

POLICY BRIEF

on National Adoption of ISO 24521 Guidelines

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Introduction

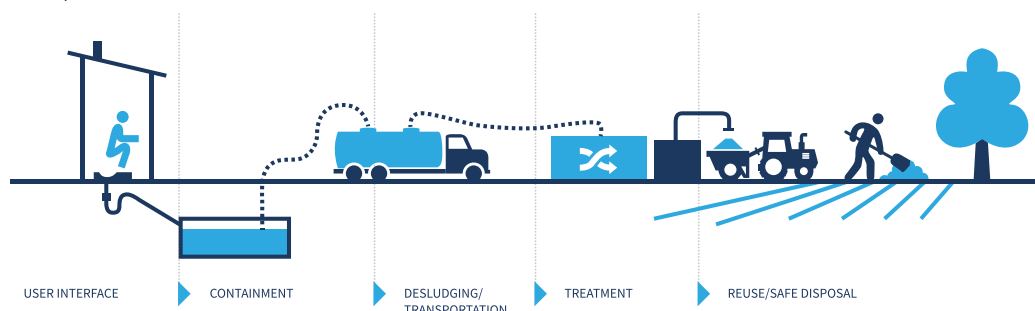
Faecal Sludge Management (FSM) process involves meticulous management of ‘the sanitation value chain’ including containment, emptying, transporting, treating, and reusing/disposing waste. Weak governance and fragmented management practices concerning on-site sanitation (OSS) pose several challenges for the effectiveness of FSM, especially in developing economies like Nepal where stakeholders – users, local governments, private sector (service providers) – lack of knowledge of effective management of faecal sludge. Adoption of guidelines such as the ISO 24521 standards – applicable to both privately and publicly operated basic on-site domestic wastewater services – will help in ensuring i) public health

and safety, ii) occupational health and safety, iii) environmental protection and iv) sustainable development.

This policy brief documents the process of adoption of the ISO 24521 guidelines in Nepal by the Nepal Bureau of Standards and Metrology (NBSM) and the implementation of the guidelines in Mahalaxmi Municipality (since 2019). The aim of the document is to establish this pilot implementation as a knowledge demonstration catalyst for training, educating, and influencing other municipalities while also prompting its adoption/implementation at the national level by the Government of Nepal. This document also serves as a knowledge product for national adoption of ISO 24521 which can be shared internationally.

Sanitation Value Chain and FSM

Faecal sludge management is the process of managing the ‘sanitation value chain’. The value chain has five major components: user interface, containment, desludging/transportation, treatment and reuse/safe disposal.



Issues

The stakeholders of FSM include the users, local governments, and private sectors. Currently, there are gaps in the effectiveness of FSM because of the **lack of knowledge about the sanitation service** system as well as proper **implementation of standard guidelines and interventions** across the sanitation value chain.

Current requisites for effective FSM include following **standard guidelines** in FSM, while also taking into consideration: the local context, geography, demographics, economy, and traditional mind-set of the population.

Further, the adoption of standard alone is not sufficient. The guidelines must be implemented through the **regulatory body having a mandate** for it. Constitution of Nepal 2015 has federalised the state along 3 levels, with 761 (1 federal, 7 provincial and 753 local) governments with their rights exercised exclusively as well as shared concurrently. Safe sanitation service is the exclusive right and jurisdiction of local governments. Therefore, the effectiveness of FSM guidelines depends on issues of responsibility, accountability, resource planning, and management across different sections of government.

ISO 24521:2016

ISO 24521 is an International Standard, which provides guidance for the better management of basic on-site domestic wastewater services, using appropriate technologies in their entity at any level of development. This standard focuses on improving hygiene, considering social norms through stakeholder communication, and management of assets.

ISO 24521 is applicable to both publicly and privately operated basic on-site domestic wastewater services.

1. Guidelines for the management of basic on-site domestic wastewater services from the operator's perspective, including maintenance techniques, training of personnel and risk considerations;
2. Guidelines for the management of basic on-site domestic wastewater services from the perspective of users;
3. Guidance on the design and construction of basic on-site domestic wastewater systems;
4. Guidance on planning, operation and maintenance, and health and safety issues.

Adoption of ISO 24521 in Nepal

Commitment of Ministry of Water Supply of Nepal

“Open Defecation Free (ODF)”, a national campaign towards sanitation promotion has been considered as a major achievement in the country. Nepal Government declared Nepal as a Open Defecation Free Country on 30th September, 2019. However, with every toilet constructed comes the great responsibility for the effective management of human waste, including proper collection, emptying, transportation, treatment, and safe reuse/disposal. In this regard, currently there are several issues such as faulty containments, prevalence of informal desludging services providers, only a handful of wastewater and faecal sludge treatment systems and haphazard disposal of collected waste.

