

The background image shows a group of women in a rural setting, engaged in building a latrine pit. They are using red bricks to line the pit. A yellow bucket is visible in the foreground. The women are wearing colorful traditional Indian clothing. The ground is reddish-brown soil.

FINANCING SANITATION PAPER SERIES #2

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Vijay Athreye (FINISH Society)

*The essence of public and private
funding for sanitation*

Financing Sanitation, The essence of public and private funding for sanitation

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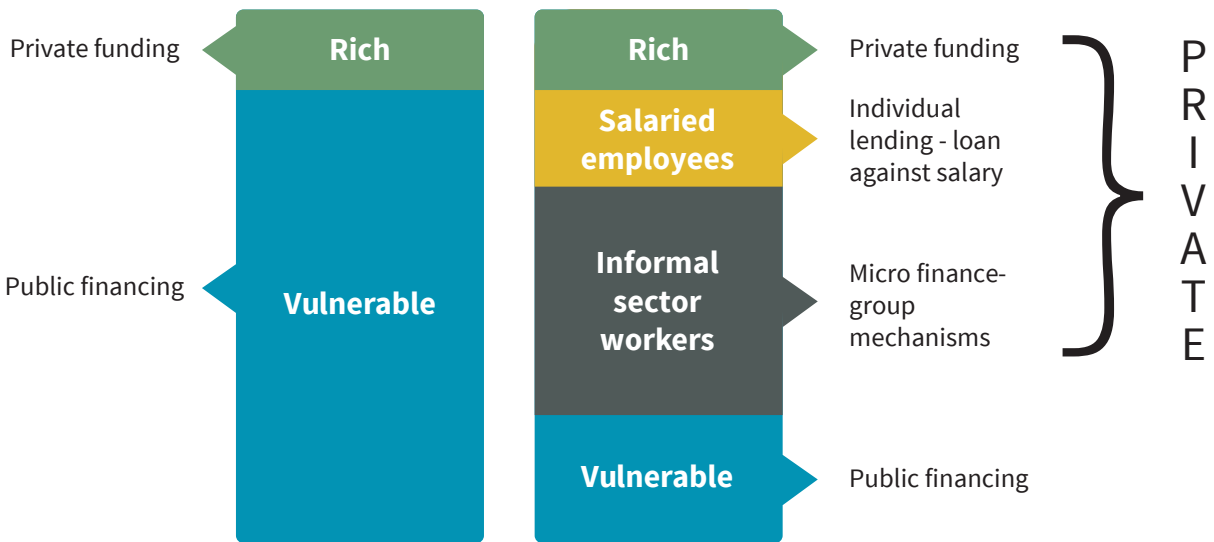
In the first paper we outlined the financial instruments used in the Financial INclusion Improves Sanitation and Health programmes in India and Kenya (FINISH respectively FINISH INK). Hence we shall not describe these here. For a refresher, please visit www.waste.nl or www.finishsociety.org.

In this paper we describe actual cases in Ethiopia, India and Kenya. We are seemingly fond of acronyms as the experiences that are used here are drawn from the SPA, ISSUE-2 and FINISH programmes. Both the SPA and ISSUE-2 programmes had multiple objectives, financing being one of these. In the case of FINISH, financial inclusion is one of the two key objectives. The other being improved sanitation and densities of the same leading to better community health. In practical terms this implies that more quantitative data will be available from FINISH.

Many of the sanitation programmes including those above run on two premises:

