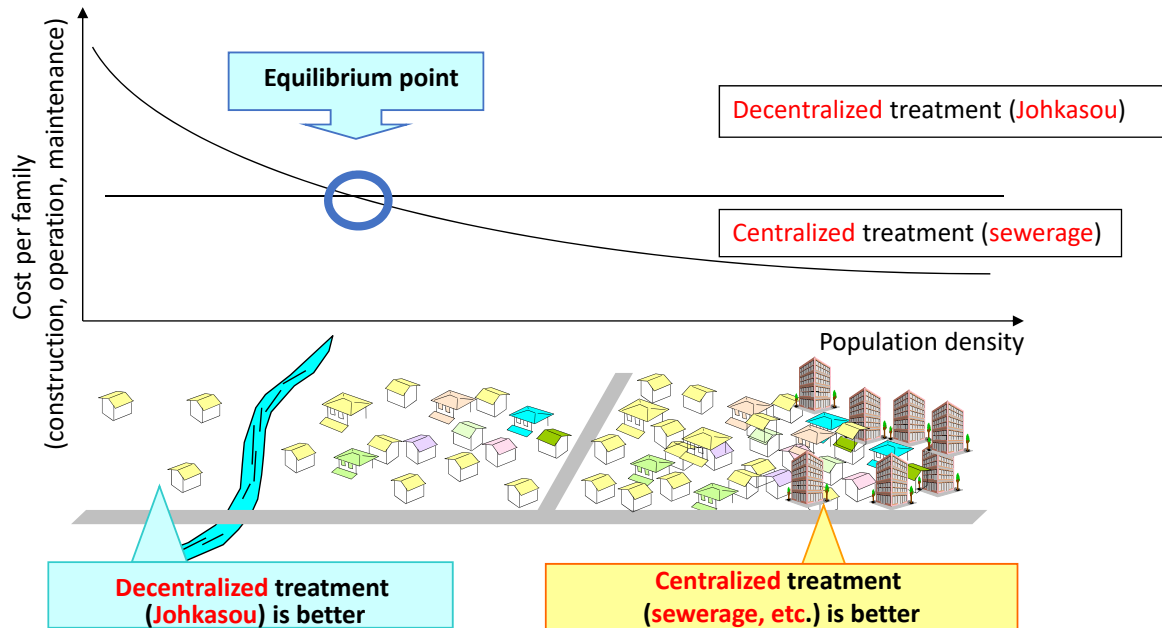
Current model for all domestic wastewater



250m³/day large size Johkasou to a hospital in Vietnam

For reference

Centralized treatment in urban or densely-populated area vs. Decentralized treatment In suburban or rural area considering initial & running cost efficiency



For reference

Program for Sewerage Construction

Term	Goal			Index
1963-1966	16%	→	27%	Coverage ratio of drainage area
1967-1970	20%	→	33%	
1971-1975	23%	→	38%	Coverage ratio of wastewater treated area
1976-1980	23%	→	40%	
1981-1985	30%	→	44%	sewerage coverage ratio
1986-1990	36%	→	44%	
1991-1995	44%	→	54%	
1996-2002	54%	→	66%	
2003-2007	65%	→	72%	
2008-2012	84%	→	93%	Ratio of people covered by domestic wastewater treatment system
2013-2017	87%	→	95%	