In line to have a standard implementation of safely managed sanitation services, there was an urgency of developing a regulatory framework. In 2017, Nepal’s “FSM Institutional and Regulatory Framework” was issued which led the local governments in clarifying the roles in planning and regulation regarding FSM. Despite these achievements, the urbanising landscape of the country and the inadequacy of safely managed sanitation systems and service pose several challenges to health and environment.

The former Minister of Ministry of Water Supply of Nepal, Ms. Bina Magar, committed to adopting ISO 24521 and ISO 30500, during the ISO/PC 305 meeting: Sustainable non-sewered sanitation system, held from 22nd to 25th May, 2018 in Kathmandu Nepal



(Nepali times¹). The meeting was attended by 120 experts from 33 countries who collectively brainstormed ideas/solutions on sustainable nonsewered sanitation systems. The event marked the approval of a new standard ISO 30500 that sets the requirement for toilets in developing economies that are safe, cheap and do not require water.

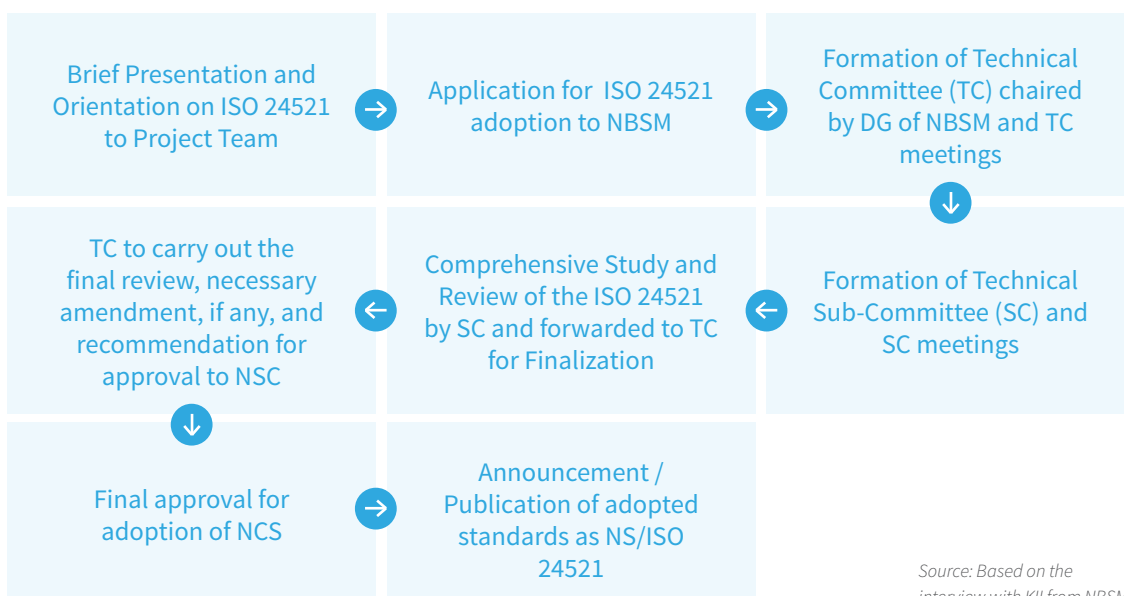
Role of the Nepal Bureau of Standards and Metrology (NBSM)

NBSM, a national standards body under Ministry of Industry, Government of Nepal is established for qualitative improvement in the industrial production thereby enhancing productivity through standardization and quality control. The general standard development procedure of NBSM consists of six stages².

NBSM adopted the ISO 24521 (including ISO 24510 and 24511) as a national standard that provides guidance for the management of basic on-site domestic wastewater services. The adoption process map has been articulated and presented below “based on the interview with KII from NBSM”:

¹ <https://www.nepalitimes.com/banner/toilet-trained/>

² National Standardization Strategy 2021-2023, NBSM



Implementation of ISO 24521 in Nepal — A Case of Mahalaxmi Municipality

Adopting the standard alone is not sufficient for sanitation management. The guidelines must be implemented through the regulatory body having a mandate for it. According to the Constitution of Nepal 2015, safe sanitation service is the exclusive right and jurisdiction of local governments.

Environment and Public Health Organization (ENPHO - a non-governmental organisation) – with financial sustenance from Bill & Melinda Gates Foundation (BMGF) – partnered with the Mahalaxmi Municipality⁴, Kathmandu Valley Water Supply Management Board (KWSMB), and the Nepal Bureau of Standards and Metrology (NBSM) to assess the application of ISO 24521 guidelines in the management of basic on-site domestic wastewater services. This attempt aimed to improve the environmental sanitation conditions of Mahalaxmi Municipality along with documenting the lessons drawn from this piloting experience in recommending the adoption of the ISO 24521 guidelines at the national level in the form of policy and practice changes.