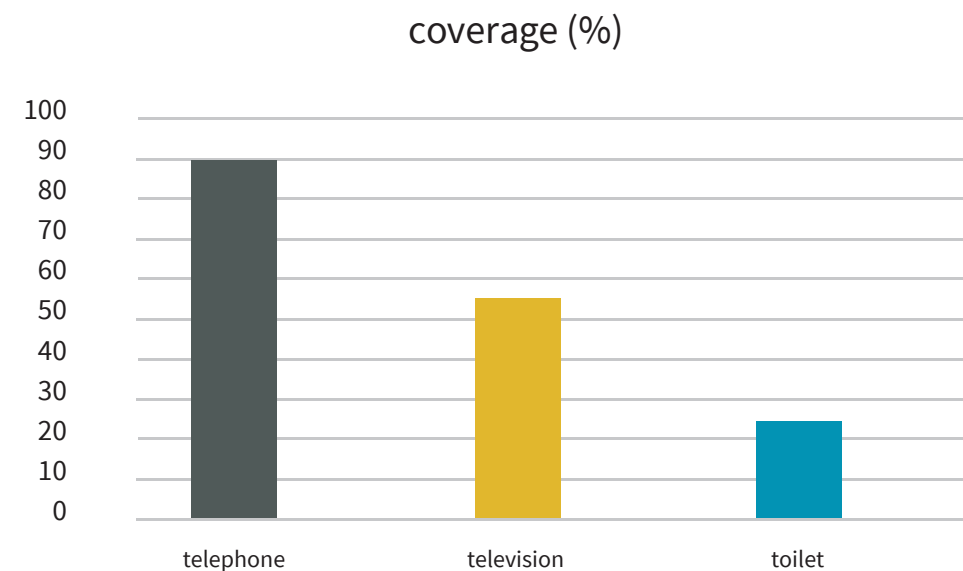
- 1. Sanitation is a public good
- 2. People are willing to pay, but not all people have the capacity to pay

Realising that there are limited public funds available, can we identify mixtures of public and private financing that leverage limited public financial resources, attract other financial resources and target public resources to those most in need. The drawing below provides an overview hereof. Stratifying communities opens the possibility to design targeted/tailored financial instruments. The graph below shows on the left side the current scenario with many vulnerable people to a new scenario that is based on the ability to pay for sanitation investments and widens the “net” of private financing.³



One may wonder whether we are perhaps overly optimistic about ability to pay? Looking at the spread of mobile phones and television sets, there seems indeed to be a capacity to pay. This is illustrated graphically below.

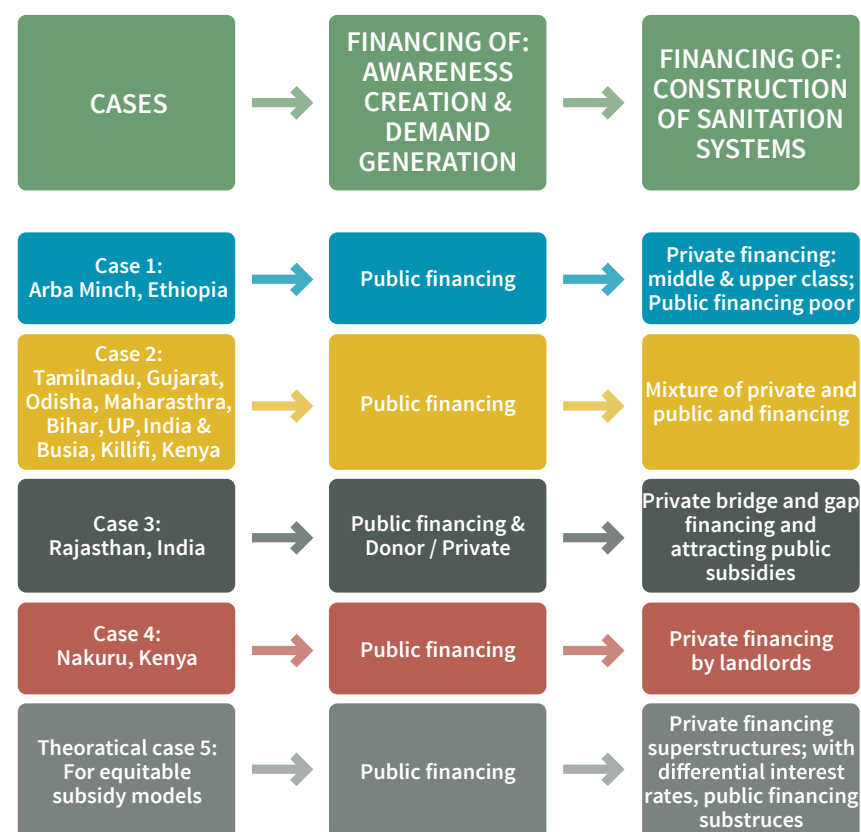
3. Scenarios exclude investment into centralised collection and treatment systems (sewers).



