

Professionalization of Onsite Sanitation & Wastewater Management

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Why Professionalize On-Site Sanitation and Wastewater Management (OSWM)?

1. OSWM requires a large number of sanitation workers.
2. In OSWM, actual work is conducted by technicians. Each technician needs to have knowledge and skill.
3. In OSWM, sanitation workers are the primary contacts for the customers/users. They must know the regulation.
4. Well-trained sanitation workers can promote City-Wide Inclusive Sanitation (CWIS) (see an example in Japan).
5. Professional certification empowers sanitation workers, enhances recognition, and helps reduce stigma and discrimination.

[Example]

Role of desludging vendors in the reform of the onsite wastewater management in Japan

In Japan, comprehensive reform of the onsite wastewater management was achieved by the promulgation of the Johkasou Act* (Japan's Onsite System Law) in 1983.

This Act was drafted by the parliamentarians backed by the association of sanitation vendors/workers. The association of desludging workers demanded to make regular desludging mandatory for all the Johkasou users. Accordingly, such article was included in the Act.

*** The tentative English translation of the full text of the Johkasou Act is downloadable.**

www.env.go.jp/recycle/jokaso/en/pdf/johkasou_act.pdf

What does happen if the service provider is not properly trained?

Poor performance of the desludging vendors/workers



In Warangal City, India, training, registration system and GPS proved to be effective to eliminate the illegal disposal.
(ASCI)

Hashimoto's experience in Jakarta, Indonesia)

A private desludging vendor removed only the liquid portion in a household septic tank, leaving the solid portion (sludge) in the tank. Consequently, the tank needed to be desludged every 4 month.

What does happen if the service provider is not properly trained?

Poor performance of Onsite Wastewater Treatment Systems (OWTSs) for commercial buildings, gated communities, etc.)

Poor performance of OWTSs (There are 20,000 in India) is documented in the following papers.

EAWAG Klinger et al. 'Technology, Implementation and Operation of Small-Scale Sanitation in India' (2020)

ADB-I-JSC-ASCI Shirakawa et. al. 'Operation and Maintenance and Performance Monitoring of On-Site Wastewater Treatment Systems in Japan A Proposal for India' (2025)

It was also pointed out as a cause of such problems that O&M personnel and management entities are often not sufficiently informed about the functioning of Small-Scale Sanitation systems and the requirements for good performance, and operators are often not clearly instructed and supervised.

What does happen if the O/M provider is not properly trained?

Challenge of an O/M service provider operating in India

Hiyoshi India*, a subsidiary company of Hiyoshi Corporation, a renowned O&M company in Japan, is providing the O&M services to hotels, factories, universities and residential buildings in Chennai, Tamil Nadu State, India.

*Hiyoshi India Ecological Services Pvt. Ltd. <https://www.hiyoshi-india.com/>

According to Hiyoshi India, in India, it is easy to establish an O&M company with inexperienced O&M workers at a low salary. There is no business license requirements and no certifications required for the O&M workers, hence they can offer the customers services at a lower price.

Hiyoshi India is finding it extremely difficult to continue to provide good quality services to, particularly, residential buildings, whose concerns are not the quality of services but the price.

Professionalization in Japan

[Background]

From the early 1980s, the pollution of public water e.g., eutrophication, became highly visible, particularly in closed water bodies.



Especially in areas where the old-type Johkasou which treated only black water prevailed, pollution problems in public water bodies were attributed to untreated domestic wastewater (gray water), and improper installation and/or maintenance of the Johkasou.

Professionalization by the promulgation of the Johkasou Act (1983) (Japan's Onsite System Law)

On the one hand

It is made a legal obligation of the owner/user of the Johkasou to properly operate and de-sludge it, according to the frequencies specified in the Ordinance of the central government.

On the other hand

Only the construction vendors, the O&M vendors and the de-sludging vendors, which employ the technicians who have completed the training course, or, have passed the national examination for the relevant works, can do the business.

Professionalization in Japan

Contents of the Johkasou Act (Japan's Onsite System Law)

Chapter 1	General Provisions (Article 1~4)
Chapter 2	Johkasou Installation(Article 5~7)
Chapter 3	Operation/Maintenance of Johkasou and Johkasou Desludging (Article 8~12)
Chapter 4	Approval of the Johkasou Type (Article 13~20)
Chapter 5	Registration Pertaining to Johkasou Construction Business (Article 21~34)
Chapter 6	Permission for Johkasou Desludging Business (Article 35~41)
Chapter 7	Johkasou Installation Worker (Article 42~44)
Chapter 8	Johkasou Operator (Article 45~47)
Chapter 9	Registration System of Johkasou Operation and Maintenance Vendors by Regulations (Article 48)
Chapter 11	Miscellaneous Provisions (Article 49~50)
Chapter 12	Penal Provisions (Article 59~68)

More than half of the articles are dedicated to the qualification requirements for the business and the professionals involved in the installation, operation and maintenance, and desludging.

Professionalization in Japan

Training and Certification System of the professionals

In 1984–1985, national examinations for Onsite System Operator and Onsite System Installation Workers started.



The Japan Education Center for Environmental Sanitation (JECES) was designated as the agency for training courses and the agency for the examinations by the Johkasou Act.

The JECES training programs are entirely financed by the fees paid by the trainee.

Conclusion

1. Creating training system for sanitation workers (technicians), such as desludging workers, installation workers and operators would be useful, but not enough. There must be a mechanism to ensure that trained technicians are able to engage in such works and earn a stable income once they obtain certification.
2. Some elements in the Johkasou Act (Japan's Onsite System Law), particularly the rules for proper installation, proper sludge management and human resource development (professionalization) would be applicable for any other onsite systems.

Thank you for your attention !

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