



Friend In Need India Annual Report 2015

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Friend In Need India Bi-Annual Report Jan- July, 2015

1. Staff

First of all, the staff got stabilized and with stable staff – they could be better training.

Friend In Need India - Field Staff in Kameshwaram

P.S. Paranjothi



P. Vijayakumar



G.Muthuraj



S. Sumathi



M.Veerappan



V. Manikandan



Friend In Need India – Core Team Outside Kameshwaram

Shyama Ramani



Rushva Parihar



Sangeeta Venkatesh



Raji Srikant





2. Social Impact

2015 PROGRESS AT A GLANCE

Social Impact	January	February	March	April	May	June	July	August	September	October	November	December	Total
Number of toilets made (basic construction)	1	2	1	0	1	0	1	1	0	2	1	0.75	10.75
Number of toilets repaired	2	0	0	0	1	0	0	0	0	0	0	0	3
Minor Repairs/Quality finishing		1	0	0	11	7	0	0	0	0	0	0	19
Livelihood generated for masons	19400	17550	21500	18300	28800	26100	25200	26900	26150	24150	22300	22800	279150
Number of houses covered by waste management	87	87	57	55	55	56	56	68	63	61	61	61	
Number of meetings/events in kameshwaram	1	1	0	0	0	1	subbura man sir 1	madam 1	0	0	0	0	
Number of speeches in schools	0	0	0	0	0	1	0	Madam 1	UC student s	0	0	0	
Other social work actions	St. Sebastia n School	Mariamm an Temple		Checked all the toilets	Repaire d all the toilets	Repaired all the toilets	toilet review	issued gift wmt 1	School work with UC student s	0	Checke d all the toilets		
Workshops/Evaluation		Evaluation			0	1	1	madam 1	0	0	Discov ery tour in trichy		



Revenue from Waste Management	January	February	March	April	May	June	July 15- Aug 15	Aug 15- Sep 15	Sept 15- Oct 15	October 15-Nov 15	Nov 15 - Dec 15	Total
Payment for waste collection	1110	1340	700	1190	1200	1150	1040	1030	1150	1000	840	11750
Field Income made from selling waste	645						0	165	175			985
Other revenue	1645	1000	1000	1000	0	50	0	0				4695
Total Revenue	3400	2340	1700	2190	1200	1200	1040	1195	1325	1000	840	17430

Number of toilets constructed are on average one per month, because the masons were so good that they were asked to do other work for the household as well.



3. Accounts

	2015 ACCOUNTS AT A GLANCE													
	January	February	March	April	May	June	July	August	September	October	November	December		
Field Income made from selling waste	645						0	0	165	175	80	0		
Other field income	1645	1000	1000	1000	1000	50	0			0				
Field Costs (besides salary)	January	February	March	April	May	June	July	August	September	October	November	December	Grand Total	%
Utilities=electricity, water, internet, rent	3062	3585	4331	4068	2000	4026	2000	2645	5451	4826	2000	4788	42782	7.94%
Salaries paid in field	5010	11040	4650	900	7006	7200	0	2500	3250	4142	6500	2000	54198	10.06%
Waste management expense	300	60	0	370	181	0	380	180	275	0	695	110	2551	0.47%
Toilet construction expenditure	0	1725	200	280	5500	4500	0	0	0	0	0	0	12205	2.27%
Toilet incentive payment to families	6250	8000	4000	3120	16025	0	0	4000	2000	6000	0	0	49395	9.17%
Other partner payment made	0	0	0	0	0	19500	150	0	0	0	0	0	19650	3.65%
Food and drinks	343	80	650	190	40	660	225	120	1028	192	200	363	4091	0.76%
Stationery purchase	840	0	343	395	0	0	0	216	315	0	350	320	2779	0.52%



Transportation	390	100	850	850	850	4200	260	750	10500	600	350	200	19900	3.69%
Office space improvements	0	0	2000	0	0	410	0	250	0	0	0	0	2660	0.49%
Field Costs (besides salary)	January	February	March	April	May	June	July	August	September	October	November	December	Grand Total	%
Office supplies	159	3313	0	2821	55	100	295	792	660	1850	1208	945	12198	2.26%
Office furniture	0	0	40	1000	8000	200	380	0	0	0	0	0	9620	1.79%
Office equipment	590	4220	21297	2170	12985	0	0	0	310	0	725	0	42297	7.85%
Other	200	0	0	0	0	0	0	0	0	990	0	0	1190	0.22%
Auditing administration	0	0	0	0	0	0	0	3786	0	1000	0	930	5716	1.06%
Xerox	980	1900	0	0	450	250	300	723	289	0	400	586	5878	1.09%
Courier	70	0	0	0	0	0	0	50	0	0	0	210	330	0.06%
Outside Meetings	0	0	0	0	0	0	100	0	0	0	0	0	100	0.02%
Social Marketing	360	3750	9000	5000	11000	0	0	0	0	0	0	0	29110	5.40%
Work shop costs	250	0	0	0	0	0	0	0	0	0	9600	0	9850	1.83%
Total Field expenses	18804	37773	47361	21164	64092	41046	4090	16012	24078	19600	22028	10452	326500	57.24%
Total salary payments sent through bank	17000	17000	17000	17000	17000	17000	25000	23500	26042	25400	20665	21335	243942	42.76%
Total expenses	35804	54773	64361	38164	81092	58046	29090	39512	50120	45000	42693	31787	570442	100.00%

4. Example of Social Work in Village – February 7-8, 2015



adherents. Through combined and united prayers, the worshippers create positive vibrations in the temple premises that bestow grace upon all who visit.

For this important day, Friend In Need was asked by the Kameshwaram Village Panchyat or Council to take care of waste management. So from Thursday February 7, our team has been helping to prepare for the festival. The 15 tins that we set up were used to the brim and today the team finished cleaning up the rest. Next time we intend to set up bigger tins and more of them.

In Kameshwaram, as in most Tamil Nadu villages, there are temples dating from pre-Aryan times which continue to welcome worshippers and citizens seeking grace from the Goddess Mariamman – Mother Nature. The Goddess of the people was never affected by the caste system and was ever accessible to all – especially the lower castes.

In Kameshwaram, there is a beautiful Shri Shiva Kami MuthuMariyamman temple and last Friday February 8, 2015, it was time for the 12 year ritual cleansing – or the Kumbhabhishekam – of the temple – when the temple is thoroughly cleaned to welcome the



5. Example of Outreach for Awareness Creation in Village – January 10, 2015

To mark a new beginning for Pongal, Friend In Need staff worked with Saint Sebastian School staff and the School Principal, Mr. Das, to accompany a march by the students! Volunteers from the Scouts, Junior Red Cross and Green India - went throughout the village distributing pamphlets encouraging people not to use plastic bags and explaining how plastic litter is seriously polluting our environment. The children ended

their march by cleaning the premises of the village Panchayat (Council house).

6. Example of Participation in Research- February 1-15



Climate change or global warming is going to (negatively) impact developing countries more than the developed ones and within any country, the poor are likely to suffer the most. However, in research on climate change, mitigation and adaptation strategies vis-a-vis the poor remains an understudied subject. Moreover, the poor are rarely consulted or involved in policy design. So this study aimed to be different as Paranjothi from FIN interviewed farmers, fishermen and other service providers in Kameshwaram to gauge their ideas on climate change.

Their perceptions?....see

<http://www.merit.unu.edu/economists-facing-climate-change-.../>

7. Example of Self-Evaluation exercise about sanitation – February 15-18, 2015

From time to time, we have an evaluation of our projects by well wishers. These are folks, who do not participate in our day to day activities, but are willing to spend time and effort to help us periodically by giving feedback. Thus, from February 15-18, 2015, we had three extremely sincere evaluators, Dr. R.S. Venkataraman (former Chairman and Managing Director of Engineers India Limited), Mrs. Vijayanthi (his spouse) and Mr. Manoj Kumar, the co-founder of Pratanute – who is our web master <http://www.pratanute.com/> visiting the village.