Unlike consumer items such as mobile telephone and television, toilets normally do not feature very prominently in the priority list of households, re-emphasising the need for sanitation awareness creation and sanitation demand generation.

In the cases below we argue that sanitation awareness creation, capacity building and sanitation demand generation is treated AND financed as a public good. The actual construction of sanitation systems can be financed differently taking into account the capacity to pay of the different segments of the population. Only if demand for sanitation is created, the coverage of toilets will go up. From the practice we are giving a number of cases in which we link sanitation awareness creation and demand generation and the financing thereof to the resulting sanitation construction and the financing instruments used for construction.

The different financial schemes are outlined schematically below:



With the exception of Case No. 3, Rajasthan, which is drawn from FINISH experience, all others invariably have only public financing for awareness generation and demand creation. Even the Rajasthan Case is activated by publicly financed awareness creation and demand generation thereby allowing donors and private sector/ corporates to step in. The cases are further detailed below. The end result in financing of construction is quite varied, but as will be shown often public funding is needed to kick-start private financing. To increase the awareness of private financial institutions in this investment opportunity, more data sharing of existing experiences is needed and, in addition, the link between economic productivity and having safe sanitation systems should be more evidence based. The latter requires additional (publicly financed) research.

Interesting to note is that these programmes all changed their strategies during their implementation either due to an evaluation (SPA), externalities (micro finance crisis India in the case of FINISH) or between programmes (ISSUE and ISSUE-2). This flexibility is needed as all stakeholders and partners are working on, and with, new concepts and principles and adjustments, in ways and methods of working will have unforeseen consequences, which in turn require course corrections etc.

Stratified financing of sanitation construction, Arba Minch, Ethiopia



The programme “Sanitation in Peri-Urban Areas in Africa” (SPA) aims to install sustainable sanitation services⁴ in peri-urban areas in 6 cities in Ethiopia, Zambia, Malawi and Benin. A related aim, but at a greater distance, is to show the financial sustainability of the sanitation services, which might attract local banks into financing new sanitation services with possibilities for scaling up the approach to other cities.

It works on the following principles:

Households in selected neighbourhoods take a loan from the local financial institution involved in the project for toilet construction in their house. The loan-taker can be the house-owner, landlord or rent-taker. Operational costs and maintenance costs are paid by the house owners or the landlords.

Small and medium enterprises (SME) are engaged against payment to construct the toilet and to empty filled pits. The SMEs take a loan from the same local financial institution for equipment and working capital. The local SME is assessed for their technical and commercial capacities and given training in case of need. Artisans are trained separately to ensure they come up with a contextual low cost choice of toilet.

Local finance institutions dispense the loans to the house-owner, landlord, occupant or enterprise. The finance institution can be a (local) bank or micro-finance institute (MFI). These loans are backed by partial guarantees provided by the SPA programme

In order to be able to support the poor who were not eligible for sanitation loans, another financial instrument, the Sanitation Support Facility, was established.

The municipality is the owner of the project in its city, with a role to facilitate and monitor the whole process and be accountable to its population.

The implementation model of SPA is thus as follows:

Awareness generation and demand creation is publicly arranged and financed. The NGO Partner, PLAN Ethiopia, carries out an urban community led total sanitation (UCLTS) approach. Next to getting the UCLTS processes started and properly structured, it continues mainstreaming demand creation into the portfolio of the Health Extension

4. This implies all aspects of sanitation, generation, collection, treatment and disposal, safe reuse of human excreta.

Workers and Kebele's (lowest local governmental level). Next to this, it is involved in lobby & advocacy work as well as networking with organizations with related initiatives. The Kebele Authorities collect all requests and hand them over to the municipal department responsible for sanitation and OMO Micro-financing. OMO assesses the requests and determine who is eligible for a loan. The ones who do not qualify become eligible for the Subsidy Fund, or have to pay directly themselves. The municipality arranges the contracts with local contractors.

