

FSM in small and medium towns (in India)

Posted by rahul - 16 Dec 2012 13:44

Dear all,

I am doing masters in planning, I took fsm as my thesis topic.

I am attaching the research proposal, please provide your valuable suggestions.

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Re: FSM in small and medium towns

Posted by Kiku - 18 Dec 2012 11:02

Dear Rahul,

That's quite a bold move to assess FMS practices across the sub-continent. The recent FSM II had interesting presentations from India. The FSM II database would be a good place to find more literature.

On the intended thesis, is the institutional framework for FSM II clear? Who regulates emptying services? Are the private players filling a gap that public institutions have failed to deliver? Does solid waste management have an effect on FSM? With most cities unable to raise financing for city-wide sewerage, to what extent can on-site sanitation be better managed? Could DEWATS be an option?

Best,

Fredrick

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Re: FSM in small and medium towns

Posted by rahul - 18 Dec 2012 11:11

Dear Kiku,

Thanks for your valuable suggestions, I am planning to take small town (below 2 lac) which is dependent on on site sanitation.

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10 country reports from Gates Foundation

Posted by muench - 29 Dec 2012 14:41

Dear Rahul (and anyone else working in India),

I have recently added to the SuSanA library **10 country reports on Faecal Sludge Management** issues (which were funded by the Gates Foundation), and the one from India could be very helpful for your thesis.

You find it here:

www.susana.org/lang-en/library?view=ccb�...p;type=2&id=1668

Bhat, N., Vashishta, A., Baskaran, C., Chopra, N. (2011). Landscape Analysis and Business Model Assessment in Fecal Sludge Extraction and Transportation Models in India. Consultancy report commissioned by Bill & Melinda Gates Foundation, Seattle, USA.

For these 10 countries, they always picked 3 cities and did a very detailed analysis of the FSM situation there.

For the India report it was: **Delhi, Jaipur and Madurai**

You can find a lot of primary data in the report which you could perhaps utilise for your research.

A paragraph from the summary:

This study on landscape analysis and business model assessment in fecal sludge extraction and transportation models in India covered a sample of 1200 households in three cities viz. Delhi, Jaipur and Madurai. These cities were selected based on an assessment of current household connectivity to sewerage systems at the state level. Discussions were held with officials vested with the responsibility of sanitation services and detailed business assessment of sampled emptying service providers were also carried out.

By the way, the other country reports are from: **Bangladesh, Burkina Faso, Cambodia, Ethiopia, Kenya, Malaysia, Nigeria, Senegal, Vietnam.**

They are now, for the first time, available freely online. See the SuSanA library (www.susana.org/library - the latest additions are always on top of the list) - or use the filtering function on the right hand side "by technology" > faecal sludge management". To find the reports which were funded by the Gates Foundation, you can use the filtering function "innovative science and technology":

www.susana.org/lang-en/library?showby=ye...;vbls=7&vbl_7=79

Anyway, lots of good stuff there for your thesis.

By the way, I also agree with Fredrick: your research proposal is too broad for an MSc thesis - you probably need to narrow down your research question.

Kind regards,

Elisabeth

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Re: 10 country reports from Gates Foundation

Posted by rahul - 29 Dec 2012 14:52

Dear Elisabeth,

Thanks for the information, i will surely consider your suggestion.

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Re: FSM in small and medium towns (in India)

Posted by christoph - 31 Dec 2012 13:08

I took some time to read across the study of India, did not read the others mentioned.

A very interesting study and in between the best I read about the subject. The interesting aspects for me personally were not expressed in the executive summary nor in the description by SUSANA.

I really liked the study, as it gives real numbers for concrete situations. I quite did not understand and some conclusions which were crucial to me. The study concludes in 3.4.5 (p. 54) that a private emptier service could be profitable and it expresses that there is a willingness to pay for better service, but the

better service is related to cleaner service during pumping out the septic tank, I did not read about a willingness to pay for better final disposal/treatment (I admit I did read quite quick). The conclusions state that there is a total lack for treatment and suggest that the treatment might be done in a PPP. I do think that the treatment aspect is absolutely critical for the hole study. Without treatment ..the effect of emptying is very small (it is stated somewhere), on this point I miss a clear conclusion.... There is a need to set up treatment capacities and the costs of these have to be included in a FS treatment model. If the treatment costs are included, I guess the transport costs will go up as well (larger distances until emptying the vacuum tank, due to problems to set up closer treatments) and therefore putting into danger as well the profitability. Did I get something wrong?

Due to this aspect I do miss in the executive summary a clearer statement towards the need of treatment facilities in conjunction with the business model, as emptying service without a final destination/treatment for the fecal sludge, is no sanitation in my opinion.

But again, a very interesting paper and together with the [world bank paper](#) (which is especially interesting in the systematic recommendations) and the [SSP edition about FSM](#)

(based as well on one of the studies funded by Gates) there is good working material to do the next step.

ACTION!

Concerning the mentioned Sludge treatment plant (Anex 5):

There is a description of a fecal sludge treatment plant by sludge mineralization beds (wetland) (p.96) which is in operation since 1 year. I can confirm that fecal sludge application works quite nice, we are operating such a plant since 8 years and do not have any problem with odor or overloading, but we do have much larger beds than described. I do have my concern about the described size (10x5 m x 3 beds (taken from the drawing, the text states wrongly 1,0 x 0,5 m x 3 beds)). The main danger in loading these beds is overload and therefore breakdown and failure. From the rough numbers I got the impression that the loading should be still ok, but on the limit, would be very interesting to hear more about it in future (does anyone have a direct contact?).(560 trucks/a x 1,5 m³/truck x 10 kg TSS/m³ (assumption) /150 m² (bed) = 56 kg/m²,a).

Hopefully 2013 will bring us lots of treatment facilities for Fecal Sludge Treatment or Sanitation in total.

All the best to you.

Christoph

P.S. I find it a pity that no names of authors are expressed a) it is important for the author to be

mentioned openly (keeps up the motivation) b) it is easier to adress a question

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Re: FSM in small and medium towns (in India)

Posted by F H Mughal - 02 Jan 2013 06:27

Some thoughts on FSM in the Sindh province of Pakistan:

In some slum-type localities, which lack gravity flow, the houses have improvised ditch, outside their houses (1 metre x 1 metre, 2 metres deep), where the sweeper comes every morning, empties the ditch by lifting the contents manually and puts in the open-channel sewage system. It is all most unhygienic. In some well-to-do localities, the service provider's truck having suction pumps and tanks pumps out the contents from the manholes.

Generally, in rural villages, as shown in the picture of the World Bank report, the contents are simply left out in the open. The contents get collected in depressions or vacant plots.

There is one aspect that is completely overlooked here. In wastewater treatment plants, the sludge from the primary sedimentation tanks, which is un-stabilized, is discharged haphazardly, causing nuisance. While, the sludge from the secondary sedimentation tanks is stabilized, the one from primary tanks, is not.

In aerated lagoons wastewater treatment plant that I designed and constructed in 1982 in Karachi, I had the provision of sludge lagoons, where sludge from the primary sedimentation tanks was pumped and spread in layers of 2 to 4 centimetres for air and sun-drying. The sludge was tipped every other day and left in the lagoons for 10 days.

This was a low-cost way of treated the sludge, using sunshine and air.

F H Mughal

Karachi

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