They made a great team! They made a great team! Vijayanthi with her affable manners and outreach put the families at ease and got the ladies to talk openly. They evaluated both our toilet construction and waste management project. With respect to the former, the team studied the location and condition of toilets and probed the users about the perceived and actual problems with the ecosan toilets and reasons for their preferring septic tank toilets.

The great low-toilet challenge is as follows. We co-sponsored the construction of a lot of urine diversion toilets in the village – the main sponsors were UNICEF and WATER AID and like a lot of other toilets sponsored by such reputed international agencies – they are abandoned for a variety of reasons (and a number of toilets sponsored by the World Bank in the village have never been used).

These are extracts from the notes of our evaluation team from their conversations with the villagers.

❖ **This is what the villagers said about why composting toilets are being abandoned:**

“The composting toilets are so embarrassing to use. When guests come from outside – they make such a face when I explain to them how to use them and we have to be careful about the ash and water usage. My boys tell me, they won’t bring their friends home. So we are going to close this up and build a toilet with a septic tank.”

“Yes, I know we can use the compost for banana trees and other plants. But, we are not THAT poor – and so with the status we have reached now – we can build the septic tank and simply buy some fertilizer”.

In short – it is not convenient to use and it is viewed as poorest man’s toilet – thus signaling its position at bottom of the pecking order. This has to be changed for it to be used. Moreover, there is a need for plastering of the outside of ecosan tank instead of leaving it as just a brick and mortar construction, because then it slowly erodes in the saline atmosphere of the coastal area. Such short term cost cutting measures are actually very costly in the long run.

❖ Why septic toilets are being abandoned:

“They overflow; they stink and flies are around them” {here cracks were found on the septic tank; and many were found to be simple pits with a barrier and not a septic tank}

“Can you imagine? We are not city folks and these people just built the toilet next to the kitchen. Of course, we are not going use this toilet – but it did become handy as a store room once we closed up the toilet”.

❖ Whose fault is it?

It is not clear whether the problem is due to households or the construction team. It is also not clear whether it is due to knowledge gaps or carelessness.

“There is no contamination from our toilet – why should we waste more money in plastering the inside of a septic tank? Instead of open defecation – waste is going into a tank. Where is the proof that this is bad?”

“What’s wrong if our toilets is very close to our pond ? This is furthest away from our house and it is easy to get water for the toilet then.”



❖ In all underused or abandoned toilets – there are some common problems:

“Mortar is eroded, roof has cracks or gone after cyclones, door is displaced, latches are rusty or fallen off.”

So knowledge on construction needs to improve greatly, with attention being paid to details and built to last a long time. There is a crucial need for quality control of septic



tank construction, especially of the inside and outside plastering (only for high water table areas) with quality material. There is also a need for greater awareness about contamination from wrongly constructed septic tanks to surrounding soil and water in high water table areas. Everyone needs to understand the importance of locating bore wells at sufficient distance from the septic tank.

❖ **Then there is the usual gender issue:**

“Toilet is for women. Men don’t need it. The fields or beach with their open breeze beat any stinky cramped toilets in the morning.”

❖ **Sanitation Impact Summary**

Still the biggest impact is not negative but POSITIVE! We find that toilets are now being accepted as a ‘need’ by all households at least for their womenfolk. This means that we need to trigger behavioural change in men towards toilet usage – health status will not improve if only half the population uses toilets!

8. Example of Self-Evaluation exercise about waste management – February 15-18, 2015

In Kameshwaram as in many other villages of India – there is no local waste management system. This is one of the features that the present Indian Government wants to tackle in its ‘Swach Bharath’ or ‘Clean India’ programme. In terms of implementation, this has translated into the hiring of two sweepers for 3 hours a day during the work week by the village council, the Panchayat. At dawn, they sweep the premises of the council house and any streets during the rest of the time available. In a unique public private cooperation with the Panchayat, we employ the same sweepers, at higher hourly rates, to collect non-biodegradable waste from house to house. This is what the residents dump on the streets or just about anywhere – while many compost the biodegradable waste. We are asking for INR 20 per month (this is about 28 cents of €) or (32 cents in US\$) for waste collection and we know that everyone (and I really mean every household!) pays INR 100 for cable television and normal spending on alcohol by the men of the households is about ten times more. Yet, 177 households left the program in 2014. They refused to pay and after a couple of months of free garbage pick-up we were forced to take out the tins.

So our evaluation team (same as previous team) was to ask the villagers the following question:

- 1) What are the benefits to you from getting your garbage picked up?
- 2) For those who are paying regularly.... – how can we induce others to emulate your example?
- 3) For those not paying... – what’s your problem? How come you aren’t paying? Can we help you in any way?

These are the answers inferred by the investigation team.

1. They are clearly two populations: First, there are households which love the waste collection program and are willing to pay the very nominal sum for it.
2. Second, they are those who feel it is right to have it for free – like water in the





village (which is also totally mismanaged as it is free). This group (the clear majority) feels that when the garbage becomes too much, then the government will do something about it. Till then – they can just litter wherever they please.

3. Willingness to pay has nothing to do with income status – they found some very poor households who are among our most loyal customers.
4. They also found those who have their men folk working in Singapore and Malaysia (and who see all the photos on whatapp and email) have greater exposure and they think it is a great idea that the village becomes as clean as Singapore!
5. But the evaluation team also noted that our team doesn't pick up the trash on the same day every week and there were weeks when nobody came to pick up the trash. Why did this happen? That story is for another day.

Anybody got ideas on how to make unwilling households which have the full payment capacity join the waste management program? We are takers....

9. FIN student interns – May-July 2015

We had three interns, two French girls and one Indian boy – all students. We turn to their interviews below. These were also posted on our facebook site.

➤ Can you introduce yourself? Manon Palomo

My name is Manon Palomo, I am 24 years old, and from France. I have completed my first year in a Master of Economics at ENSAE Paristech (Paris Graduate School of Economics, Statistics and



Finance). I am a very curious, motivated and social person and after a scientific bachelor's degree, I discovered economics and I fell in love with this field!

I am currently in a gap year, during which I first worked for the IMF and for the French Ministry of the Ecology, Sustainable Development and Energy. As a third internship, I thought it would be interesting to work with an action-research based venture like Friend In Need, because I want to offer my skills to help people in need, to improve social and economic conditions of life in developing countries.

➤ So what are you doing with Friend in Need?



I am specializing in Environmental Economics and Climate Change and our school encouraged us to engage in personal reflections on economics and develop real competencies to analyze and model economic and social processes. But, during my first two internships, I only improved my theoretical knowledge because they took place in governmental organizations. Now, I want to apply my knowledge to develop local capacities and local projects. Exactly what Shyama Ramani calls “action research”.

For me, to be a volunteer in the NGO “Friend-In-Need” is a perfect opportunity to reach my goals and to act concretely, at a micro level. This first humanitarian experience could encourage me to pursue my wish to help people and lead me to work specifically on the field of social and solidarity economics.

Well, in FIN, we had planned on one thing, but I ended up doing many other things – which were all needed for FIN and were more important.

First, I did a survey of the literature on innovation adoption – to understand why it is such a challenge to persuade people to invest in a toilet or use them. Second, we do not understand clearly how low cost toilets are built – the documents that have been written – are not by those who have built a toilet themselves. So Shyama has been working with the masons to record the process as recounted by them. I have entered all the data (painful job) so that others can try to build the production and cost functions for low cost toilets. Third, I have analyzed data on Kameshwaram on perceptions about toilets and health impacts and I can tell you that toilets really matter according to the data! Morbidity and incidence of sickness is less in families with toilets! Fourth, I have worked a lot to organize this wonderful trip to India! We will be sharing our adventures with you!