Consequently the construction of toilets are financed through three different mechanisms:

- For clients that have funds, they pay it directly themselves. The actual amounts in terms of financing have not yet been estimated.
- For clients that are credit worthy: Regular microfinance by Omo Micro Finance Institute (OMFI). Since sanitation loan financing is a new activity in which the micro finance institution has no experience, nor do other MFIs in Ethiopia have track records on this, OMFI had been supported through a guarantee fund.
- The sanitation support facility (SFF) is set out to reach the very low-income groups who cannot participate in the regular OMFI loan facilities, because of not being able to meet the loan requirements (no regular income and no collateral). The SSF allows very low-income groups to access necessary fund for obtaining toilet facilities. Furthermore it envisages that the Municipality of Arba Minch, after a grace period, assumes its responsibility to the very low-income groups. It is the intention that the Municipality of Arba Minch assumes its full responsibility and gradually takes over the SSP completely before the end of the SPA program. SFF provides funds only for investment in sanitation facilities on household level; operation and maintenance cost are funded by people themselves.

Public financing: Awareness creation and sanitation demand generation through urban Community Led Total Sanitation (UCLTS) Total amount targeted / realised €21,000	Self-financed (from savings) Total amount has not yet been estimated
	Privately financed OMFI Microfinance for creditworthy clients, salaried employees and other credit worthy people Total amount targeted / realised € 275,000 Backed by guarantee fund (GF) also used to support sanitation entrepreneurs
	Vulnerable supported through sanitation support facility, local authorities (40%), self financed 10%, project resources, 50% Total amount targeted / realised € 88,000

The numbers may be relatively small but its main intended result is that the project sets up a sustainable system which continues post project and that both micro finance institute and the municipality continue financing construction of sanitation facilities for different income groups. It is planned to cover the whole city. It is too early to tell whether this will actually happen as the project officially closed at the end of 2015, but it is interesting to note that the approach has been copied by a number of municipalities.

Mixture of private and public financing to construct sanitation systems (various Sates in India)



Under the Financial Inclusion Improves Sanitation and Health (FINISH) programme in India, some time has elapsed in setting the processes correctly. The micro finance crisis in India disrupted implementation, whilst at the same time offering an opportunity to do things differently and spend time and resources on getting the processes right in this international public private partnership.

As the programme has scaled, it has been possible to price the costs of awareness creation and demand generation⁵. To our knowledge, there are not that many reliable examples of costing of sanitation, least of all on the cost of awareness creation and demand generation with various forms of capacity development:

- In the most basic form of sanitation awareness creation, demand generation, the costs are € 4.2 per toilet. With an average family size of 5 this translates to € 0.84 per person.
- When we also include activities related to: (i) cost reduction of toilets; (ii) enabling reuse of excreta; (iii) training cadres of masons building the toilets; (iv) innovating on the training processes; (v) check and balances on reporting the cost per toilet is € 7.2 per household toilet, this translates to € 1.44 per person, on a five persons per household basis.
- When we add to the above: (i) an international public private partnership with international linkages; (ii) new international partners; (iii) reporting mechanism according to international standards; (iv) documentation, publications and dissemination; (v) obtaining, testing and scaling international best practices, the cost is € 9.1 per toilet or € 1.82 per person.⁶

Against the awareness creation and demand generation which is publicly financed the table below shows how construction is being financed.

Categories	2015 - 2016 (Apr. - Sept 2015)			Year to date 2009 - 2016		
	Euro (M)	INR (M)	% Share	Euro (M)	INR (M)	% Share
Finance (Bank/MFI/Other)	4.5	315	38.3	28.6	2002	42.0
Subsidy (Indian government)	5.3	371	45.1	27.8	1948	40.9
Self Financing	1.8	123	15.3	11.1	775	16.3
CSR support	0.2	11	1.3	0.5	33	0.7
Total	11.7	821	100.0	68.0	4758.0	100.0

