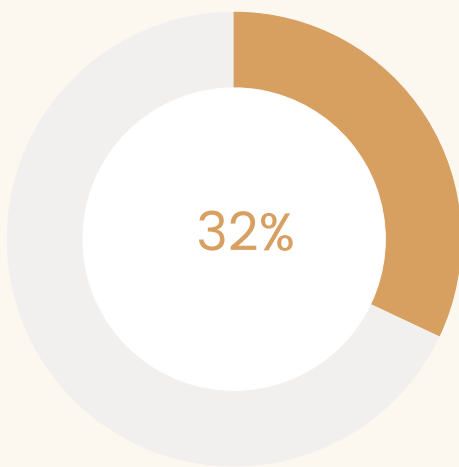


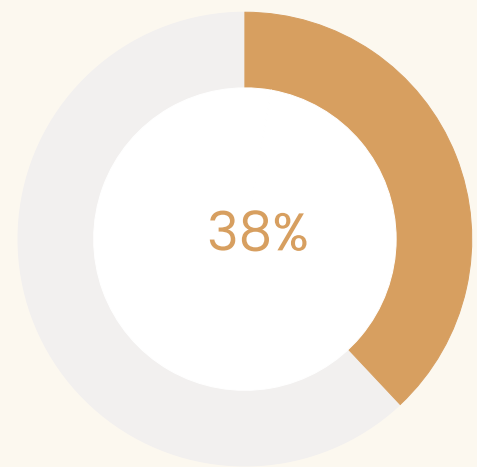
Business Model Selection for Kathmandu

Private Emptying and
Transportation Model



Feasibility **Poor**

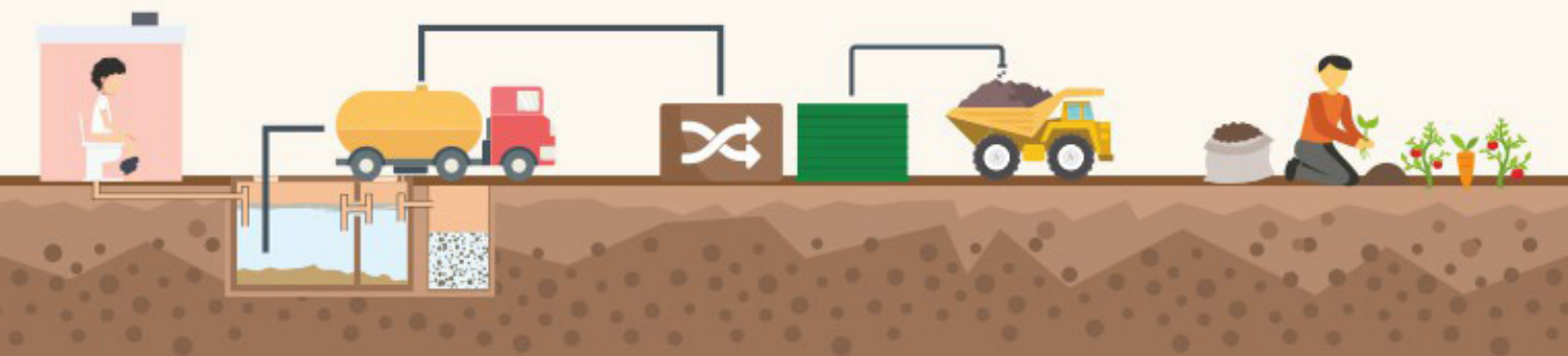
Desludging and
Transport Franchise
Model



Feasibility **Medium**

The FSM Index score indicates that the
Overall FSM performance of the city is

Scale: Poor 0-33% | Medium 33-66% | Good 67-100%.



Business Model Selection Report: Kathmandu

02 June 2019

Generated By: Suraj Pradhan

Produced By: Suraj Pradhan, AIT, Kathmandu, Bagmati, Nepal.

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Business Model

Knowledge of potential business model options and evaluation of their suitability for the city is essential for FSM entrepreneurs. Based on the area of interest(s) in the FSM value chain, relevant business model case studies from across the world are presented. This planning module of the FSM Toolbox offers the users with case studies on a range of business models implemented in different parts of the world across the value chain, referenced from IWMI's Resource Recovery and Reuse Series 6 document. It also assists users in evaluating the relevance of these different models to their context to determine the feasibility of implementation.