➤ **What makes you interested in doing all this? Why do you think it is worthwhile?**

I am very interested in all topics related to sustainable development and global solidarity. The fight against climate change and against poverty is so important for me. I feel that environmental and Development matters concern each and every country in the world; they require a specific attention. Concrete and effective solutions cannot be achieved without worldwide consultation.

That’s why - for example, last year in my school, I voluntarily organized and animated a public conference about energy sources and climatic change in order to raise awareness among students on these topics. This year I participated in the Sciences Po's student simulation on climate negotiations Make it Work. This project is related to the 21st United Nations Conference of the Parties (COP21) on Climate Change, will take place in Paris in December 2015.

So I am very glad to be in India, a country which according to experts is at high risk with respect to climate change and do my little bit for the fight against poverty too.

➤ **Can you introduce yourself? Pranay Jain**

Hi, I am Pranay Jain. I am a native of Patna, Bihar. I am pursuing a dual degree (B.tech in Civil Engineering and Masters in Economics) in the Indian Institute of Technology, Kanpur. I love playing cricket and working in teams.

➤ **So what are you doing with Friend in Need?**



Despite the launching of a full fledged waste management plan (under 'Swachh Bharat Abhyan'), proper waste management still remains a major problem affecting health and sustainability in rural India. I would be trying to bridge the gap between the Government and the village Panchayat and village members, who are the targeted beneficiaries. My objectives under the guidance of Prof Shyama are three: (i) To learn about government incentive programmes for waste management and develop a presentation that explains it simply to Panchayats; (ii) To formulate a project proposal for a compost yard for waste segregation in Kameshwaram; (iii) To explore if and how a local team of villagers can make a decent livelihood from waste collection, waste segregation and resale – and with dignity. Our mission is to find a solution, especially for (iii).

➤ **What makes you interested in doing all this? Why do you think it is worthwhile?**

I believe that many common problems of Indian society can be partially tackled through new technology introduction with a humanitarian approach. Theorist or a corporate world professional, wherever I may end up, I may never have this opportunity again to test what I believe in, and in the process, fulfill my duty towards society. The motivation and skill sets that FIN team members showcase, are not easy to replicate and it is a learning experience for me to match their standards. I am devoting the two coming months to FIN, in order to utilize and further sharpen my skills, while working with a competent team under a highly motivated leader, to solve the problem of sustainability and waste management at the grass roots level of Indian society - taking Kameshwaram as our challenge.



➤ **Can you introduce yourself please? Lucile Rogissart**

My name is Lucile Rogissart, I am a 21-year-old Masters student in Economics and Public Policy in Sciences Po Paris School. I chose to study economics, because I love it intellectually speaking, and because, I feel that it is a powerful tool to understand reality and change it for the better.

➤ **So what are you doing with Friend in Need?**

I have just joined the internship and during June, I will be essentially working with the rest of the team on answering the three research-action questions of Pranay presented in the last facebook post. Thereafter, I will be

carrying out a survey of the available literature on the types of government interventions for sanitation coverage in both developed and developing countries. Let us remember, universal worldwide sanitation coverage, even in Europe, is a post World War II phenomenon.

➤ **What makes you interested in doing all this? Why do you think it is worthwhile?**

I was born in Paris and I have always been living there. I began very early to be aware of how lucky I have been. This awareness grew a lot these past 4 years, leading me to devote my life to do something for those who are not as lucky as I am. I am also extremely concerned about climate change, and the high vulnerability it can imply. I know I am young and still filled with illusions but I am eager to accomplish some things which I feel are fair, just and worth working for.

I have never visited India though I have travelled a lot and I am struck by the present lack of sanitation coverage and its consequences, especially for women. I am thus highly enthusiastic about working with Friend In Need, and I hope my energy and devotion will contribute to its wonderful purpose.

10. Evaluation of sanitation challenge and FIN by student interns – May-July 2015

When you have a layman's view on sanitation in developing countries like we had before our trip, you might think that it is mainly a matter of fundraising and infrastructure building. The truth is, money is a piece of cake compared to the real impediments. These three main challenges are the ones we got to know from talking to the villagers and associated decision makers.

The biggest challenge is corruption and the inefficiency of public service it implies: from the very bottom to the top of the administration, one single inept level is enough to put brakes on the entire system. For instance, the whole waste collection system falls apart as soon as the Panchayat staff stops showing up for work while being paid (which was the case throughout the time when we were in Kameshwaram – apparently he was on a prolonged six months honeymoon), or even higher when the district level decision makers do not spend the amounts allocated on real projects.

The second huge problem is the mindset and the habits of the population targeted. The former shows when people use the concrete-made toilet building as a warehouse or a kitchen, refuse to use ecological toilets – or even conventional ones – because it is constraining, refuse to maintain toilets because it is supposed to be the scavengers' job, don't see the point of collecting and treating their waste etc.

The third immense problem is lack of leadership our own NGO is facing. A very harsh obstacle related to economic context of India: a rising country with huge wealth inequalities. For our sanitation and waste treatment projects to work, we need at least one dynamic and leading fellow to be continuously on the ground in Kameshwaram, a nice but very small village. But the fact is, there is no problem finding dynamic people to give 'orders' to others to do the job. There are plenty who would like to stand and oversee the work of others. We don't want such people. And the people who are willing to do these simple tasks are not very dynamic or skilled or used to coming every day to work. It's really a chicken or egg problem here.





11. A Report on the Waste Management System by Pranay Jain and Lucile Rogissart

FIN Interns – June 2015

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Initial conditions

FIN's team (Paranjothi et al.) capabilities

We cannot really say about the 2 persons we met at FIN's office as we did not spend a lot of time with them. That said, the woman was apparently doing the data collection right. Mr. Vijay Kumar, due to his physical disabilities, is not fit for work which requires a lot of physical capabilities. He can be taught to mix EM which then could be sold to school and villagers. By the short interaction that we had with them, they seem to be loyal.

Regarding Paranjothi, he is willing to do only selective work, but again, the lack of leadership, inability to say harsh truths and the love for flattery hinders the output we can get from him. He is a good man, but world does not run like this. Either he needs to improve or we need to find some other person for implementing the new initiatives we take. Paranjothi should (we would love it) be retained to see if the whole system is working properly and to report if any discrepancy in financial



matters is witnessed. He can handle the waste management system currently but certainly not when it grows bigger.

Paranjothi should (we would love it) be retained to see if the whole system is working properly and to report if any discrepancy in financial matters is witnessed. He can handle the waste management system currently but certainly not when it grows bigger. He would have to improve upon his English speaking skills to coordinate with future interns.

The 2 people hired for collecting waste by FIN don't show up now, thus shows that the whole system is not in good condition and things need to be improved quickly. Paranjothi collects the waste himself, showing his dedication. Let's hope that the new person he found to collect waste does a decent job.

Panchayat's interest

The Panchayat president says he has interest but the public doesn't. According to him, the municipality informs the population about waste management and sanitation, but no one is interested. He also says that the government doesn't provide any budget for waste collection and treatment (he is correct about this). He is not willing to make efforts, but he agrees to collaborate if FIN manage to design a sustainable program.

The Panchayat is lazy and certainly do not take initiatives. According to the Vice-President, the Panchayat has meetings on 4 of the National holidays where the BDO also comes and waste management and sanitation is one topic among those that gets discussed. His advice of targeting students and women seems to be practical as not many men are interested and generally drink a lot.