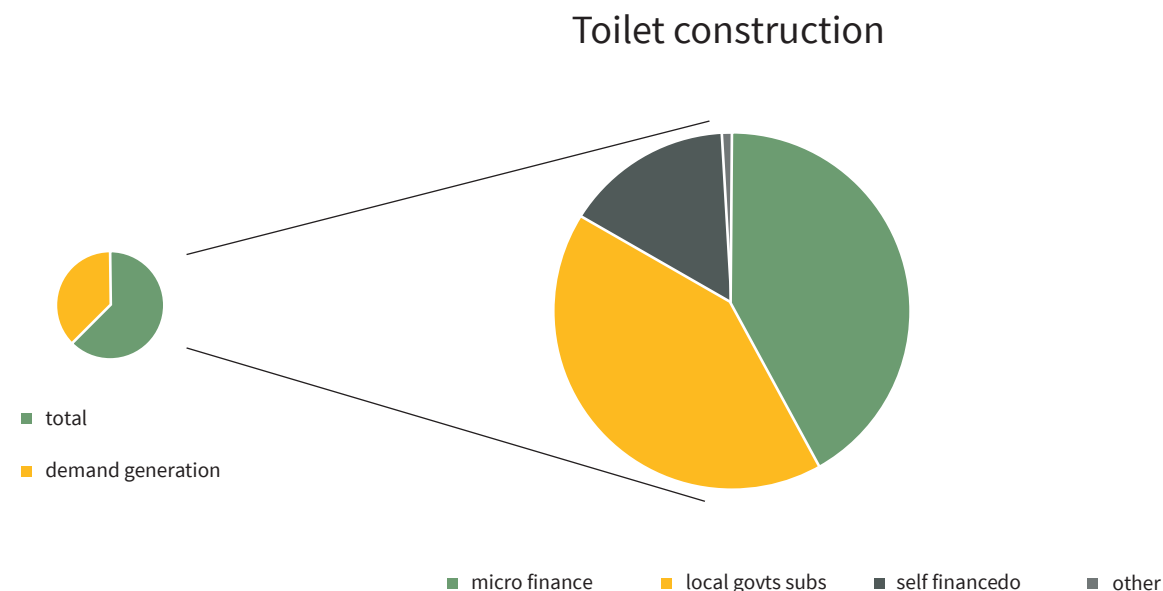
In the overall financial lookout, loan financing is still the largest route for financing safe sanitation systems at € 28.6 Million. The subsidies by the Indian Government are the second largest at € 27.8 Million. The Table also gives the shares of various financial routes in the first half of the Indian fiscal year 2015-2016. In this period, the local Government subsidy remained the biggest source of financing as a result of high focus of the Government on sanitation. The figure below gives the relation between demand generation and construction.

5. The figures may be higher for smaller projects (economies of scale). They are likely to be higher in Africa too.

6. If many new best practices will be piloted and scaled, the cost will be higher according to practices.

Grant DGIS € 4 M Resulting sanitation construction € 68 M

(public:) demand generation



The DGIS supported part of the FINISH programme runs for one more year and by then the total allocated grant of DGIS € 4.575 million will have been utilised, against this it is expected that in 2016 well over € 80 Million will have been locally mobilised.

Private financing to construct sanitation systems (Busia and Kilifi Counties, Kenya)



Financial Inclusion Improves Sanitation and Health in Kenya (FINISH INK) uses the community led total sanitation as the approach to generate awareness and create demand for household sanitation and hygiene. Partner Amref Health Africa works together with the Ministry of Health in two counties, Busia and Kilifi. These activities are funded from public sources both from the Dutch Government as well as allocations from the Kenyan Government. Financial partners, K-REP Bank and Family Bank, are supported in development and marketing of sanitation loan products, as these are new products and counterintuitive to their regular business models for micro-finance (higher loan size and indirect returns).