Note: This module should only be used as a pre-feasibility tool and not an "end-to-end business solution" tool. The main objective of this section is to function as a guiding tool for users who are interested to start a business in the FSM sector and already are familiar with the intricacies of the sector. This tool only showcases the possible business options which have been documented as part of IWMI's report on "Business Models for Faecal Sludge Management" as part of the Resource Recovery and Reuse Series.

Basic Information about your city:

- City Name: Kathmandu
- State: Bagmati
- Country: Nepal
- Total Population: 1300000

The business models selected are:

S#	Name of Business Model
1	Private Emptying and Transportation Model
2	Desludging and Transport Franchise Model

Feasibility Assessment

Mandatory and optional variables are used to calculate the feasibility score for the business models selected based on their requirement. The presence of the mandatory variables is essential for the successful implementation of the business models. However, the presence of the optional variables supports the ecosystem and is not an essential requirement for the existence of the business models. Both variable types have equal weightage in the feasibility calculation.

Mandatory Variables for Business Model

Sl.No.	Collection and Conveyance	Requirement
1	Is there a regulation for licensing of desludging operators and workers?	YES
	Is there an institution with mandate for licensing desludging operators and workers?	YES
2	Are there standard operating procedures (zone/time of operations, accidents, spills, proper disposal, record keeping, route planning) for desludging/transportation?	YES
	Is there an institution with mandate for monitoring of desludging operator's compliance to standard operating procedures?	YES
3	Is there regulatory provision for setting the desludging tariff?	YES
	Is there an institution with mandate for setting the desludging tariff?	YES

Optional Variables for Business Model

Sl.No.	Containment	Requirement
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1	Are there standards for the construction of a particular type of On-Site Sanitation System (OSS)?	YES
2	Are there regulations for improving improperly built OSS?	YES
	Is there an institution with mandate for improving OSS?	NO
3	Are there regulations (rules/guidelines) for issuing permits for OSS construction?	YES
	Is there an institution with mandate for issuing permits for OSS construction?	YES
	Are there enough resources (financial and human) to verify and issue permits for OSS construction?	YES
Sl.No.	Collection and Conveyance	Requirement
1	Are there regulations (rules/guidelines) for desludging frequencies?	YES
	Is there an institution with mandate towards enforcing the desludging frequency?	YES
2	Are there vehicle standards for determining the roadworthiness (whether the vehicle can access the roads in terms of elevation - steep climb, road width, etc.) of desludging vehicles?	NO
	Is there an institution with mandate for monitoring whether the desludging vehicles meet the roadworthiness standards?	NO
3	Is there provision of tipping fee	NO

	for the desludging operators at the treatment facility?	
Sl.No.	Other Institutional Variables	Requirement
1	Is there an institution with mandate for FSM related coordination between institutions/stakeholders?	YES

The feasibility of the business models is grouped as Good, Medium and Poor based on the score obtained.

Scale: Poor 0-33% | Medium 33-66% | Good 67-100%.

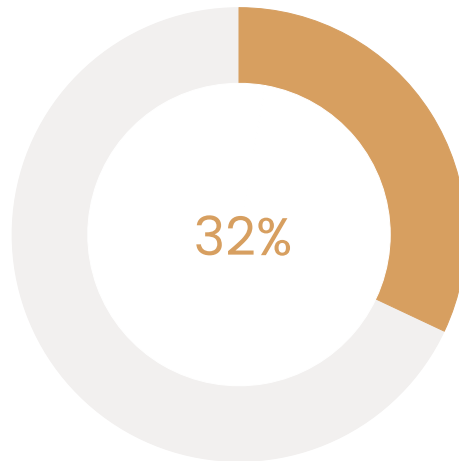
The feasibility of the selected business models are:

(E.g.):

1- 30% (poor)

2- 60% (medium)

Private Emptying and Transportation Model



Feasibility **Poor**



Recommendations for implementation of Private Emptying and Transportation Model.

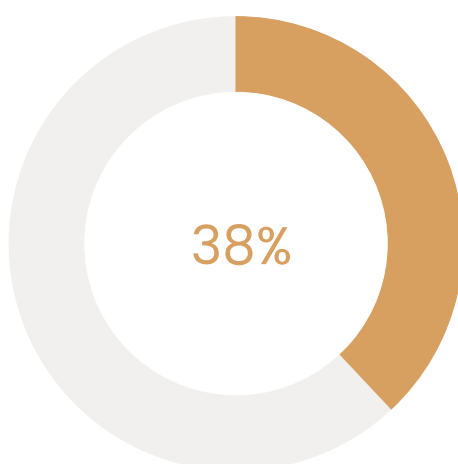
The following table lists the key requirement for successful implementation of this business model.