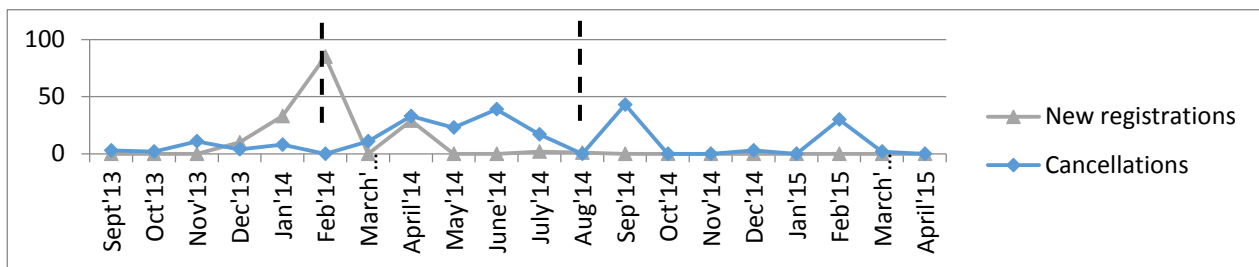
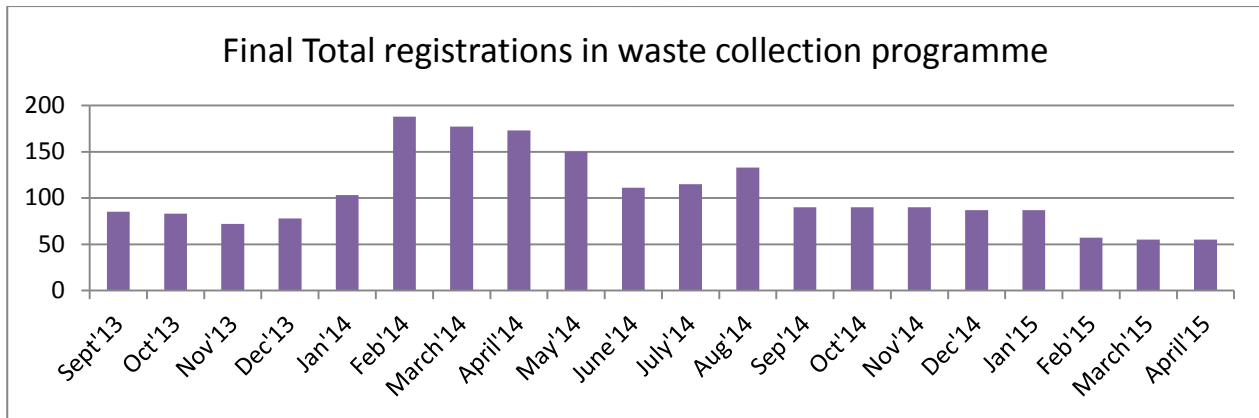
The Panchayat seems to be well informed about the problems of the village referring to use of EcoSan toilets and popularity of Septic tanks, mentality associated with waste collection, grant that can be received from government for toilets and were right that Kameshwaram does not receive much aid for SLWM program (were unaware of this scheme under Clean India Movement, as Kameshwaram does not qualify for the pilot run). There is money (INR 300 per household not having latrines) allotted for the purpose of spreading awareness, but we are not sure if the Panchayat is aware of it and if aware then if the money is used for the proper purpose. **(It has to be asked and Panchayat have to be educated about Clean India Movement and its benefits)**

[cf. "Report Mr. Kamarash, Kameshwaram's Panchayat" in the Appendix]

Updates: According to Shyama, even the Panchayat president is ready to help but he will support us indirectly, he doesn't want to be the face.

The targeted beneficiaries

Currently: 55 (at the end of April 2015) households registered.



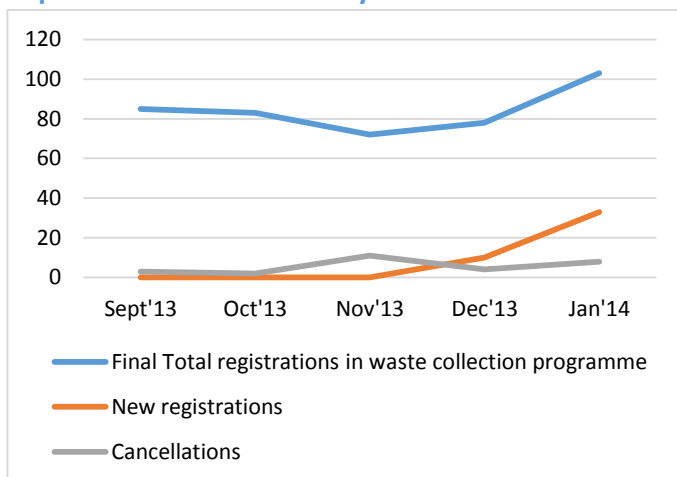
We see a remarkable increase in new registrations in February 2014 and decline to zero in September 2014.

The extraordinary increase can be credited to February 2014 being a free month and the decline to absolute zero can be attributed to the fact that new registrations were stopped. It was an experiment started in September 2014 to find the core of the consumer group, to find out households willing to pay INR 20 every month and to arrive at 90% dues collection.

So, the whole analysis period should be divided into 3 time groups:

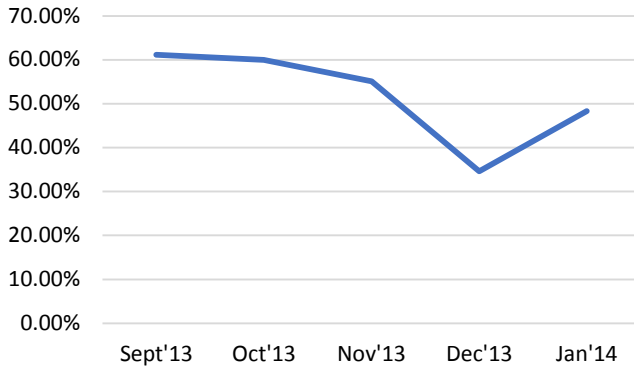
1. September 2013 to January 2014
2. February 2014 to August 2014
3. September 2014 to February 2015

September 2013 to January 2014



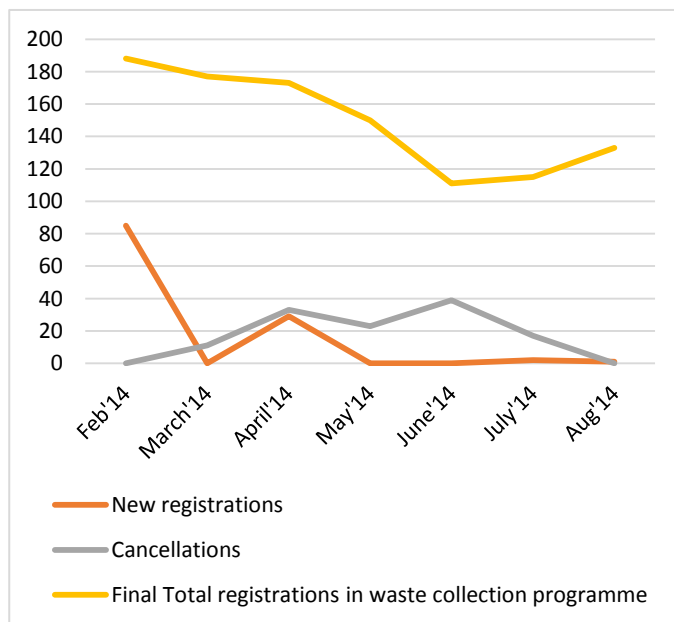
Final total registrations increased from September 2013 to January 2014, despite of continuous cancellations throughout the period, showing a positive social impact of the program.

% of waste collection dues paid by beneficiaries



% of waste collection dues paid by beneficiaries has declined since the start of this period, thus raising a question about the going concern.