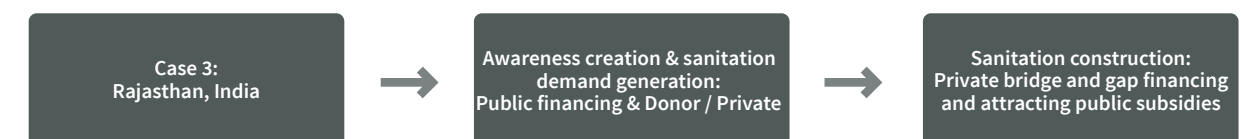
Amref Health Africa together with the Ministry of Health have been implementing the awareness creation and sanitation demand generation part of the Financial Inclusion Improves Sanitation and Health programme in Kenya. Community led total sanitation (CLTS) aims at mobilising communities to completely eliminate open defecation (OD) by conducting a guided appraisal on open defecation and developing actions to become open defecation free (ODF). Although CLTS has demonstrated potential to deliver open defecation in scale, major challenges lie in sustaining the ODF status since low standards latrines constructed are prone to geophysical stress such as floods. To address some of these challenges FINISH INK has incorporated the plus component in the classical CLTS methodologies. The plus (+) component seeks to provide standards for improved sanitation systems and to provide micro-loans to end-users coupled with thorough sanitation marketing to those deprived of an improved sanitation facility.

Having trained a critical mass of CLTS facilitators/ promoters, partners embarked on intensive CLTS triggering activities. With support of CLTS facilitators in Busia County, all villages in three sub-counties were triggered this year. CLTS+ interventions included (1) CLTS triggering and (2) direct sanitation marketing with detailed pursuit of financial inclusion and loaning. This was on realisation that a sizeable proportion of the target population needed to be targeted first to provide for basic sanitation (change of the mindsets) before targeting them with sanitation marketing for improved sanitation facilities. On the supply side during artisan (mason) trainings, various sanitation systems have been constructed, serving as demonstration sites as well as easing the sanitation burden. These are slowly being copied by using savings.

Sanitation commercial financing on the other hand is generally a new concept to the partner financial institutions i.e. both K-Rep Bank and Family Bank. The partner banks have as of yet only small sized loan portfolios. This is partly due to unfamiliarity with this kind of loan product, the long gestation periods, and the need for consecutive monthly savings with the amount totalling up to 20% of the loan amount. Because of this we are looking into co-opting different types of partners – having different client bases and using different lending processes and procedures - at the time of writing this paper.

To date, about 15,000 basic household latrines have been constructed, valued at € 40 each. In other words after awareness creation and demand generation, direct contribution by the people themselves amounted to € 600,000.

Private bridge and gap financing and attracting public subsidies, Rajasthan, India



In India under various schemes, Total Sanitation Campaign (TSC), NBA, SBA, the Government subsidises construction of sanitation facilities. Typically the subsidy is divided up, with 75% coming from the Central Government and 25% coming from the State Government. Some variations are possible and states can increase their contributions.

In the government sanitation programme the subsidy is output based or back-ended, i.e. flows once the toilet is completed. UNICEF is supporting the sanitation drive and facilitates the flow of subsidies. UNICEF has made arrangements with the local government administration for subsidy flows. This enables it to set targets for the amount of sanitation systems to be constructed post the demand creation. This cements the aggregation of demand. To the original FINISH model, Demand Creation and financial inclusion, a third component 'supply chain interventions' has been added.

Local vendors of sanitation construction materials have been brought in to ensure that the demand created is met on time. Technical staff affiliated to the vendors, masons, have been trained on proper sanitation system construction and are capable of providing technically correct sanitation systems adjusted to the local conditions. The vendors are also providing material on credit – vendor credit - which acts as 'bridge finance'.

A main advantage is that people who were previously excluded, i.e. the ultra-poor, can now be included in the sanitation drive. Thus it certainly contributes to the financial inclusion paragraph of FINISH.

The vendor credit to bridge this working capital exceeds € 1 million. Up to March 2015, 12666 toilets against the target of 20,000 have been constructed and used, or in monetary terms € 1.1 million against the target of € 1.7 million. Usage is being monitored by the team as well as community.

The relationship with UNICEF is getting extended to other districts, and all of the agreements are routed through the District Administration.

This is an example where public and private activities reinforce one another. The generated demand linked to finances gives impetus to private sector activities which in turn further drive privately financed awareness creation and demand generation for sanitation. The main difference being that the demand focuses on the sanitation systems on offer by the private company.