In 2019, Mahalaxmi Municipality officially published FSM By-laws in the Municipality's 'Rajpatra' (Gazette), which clearly defines the specifications for safe containment, emptying and transport, and disposal; and penalties for the household owners and

³ Note: The limitation of adopting this standard is that the guidelines cannot be tailored. And, once, adopted, the implementation of this standard is voluntary.

⁴ Mahalaxmi municipality lies on the southern periphery of Kathmandu valley with approximately 28,000 households with a population of 63,000 and covers an area of 26.51 sq. km. The municipality was declared ODF in the year 2017, more than a year before the country was declared ODF later in 2019.

workers involved in emptying, transport and disposal, if the By-laws are not abided by⁵. This was the first time that a specific By-laws on FSM (2019) has been enacted in Nepal by a municipality - a local government and it has gone through a thorough process for the formulation, approval, and publication of FSM By-Laws. Implementation of the ISO 24521 guidelines with the formulation of FSM By-laws was demonstrated in terms of service outcome, which include equity, safety, and sustainability; and, in terms of system functions, which include responsibility, accountability and resource planning and management.



The implementation of the ISO 24521 guidelines in Mahalaxmi Municipality clearly shows the need for relevant authorities' commitment, awareness, accountability, resource planning, and management to achieve an encouraging transformation in the sanitation sector of a community. Further, implementation can be done through the public-private participation (PPP) approach. **However, if adopted at the city-wide level or/and at different municipalities within a city or different cities, an independent regulatory commission is needed.**

Policy Recommendations

Though the legal instruments are in place, proper implementation of FSM standard on the part of the stakeholders is somewhere neglected and missing. In this regard, standardisation (referring to the sanitation value chain like specifications of the septic tanks, etc.) needs to be maintained at all steps for effective implementation and desired outcome. Investments by the donors in sustainable programs and incentives for the workers and volunteers may help to bring out a positive impact. The accountability of the beneficiaries also has a key role to play⁶.

Given below are specific recommendations regarding the management role, stakeholders' role, and suggested mechanisms:

Mechanism

- ✓ There is a need to establish regulatory body – municipal or private, for effective sanitation management and providing safe sanitation services to the people.
- ✓ It would be helpful to regulate occupational health and safety of FSM workers.

⁵ Mahalaxmi Rajpatra Section: 3 Number: 13, Date: 2020/04/15 Part- 1 Mahalaxmi Municipality, Lalitpur Published by Mahalaxmi Municipality Faecal Sludge Management (FSM) By-Laws 2020 (This document is an unofficial English translation of the original Nepali language document, though section and number are the same as original document)

⁶ <https://www.ircwash.org/blog/sustainability-way-forward>

- ✓ Increasing inclusiveness in the community (e.g., including the marginalised population) should be considered. The ‘Leave No One Behind’ resolution should include the participation of marginalised groups which will prove to be an important breakthrough in addressing equity and inclusion in sanitation and hygiene⁷.



Stakeholder

- ✓ Maintaining a strong and efficient sanitation value chain is the key to successful achievement of FSM. All the stakeholders should be well-informed about their roles and responsibilities like ensuring that the households abide by the specifications for the containment during construction.

Management

- ✓ Regulatory structure for FS management should be strengthened. This means building capacity in the municipal/government level as well as in the community level by advocating on FSM and focusing on all the parameters of capacity building i.e., orientation, skill training, and knowledge training.
- ✓ There should be strong campaigning on FSM for generating knowledge and awareness on safe sanitation - both for the beneficiaries as well as the technical staff, to fill the gap on FSM awareness (given FSM is a new idea). Emphasis should be on the health, environmental and economic benefits.
- ✓ Though drinking water availability and wastewater management are public services provided to the citizens by the local and federal governments, they can also be outsourced to the private sector (Public-Private-Partnership - PPP or Community-Public-Partnership – CPP model) keeping in consideration the quality of the service, reliability and cost optimisation for both – the authorities, and the beneficiaries. There needs to be a strict legislation for the private operators involved in sanitation services who should be closely monitored for the quality and efficiency of their work⁸.

⁷ <https://wedc-knowledge.lboro.ac.uk/resources/conference/40/Mishra-2615.pdf>

⁸ <https://bit.ly/3LhoPDo>

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For Further Information:

Environment and Public Health Organization (ENPHO)

G.P.O Box 4102; 110/25 Aadarsha Marg 1, New Baneshwor, Kathmandu, Nepal

Tel: 977-1-5244641; 5244051 | Fax: 977-1-5244376

Email: enpho@enpho.org | Website: www.enpho.org