February 2014 to August 2014

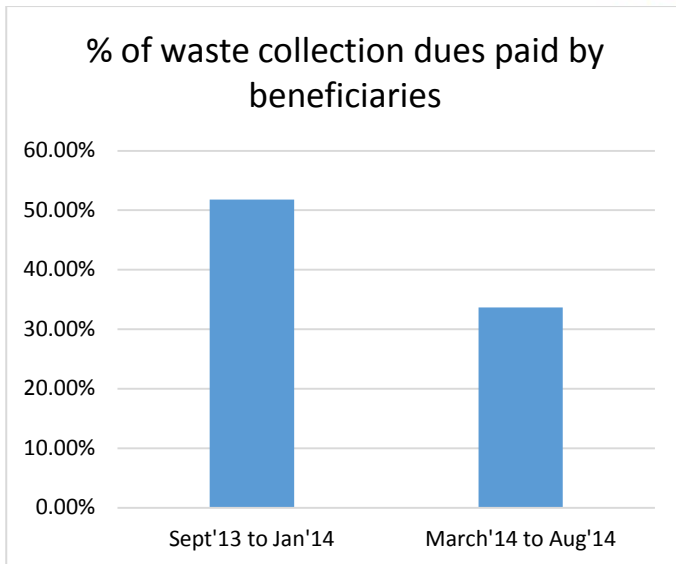


Free month had an immediate impact on new registrations, but it soon faded away.

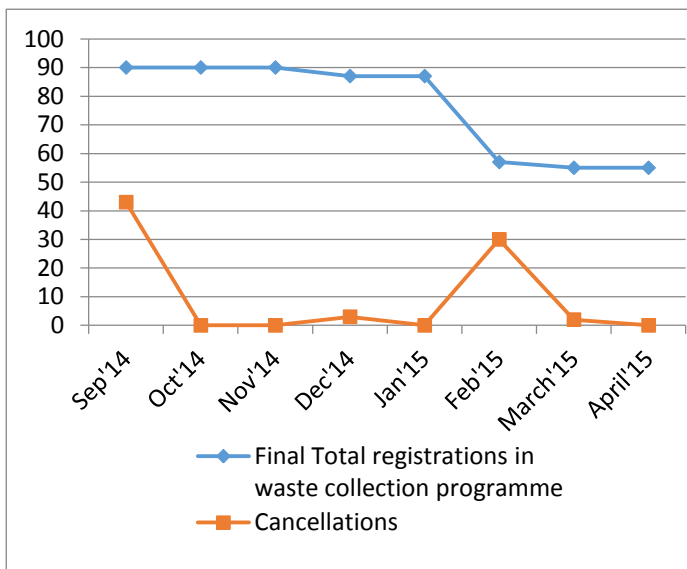
A more critical view would be that the immense increase in registrations was only because it was free and because the employees found it easier to put tins and get a bonus. Very few paid the dues later.

But an optimist would say that the mindset of people also changed as despite of immense cancellations in first few months, condition improved in the later part where the period ended with 133 families registered in the program

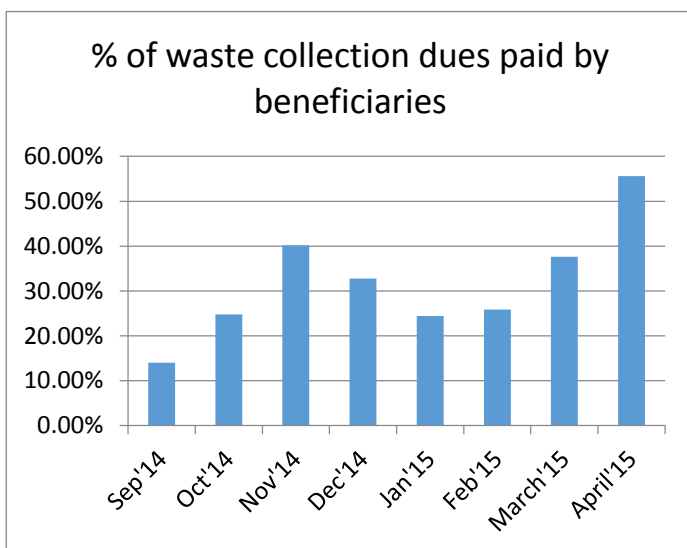
The collection of dues remained an area of concern and perhaps causing more trouble in Period 2: February 2014 to September 2014.



September 2014 to February 2015



The initial months of this period depicted as if near 90 were a good estimate of families those could be retained in the program, but a huge increase in cancellations in the later part of the period raises questions about the going concern and success of the program.



Percentage of waste collected is gradually increasing. Combining it with stabilizing number of total registrations, it seems as if we are close of getting a group of core customers.



Concluding remarks

The 3 periods were very different from each other and not very motivating until the last few months (March'15 and April'15), where the data shows the promise of providing core group of customers, who can be targeted upon and can be inspired to motivate others who underestimate the importance of waste management.

Further analysis on sustainability

The above analysis helps us to define three variables to measure impact in the future:

- The percentage of dues paid by the customers
- The percentage of households who paid something
- The percentage of cost covered

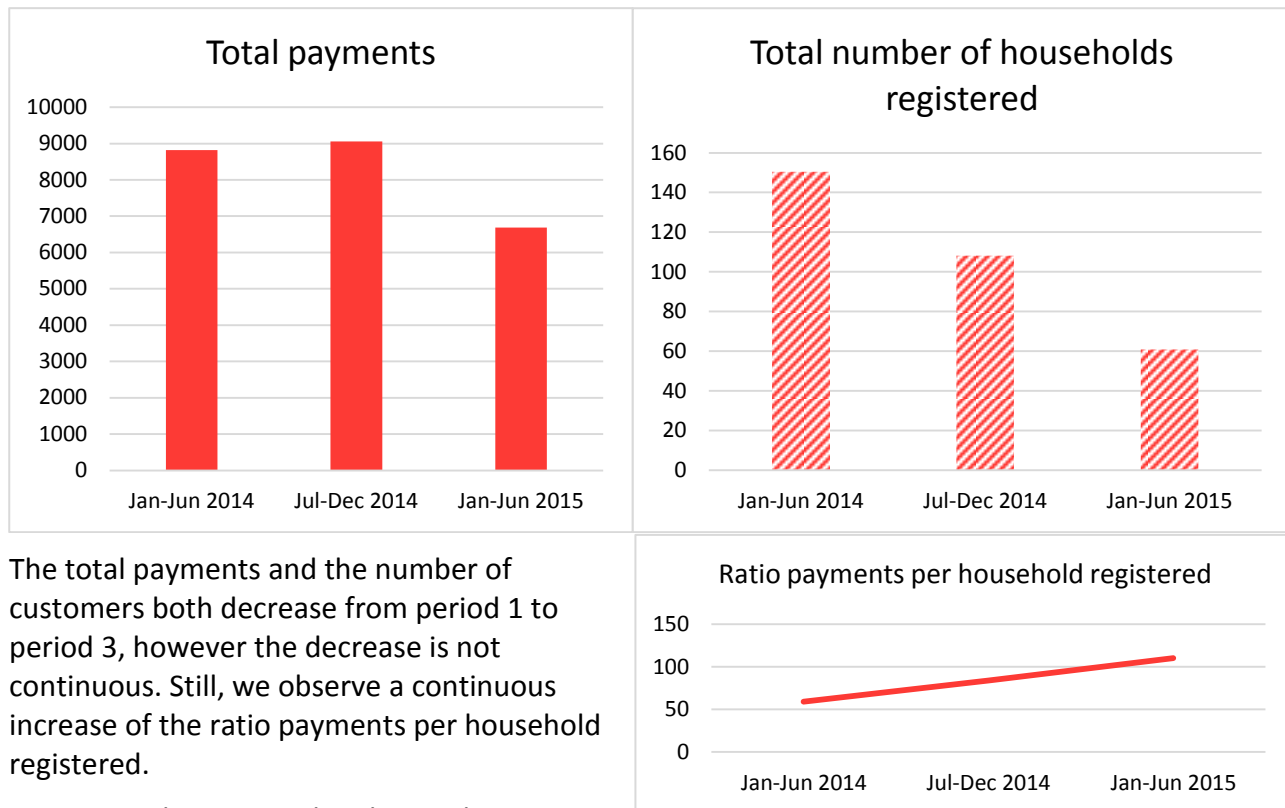
Those variables have to be put in perspective with the scale we are dealing with. That is why we will first present the scale before the effectiveness. Finally, you will find a synthetic graph.