Sl.No.	Containment	Requirement	Your Answer	Recommendations
1	Are there standards for the construction of a particular type of On-Site Sanitation System (OSS)?	yes	Yes	
2	Are there regulations for improving improperly built OSS?	yes	Yes	
	Is there an institution with mandate for improving OSS?	yes	no	
3	Are there regulations (rules/guidelines) for issuing permits for OSS construction?	yes	Yes	

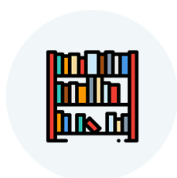
	Is there an institution with mandate for issuing permits for OSS construction?	yes	Yes	
	Are there enough resources (financial and human) to verify and issue permits for OSS construction?	yes	Yes	
Sl.No.	Collection and Conveyance	Requirement	Your Answer	Recommendations
1	Are there regulations (rules/guidelines) for desludging frequencies?	yes	Yes	
	Is there an institution with mandate towards enforcing the desludging frequency?	yes	Yes	
2	Are there standard operating procedures (zone/time of operations, accidents, spills, proper disposal, record keeping, route planning) for desludging/transportation?	yes	yes	For desludging operators, it will be helpful to follow standard operating procedures to be more efficient in their service delivery. Also, from the environmental sustainability point of view, the collected sludge should be disposed of at a designated site or a treatment plant.
	If yes, are these standards enforced in the city?	yes	no	Once these regulatory provisions are in place, it is required that the provisions are enforced and practiced on ground. The implementer of the business model should be aware of the such enforcements.
3	Are there vehicle standards for determining the roadworthiness (whether the vehicle can access the roads in terms of elevation - steep climb, road width,	yes	no	

	etc.) of desludging vehicles?			
	Is there an institution with mandate for monitoring whether the desludging vehicles meet the roadworthiness standards?	yes	no	
4	Is there provision of tipping fee for the desludging operators at the treatment facility?	yes	no	

Desludging and Transport Franchise Model



Feasibility **Medium**



Recommendations for implementation of Desludging and Transport Franchise Model

The following table lists the key requirement for successful implementation of this business model.

Sl.No.	Containment	Requirement	Your Answer	Recommendations
1	Are there standards for the construction of a particular type of On-Site Sanitation System (OSS)?	yes	Yes	
2	Are there regulations for improving improperly built OSS?	yes	Yes	
	Is there an institution with mandate for improving OSS?	yes	no	
3	Are there regulations (rules/guidelines) for issuing permits for OSS construction?	yes	Yes	

	Is there an institution with mandate for issuing permits for OSS construction?	yes	Yes	
	Are there enough resources (financial and human) to verify and issue permits for OSS construction?	yes	Yes	
Sl.No.	Collection and Conveyance	Requirement	Your Answer	Recommendations
1	Are there regulations (rules/guidelines) for desludging frequencies?	yes	no	In order to increase demand for desludging, it is required to have regulatory provisions which support the frequent desludging of septic tanks. It is a common occurrence for households to not desludge their septic tanks for more than 5-10 years. In such cases if there is no regulatory provision that requires a higher desludging frequency, the demand is likely to be low, making it hard to build an economic case.
2	Are there standard operating procedures (zone/time of operations, accidents, spills, proper disposal, record keeping, route planning) for desludging/transportation?	yes	yes	For desludging operators it will be helpful to follow standard operating procedures to be more efficient in their service delivery. Also from the environmental sustainability point of view, the collected sludge should be disposed off into a designated site or a treatment plant.
	If yes, are these standards enforced in the city?	yes	no	Once these regulatory provisions are in place, it is required that the provisions are enforced and practiced on ground. The implementer of the business model should be aware of the such enforcements.
3	Are there vehicle standards for determining the roadworthiness (whether the vehicle	yes	no	

	can access the roads in terms of elevation - steep climb, road width, etc.) of desludging vehicles?			
	Is there an institution with mandate for monitoring whether the desludging vehicles meet the roadworthiness standards?	yes	no	
Sl.No.	Other Institutional Variables	Requirement	Your Answer	Recommendations
1	Is there an institution with mandate for FSM related coordination between institutions/stakeholders?	yes	Yes	

FSM Toolbox has an extensive repository of knowledge products that are most relevant to your city. Here is a list of select knowledge products for your reference. [Click here to learn more.](#)