Landlords paying for sanitation construction, Nakuru, Kenya



The integrated support for sustainable urban environment (ISSUE 2) programme covered 16 countries. In Kenya it was implemented in Nakuru Municipality, Rift Valley and targeted 5 low-income settlements within Nakuru municipality. The ISSUE 2 Programme had six key result areas including improvement to access to sanitation and solid waste management services, sustainable financing, enhancing coherence, capacity building of stakeholders, and providing the necessary exit strategy. It was implemented using a public-private-civil society consortium approach.

With technical guidance from WASTE, a guarantee fund (GF) was set up within the local bank, (Family Bank), to support urban environmental enterprises (solid waste management and sanitation). This allowed for structural private sector interventions. Backed by the GF, Family Bank was able to offer low interest rates to landlords and solid waste management enterprises varying between 9 and 10% per annum payable within 24 months. Through this initiative, a total of 50 sanitation loans for setting up toilet and bathing blocks amounting to € 61,000 were disbursed.

In the context of urban environment management there are strong similarities between solid waste management and sanitation. Both have a service chain and value chain. But also, getting people to pay for (private) removal of household waste requires awareness creation. Solid waste has one big advantage over sanitation; there is more value in solid waste (e.g. there are well established markets for waste plastics, metal, paper etc.). Under the programme it therefore does not come as much of surprise that the solid waste management enterprises fared well. They all repaid their loans and 14,200 households had access to solid waste management services within the project area. The project also had impact in the areas outside the project area with another 7,000 households having gained access to (private) waste management services. Solid waste management went well, bye-laws have been changed, and one solid waste management association has been set up comprising waste pickers to recyclers and is functioning well; private solid waste enterprises supported through the WVF are doing well and are expanding into other areas.

The experiences of sanitation are given through two examples:

Magde has 26 family tenants (each has 4 people) in her compound. She applied and got a € 2,000 toilet and bathroom loan. With this, she was able to construct 3 toilets and 3 bathrooms. Later on she added 4 facilities on her own. Before constructing toilets she could charge € 12/ month. After constructing the facilities she could charge € 20/month. Despite the rent increase, none of the tenants moved out. Water and garbage collection are included in the rent. An added big advantage is that she could construct two more houses on the sites of old pits.

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At the close of the project (in 2010) a total of 1097 households had access to improved sanitation against 1500 households that had been targeted at the start of the project. This shows that despite having a sanitation plan and people having invested their own money, it still remains a project type activity. Though the interventions were sustainable and are still being used and regularly upgraded with people's own money, there is no scaling.

Tenants were accepting slightly higher rents because of the sanitation and bathing facilities. Another not foreseen advantage was that by building toilets blocks with proper disposal systems, landlords freed up land within their compound, which they could use for building additional rooms.

Thus Landlords may actually invest in proper sanitation facilities as it makes economic sense to them:

1. Investments are repayable through relatively modest rent increases;
2. It makes tenants stay for longer periods;
3. It frees up land within the compound (as less space is needed for discarded pits and constructing new ones).

With all people, barring one lady, who was victim of post-election violence, repaid in full, this customer segment did not get internalised within the Bank. Thus in retrospect, WASTE should have more involved in the design aspects of the fund and be part and parcel of regular reviews.

New Approach; Private funding of part of Public Good, India



Although there are several estimates, the general consensus is that India will require over 110 Million toilets to be constructed under the ambitious Swachh Bharat Mission till 2019 that translates to over 30 M toilets every year. Against that figure what is actually being achieved is about 5 million toilets a year showing clearly a mismatch between the plans and actual performance.⁷

On the financials

The allocation of € 360 M in the recent budget is perhaps arrived at looking at the previous years (€ 201 M used against € 401 M allocated in Fiscal Year 2015) allocation and utilization. The budget has provisions for levying a 2% cess like education cess on all or some taxable services and should that happen the allocations for sanitation (SBM) could potentially reach € 4,714 M. This would be close (€ 4,457 M) to the required amount assuming a subsidy of € 171 per toilet. So the first question is "are funds available for the ambitious plan?" Is the subsidy burden realistically bearable by the stakeholders (state and centre)? After all there are several competing demands for subsidies in a developing country like India. To complicate matters further there is a dimension of rural and urban sanitation.