In this section, we divide the time into 3 periods:

- 1) Jan-Jun 2014
- 2) Jul-Dec 2015
- 3) Jan-Jun 2015

Note: Let us recall that there is a free month in February 2014. This free month had an impact on the registration rate which could artificially inflate the number of customers in the first period.

Scale



From period 1 to period 2, the total payments increase a bit while the number of registered households is about 40% less, i.e. we gain more money with less payers. However, it is yet difficult to argue for an increase of the reliability of the customers. Recalling that February 2014 was a free month, the “increase” of payments in period 2 might be artificially generated due to the money FIN didn’t earn in period 1. Moreover, it might be that a lot of customers registered in February didn’t pay anything in the first period and quitted in the second one. Because of this free month issue, we will focus more on the evolution from period 2 to 3.

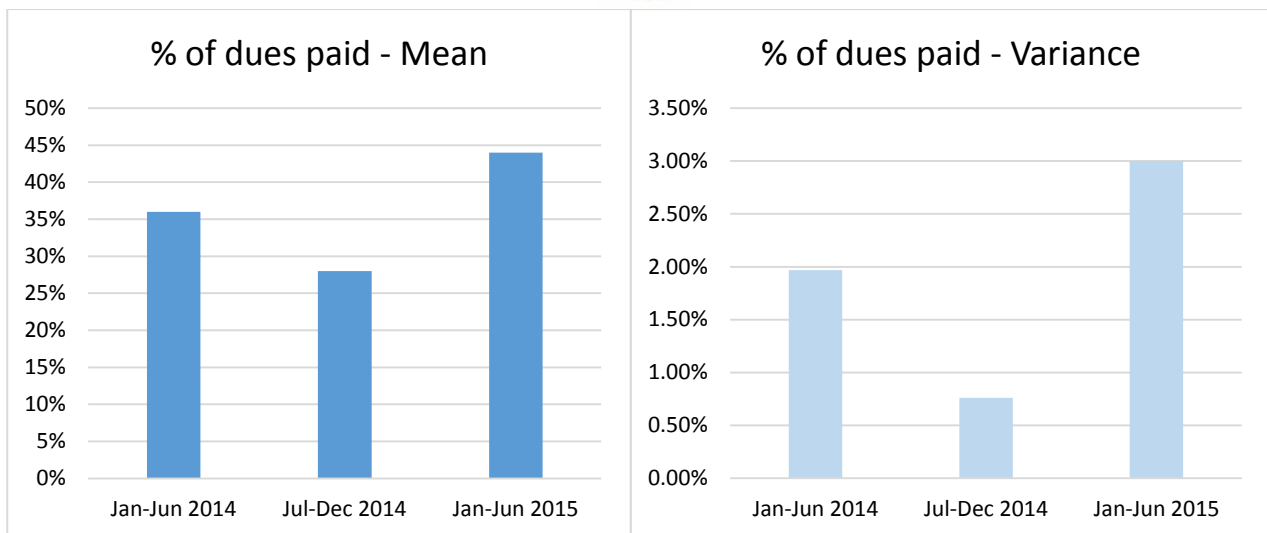
From period 2 to 3, despite the joint decrease of payments and number of customers, the ratio is still increasing. This leads us think that the reliability of the customers still in the loop is getting stronger.

We can discuss the effect of the size of the customer’s pool on their reliability. From period 1 to period 2, we can interpret the negative relationship between payments and the number of payers as a positive effect of a size reduction. It might be easier to make sure that everyone pays when there are less people to watch over. On the contrary, this positive effect of pool shrinking seem to disappear after the 2nd period.

If we compare the first half of 2014 and 2015, we observe a 30% fall in payments along with a 60% fall in customers. This might mean that the households who stays in the loop are those who always pay something and/or that most of the remaining payers increased their payments. We thus can assume that there is an increase in the reliability of the customers over the period. That said, we can try to distinguish the 2 effects we just mentioned by studying the dues paid closer.

Effectiveness

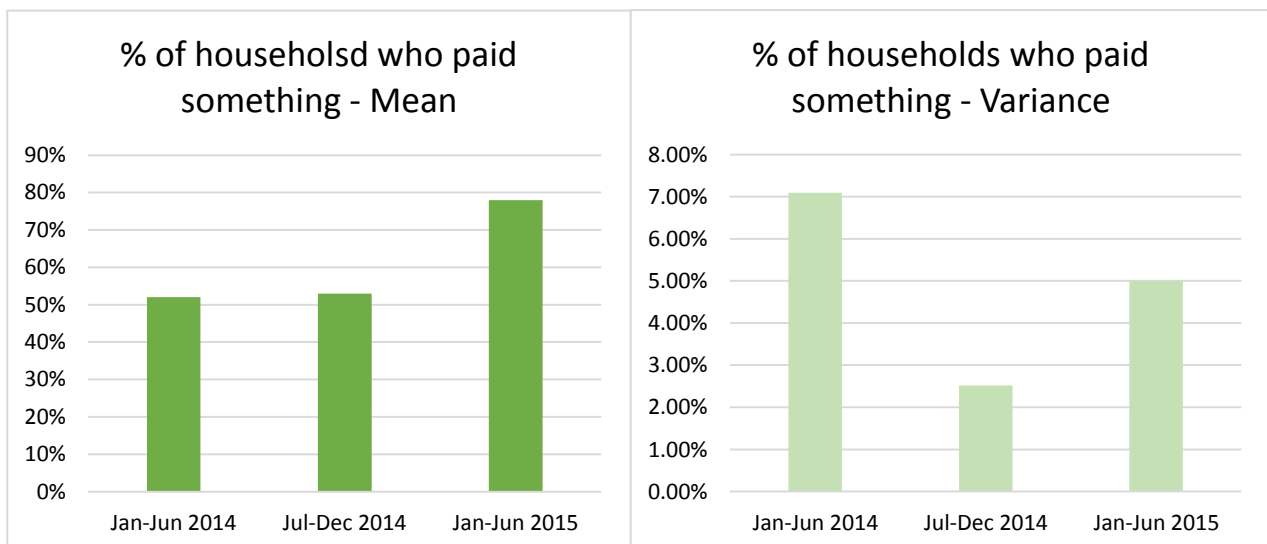
Note: Here, the variances are those of the months within a time period (ex: Jan-Jun 2014), not the variances of the customers’ dues paid.



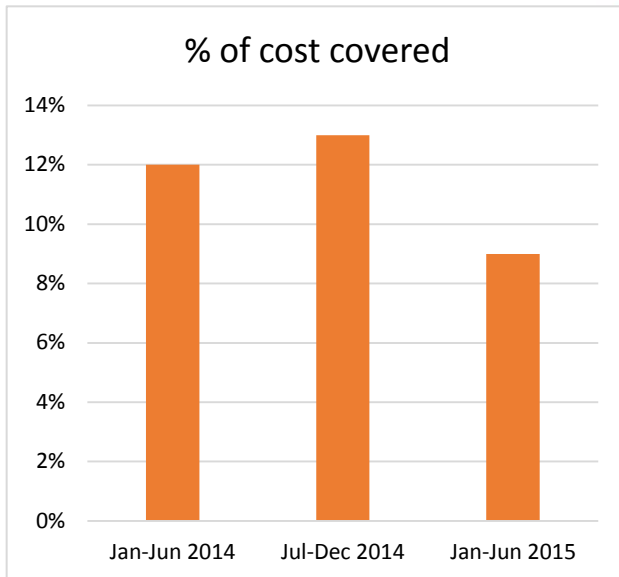
From the previous analysis of the scale, we draw the hypothesis of a gain of the customers' reliability over the periods. We could have expected a steady increase of the mean and decrease of the variance of the % of dues paid by the customers. However, from period 1 to period 3, we notice a U-shaped evolution of both the mean and the variance.