7. Figures taken from an article by Nitya Jacob in the Hindu Biz line dated April 11, 2015

Urban sanitation is a lesser problem (only 20% of households don't have toilets compared to 70% in rural), in the front end (notwithstanding the space problem in slums), but the sewerage treatment plants that are required to support urban sanitation are not environmentally sustainable given the looming water crisis and the capital costs of construction, energy requirements and other associated waste treatment related complexities. Thus one may need to look at onsite arrangement with decentralised off site treatment for urban areas with sewer systems for few selected locations.

Onsite sanitation suitable for most rural locations appears environmentally sustainable if toilets could be constructed at household level with proper underground treatment that will mitigate any drinking water contamination as well as avoid surface contamination that are a breeding ground for animal and vector borne diseases.

Against this backdrop one should realistically evaluate what the outcome of improved sanitation in rural India actually is, i.e. open defecation free (ODF) status. Based on our experiences this can be achieved through interaction of public and private means. Though difficult to clearly separate the two, some attempt can still be made to see what actually happens when a community attains ODF status.

There is increased private good in the form of dignity and convenience of (particularly) women, increase in quality time as there is no need to walk long distances, improvement in perceived status of the household women empowerment etc., increased productivity due to lesser illnesses etc. The increase in public good is a cleaner environment and water, lower health costs to the community, lowered malnutrition, and lower infant mortality. The health costs to the individual households though a private good are also a function of the public good arising from higher sanitation density (after all there is a negligible and only marginal impact on health if the sanitation density is low and environment is contaminated). The public good arising out of ODF status (estimated health costs due to poor sanitation and water is 6.4 % of GDP), thus far outweighs any private good, though ironically all promotions on sanitation today focus on the impact on women which is actually a private good.

Let us now examine what parts of the toilet actually impact public and private good and how they add up to the total cost of the toilet the results. The toilet **superstructure** is the above ground construction of the toilet comprising of walls, roof, door and the most visible part of the toilet. **The base or mesostructure** comprises of the slab, which forms the floor, the pan (in India the traditional pan has been improved by designing a steep sloping pan that reduces water use in flushing by 75%), a P trap that acts as a water seal and a junction box (in case of double pit toilets). The **substructure** consists of the pit(s) or septic tank, the pit linings (honeycomb brick or concrete rings) or septic tank walls / internal waffles and separators and concrete base and the pit/ tank covers to keep the insects and animals and smell away.

With a brick and mortar construction, the toilet is estimated to cost € 171 with two pits and a 1 m², 1.8 m high toilet room. The substructure costs around € 43, the mesostructure about € 14 and the superstructure is about € 114. If we look at what really contributes to the public good we find that it's the substructure and the base (mesostructure due to water saving). The superstructure is in fact more of a private good.

The subsidy of € 171 per toilet would therefore appear to subsidize 2/3 private good and 1/3 public good. It is fine to subsidize the public and the private good if we have the required means, but going by the funding gap described above, it clearly looks as though that's not the situation. Another related problem of funding private good is that it leads to misuse of resources (toilets being used as a store), sub-standard construction and diversion of resources / leakages and expectation that fulfilment of private good is in fact the job of the government.

Instead of the current approach, if the Government were to only provision for the public good of sanitation i.e. good quality pits / septic tanks, pans properly constructed to mitigate contamination of water and soil and reduce water usage and engage the financial sector and further the financial inclusion program to facilitate long tenure borrowing / subsidized interest rates for construction of the superstructure, then the strain on resources could be eased with better attainment of the objectives of sanitation.

The outlay to construct 30 Million substructures / year that comprises public good would be € 1,143 M and the microfinance outlay for the rest of the toilet that goes with private good would be about € 2,286 M. The government could deploy the resources for sanitation raised through the proposed additional cess towards primary healthcare benefits and make that conditional on the entire community going ODF. However, there could be issues of how to deal with the poorest of the poor (15-20 %) with the suggested approach of subsidizing only the public good. We also need to figure out how their sanitation needs can be addressed through a low cost

superstructure using locally available materials. Just as low end mobile phones are sold in the same market as smart phones, the cheaper superstructures will also discover markets, but since people are paying for them, the demand for quality will spur innovation in construction materials.