We can argue for a seasonal effect: the resources of the villagers might be higher but less steady in Jan-Jun than in Jul-Dec. If this is true, the trend is however a positive one in terms of mean, but not in terms of variance. Let us recall the low level of customers and payments in period 3 compared to period 1 & 2. A smaller sample might thus explain the booming of the variance (a small sample is more likely to show high volatility).

Under those hypothesis, we still can argue for a positive trend in terms of customer's reliability because on average people pay more. Nevertheless, it is likely that the trend is seasonally affected.



This hypothesis is reinforced by those 2 graphs: the percentage of customers who paid something increases until almost 80% in period 3. The variance of it on the other hand has still no obvious trend.



Note: As we considered the cost to be constantly INR 12,000 over the period and the benefits are only dues paid, then the variance of cost covered has exactly the same shape than the one of dues paid.

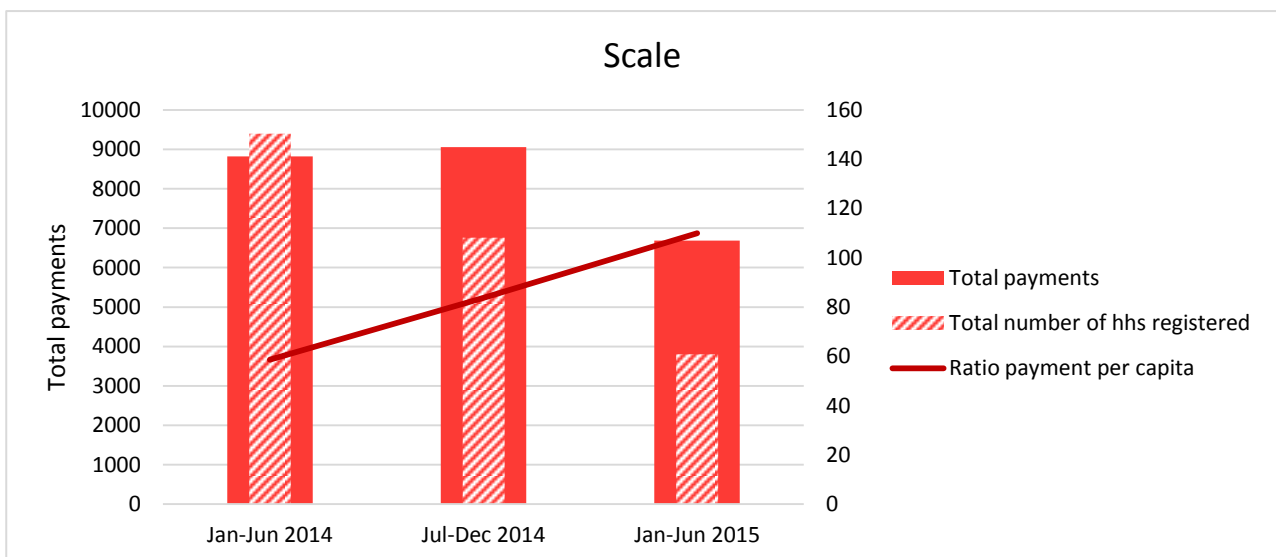
This evolution of cost covered is easily explainable by the decrease of the sample size and total payments compared to the stability of the costs considered.

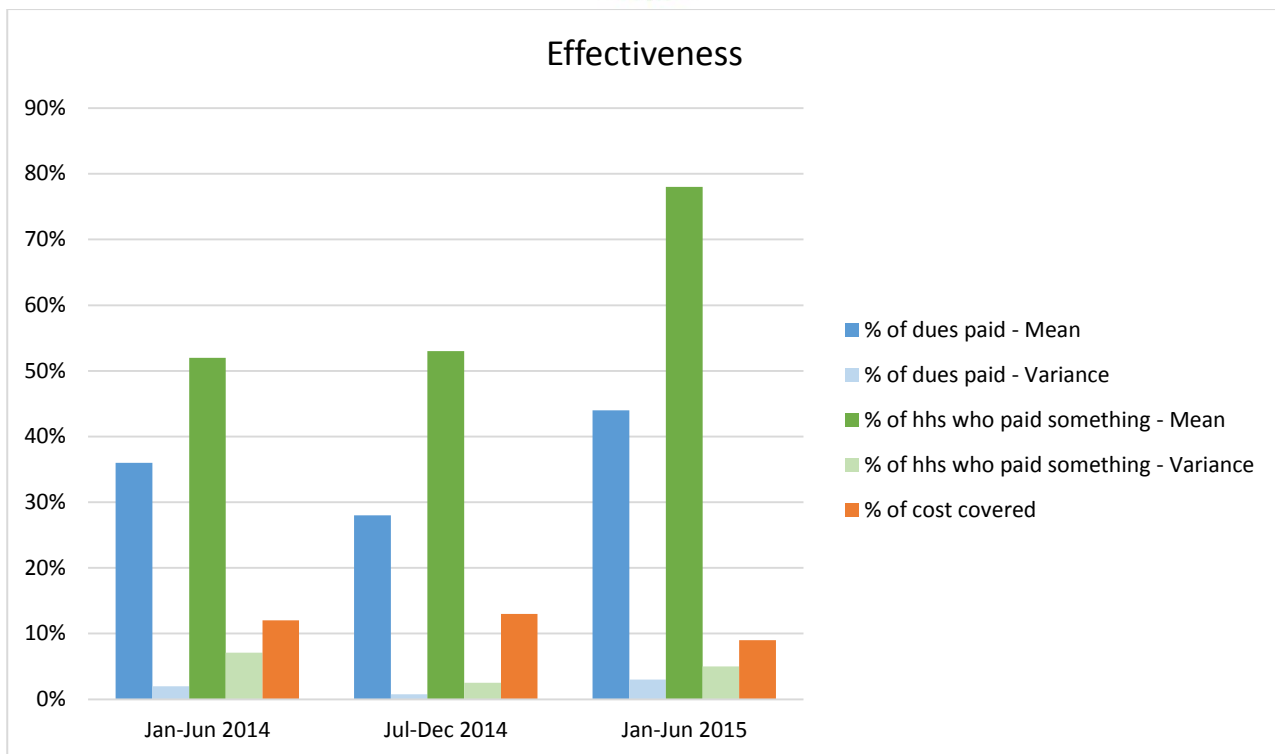
To go further, we might want to study the correlation between the customer's pool size and their reliability. We could also try to identify the threshold of the positive effect of small sample size (which could vary along with our

awareness campaign on waste management).

Also, the future data of Jul-Dec 2015 could help to infirm or confirm the seasonality hypothesis.

Synthesis





Recommendations

Infrastructure (Hardware)

- Create a **compost yard** in Kameshwaram and sell compost to farmers (mix green, fish and human waste) + sell recyclable waste to dealers in an effective and viable way (can only be made viable if we collect more waste even with the help of nearby villages and transport cost can be reduced by hiring a truck at once or asking the big dealers to collect from us directly).
- Explore the possibility of purchasing a **shredding machine** for fish waste (a guy had spoken to Shyama post tsunami).
- Make of FIN's office an information gallery on waste segregation

Tools creation to achieve the above (Software)

Posters. Lead a hard hitting campaign for awareness + an informative campaign for waste segregation to be well known. We already have most of the posters we need for that (we might lack diversity for the hard hitting campaign)

Videos. We should ask Niranjana again for his humoristic video. We could also either translate this [video of 2bin1bag](#) in Tamil or make our own one with villagers (why not the best customers?).

Games. This is meant for children to teach them the purpose and principles of waste segregation. From the School program for Kameshwaram:

- Pick it up. It should be introduced by members of FIN for a first time.
- Disease Freeze Tag. Some students are harmful agents that freeze healthy students, who are unfrozen by children who represent sanitation practices.¹
- Fill the basket. Students are divided in teams and must

¹ From the UC Davis Proposal for Saint Sebastian School in Kameshwaram



- Bournvita quiz. At the end of the year, to check the knowledge on sanitation and waste segregation.
- Glitter activity. Spread glitter on 6 students' hands and have everyone shake hands for 5 minutes, glitter is equated with germs and contaminants.²

Support material for 2 hour programmes. Those programmes will probably take place at school, with common and separated modules for adults and children. The activities will consist in presentations, videos and pictures, interventions of satisfied customers, and games for children.

Indicators

- for measurement of initial conditions
- to track progress
- to compete for 'Clean India' government prize
- to do research on effectiveness of waste management programs

Personnel capabilities

From this analysis – we suggest these as the targets for the future in terms of staff capabilities

Art & sport	Writing & research	Science & technology	Business & events
Painting, poster making, puppets, dance, music, photos, basketball, soccer... Trigger pride and creativity, bring back art to the village. To use the skills of decoration for our purposes Villagers themselves, especially women and children. Events, workshops, music talent shows... Use the office as a teaching gallery	Interviews, prospection studies, market studies, surveys, report writing...	Sanitation Waste management Organic farming Ecological toilets	Bridging international gap, business gap, get CSR, fundraising. Contact academic institutes, build staff capabilities. Organize events, community managing Translations English/Indian languages

Changing the mind-set of the people

Short term

Involve best customers:

- 1) Find names of best customers
- 2) Designate 2 motivated households among them in each of the 9 wards as sample households.

² Idem



- 3) Make a banner with their picture and put it in the most frequented areas of Kameshwaram: thanking them in the struggle of making Kameshwaram clean.
- 4) Buy 9 good bags for each of 2 houses of each ward. -> 9 bags seem to be too much, beginning by 3 bags should be enough (unless we also give them 2 extra sets of bags)
- 5) Ask them to share their experience at meetings.

Middle term (Projects)

- Find out who already segregate organic/non-organic waste among villagers, farmers and fishermen.
- Make a 2bin1bag-type clip (with the celebrity if we succeeded in finding one willing to do it)
- Launch the hard hitting & informative campaign: hang posters in shops and highly frequented areas, organize a meeting on sanitation (potentially at school), clean village drive, and show the clip.
- Create a team out of the motivated customers identified, make them participate actively in the meetings and talk about their experience.
- Create a team including marketing, biochemical, engineering & education experts for the EM project. Deadline: June 2016.

Long term

- Devise a 'reward' and 'punishment' methodology. Settle a competition among wards close to the '7 stars competition' held in Bangalore 2 years back [cf. the report]
- Organize a poster making contest among ward children (cf. report on school WASH), distribute calendar made from the posters.
- Target areas and clean them up as an event and make them beautiful through paintings.
- Check the possibility of biogas generator.

Continuous work

- Keep on organizing meetings on sanitation (entertaining ones), around twice a year.
 - Pursue the campaign, which might change a bit over the time: we can progressively switch from mainly “what is the problem” to mainly “what are the solutions”
- ➔ The UC Davis team can try to achieve some of those goals.

Appendix

Report: Mr. Kamarash, Kameshwaram's Panchayat

According to Mr. Kamarash, there are meetings held 4 times a year on the public holidays namely Republic Day, Labour Day, Independence Day and Gandhi Jayanti. On these days, there are roughly 5 topics on which there happens to be a discussion on and toilets and waste management were



touched according to him, which we are sceptical about. The meeting is attended by almost 500 people.

About the collaboration with other villages?

He said that there can be a collaboration made if FIN does come up with a plan. So, we guess that there is no internal dispute between the villages.

About children's impact on parents?

He said it would impact only a minute number of adults as they are generally drunk and do not care about their children much. However, we can expect women to be more sensitive to it.

On the idea of having him do surprise visits in the school?

He said it is not his job although he will do it for FIN. Again we feel that it might never happen.

How is the waste collected in the village?

Basically, there are 2 municipality employees (paid INR 2000 for 4h/day) who collect the waste that are spread on the main roads and don't collect houses' waste one by one. They might be lazy but we also acknowledge the fact their duty is only to sweep the roads and that the village is spread out in such a manner that it would take 20km of travel to collect each and every household's bins. So this can be done on a weekly basis. Apart from FIN, no one is collecting waste from the households, so they are just throwing it away on the roads. And FIN is only collecting the waste of 58 households who pay INR 20 a month. Furthermore, the waste collected by the municipality employees is incinerated in a crematorium.

The village people don't know anything about the Clean India movement and thus they are unaware that they can appoint one person per 150 households to collect waste. We need to intervene here.

Our conclusion

Women and children can be targeted for training and motivating them to segregate waste. We need to make them educated about the Clean India movement and the possible benefits that they can receive from it.

The deputy won't take initiatives but if we come up with an idea, he might be willing to help.

2015 Figures

	January	February	March	April	May	June
Number of households registered for waste collection	87	87	57	55	55	55
New registrations	0		0	0		
Cancellations		26	2	0	0	3
Outstanding dues of cancellations		2760	160	0		320
Final Total registrations in waste collection programme	87	61	55	55	55	

	January	February	March	April	May	June
Waste collections costs	300	60	0	370	181	0
Final Total registrations in waste collection programme	87	87	58	55	55	55
Waste collection payments due	4550	5180	1860	2140	2050	1950
Waste collections payments obtained	1110	1340	700	1190	1200	1150
Unpaid loss	3440	3840	1160	950	850	800

% of waste collection dues paid by beneficiaries	24.40%	25.87%	37.63%	55.61%	58.54%	58.97%
Number of households who paid something	44	57	35	53	54	53
% of households who paid something	50.57%	66.28%	60.34%	96.36%	98.18%	96.36%
Earnings from waste sales						

2014 Figures

	January	February	March	April	May	June	July	Aug	Sep	October	November	December
Number of households registered for waste collection	78	103	188	177	173	150	130	132	133	90	90	90
New registrations	33	85	0	29	0	0	2	1				
Cancellations	8	0	11	33	23	39	17		43			3
Final Total registrations in waste collection programme	103	188	177	173	150	111	115	133	90			87

	January	February	March	April	May	June	July	Aug	Sep	October	November	December
Waste collections costs	500	450	940	350								
Final Total registrations	103	188	177	177	173	150	114	132	133	90	90	90
Waste collection payments due	2060	Outstand ing dues 2277	4527	5060	5240	5660	5810	6260	7500	4320	5050	4820
Waste collections payments obtained	995	515	2475	1885	1900	1050	1650	1680	1050	1070	2030	1580
% of waste collection dues paid by beneficiaries	48.30%	22.62%	54.67%	37.25%	36.26%	18.55%	28.40%	26.84%	14.00%	24.77%	40.20%	32.78%
Number of households who paid something	48	A free month	113	117	90	111	64	56	48	42	73	52
% of households who paid something	61.54%	Free month	60.11%	66.10%	52.02%	74.00%	56.14%	42.42%	36.09%	46.67%	81.11%	57.78%

Methodologies Developed.

Codified knowledge:

- Grid for reviewing toilets
- Analysis of waste collection
- Route for waste collection

Savoir-faire – Learning through doing:

Project management:

How to plan every week

Why is it necessary to have a meeting with staff to plan?