FINISH Evaluation Study – a Comparative Summary of Baseline Reports

The FINISH *project* will test whether the use of microfinance for rural sanitation can be implemented at scale, in order to: accelerate access by the poor to demand-led sanitation, resulting in health, economic, and social impact; and greater sustainability in sanitation service delivery.

Programme partners believe that the impact of sanitation on various levels including health, income, and general well being needs to be demonstrated at local levels and on a sufficient scale. For example, generally the rural poor do not yet regard sanitation as an income generating activity. Though, if their sanitation situation improves, their (sanitation related) health expenditures should decline and their free disposable income will increase. The United Nations University (UNU/Merit) together with the Institute for Fiscal Studies (IFS, UK) is responsible for the evaluation of the programme interventions and they will be testing hypothesis as the one mentioned above through a large-scale rigorous impact evaluation study.

To verify the impact the UNU/Merit and IFS conduct a randomized control trial with three implementing agencies, implying an impact evaluation in three different states of India. The institutions are Bharat Integrated Social Welfare Agency (**BISWA**) in Orissa (Eastern India), Bharathi Women Development Centre (**BHARATHI**) in Tamil Nadu (Southern India) and **Sambhav** in Madhya Pradesh (Northern India). In total approximately 2,000 households are interviewed in each of the survey areas two to three times: once before the randomisation ('baseline survey'), once during programme implementation ('follow-up survey') and potentially again towards the end of the project cycle. This design implies that approximately 6,000 households are interviewed, with a household size of on average 5 collecting information on about 30,000 individuals in the three Indian states at 2-3 points in time.

As mentioned, the goal of this impact evaluation to measure in how far this 'mainstreamed approach to safe sanitation coverage' leads to effect on outcomes that can be categorized in five different groups: (1) health, (2) economic conditions (including costs), (3) social conditions, (4) behavioural change, and (5) demand.

The evidence to come out of this evaluation study, will support development of large-scale policies and programs, and will inform donors and policy makers on the effectiveness and potential effects of

KEY POINTS

Large-scale evaluation in **three states of India**: Orissa, Tamil Nadu and Madhya Pradesh.

Based on a randomized control trial design

Approximately **6,000 households** are interviewed. With an average of 5 household members, information on **30,000 individuals** is collected.

Survey instruments include a household survey, a special section for the main women, a community questionnaire, anthropometric data and stool and blood samples.

The evaluation is a collaborative undertaking of the **United Nations University-Merit**, Maastricht, and the **Institute for Fiscal Studies**, London, with support of FINISH project partners.

Main Conclusion

All three evaluation baseline reports give a great degree of confidence that the randomisation and sampling has been carried out appropriately and has laid down the best possible foundation for analysing the impacts of FINISH in the programme evaluation areas.

providing microfinance loans for the purpose of constructing safe sanitation systems on a set of relevant outcomes. The study is designed in such a way that we will gain a deeper understanding how effects vary according to each state's programmatic and geographic contexts, and generating knowledge of relevant impacts.

The survey instruments include a household questionnaire, a special section for the main woman in the household, the collection of anthropometric information on the main women as well as children in the households and, depending on the evaluation site, blood and stool samples are taken and analysed. Finally, a questionnaire on community characteristics is administered.

While the full baseline reports provided an in-depth look at the extensive baseline data collected, the purpose of this document is to give a summary of findings of the baseline survey, providing a picture of the population targeted under FINISH in the different areas.

It is important to note though that the main conclusion of all three reports is that we can say with confidence that the randomisation and sampling has been carried out appropriately and has laid down the best possible foundation for analysing the impacts of FINISH in the programme evaluation areas.

In what follows, we will discuss the main findings, starting with information collected on the household, then on the main women in the household and finally on the communities.

Households

In this section, we present a summary of key demographic, socio-economic, hygiene, health, and child development variables at the household level.

Consistent with FINISH's objective to target the poorer strata of society, we find the sample to be composed of largely backward castes and schedule castes. Also consistent with the rural and urban nature of the samples is the primary activities of the households. Most households in the rural areas of Tamil Nadu and Orissa are involved in the agricultural activity while in urban Gwalior construction (as labourers) is the main primary activity. Across the three samples we find that nearly all households own their own dwelling, in Orissa 98% of the households own their home while in

> Most households in the survey areas belong to the scheduled and backward castes.

Tamil Nadu and Gwalior this percentage is 94% and 87% respectively. The average size of the dwelling is much the same with on average no more than 2-3 rooms.
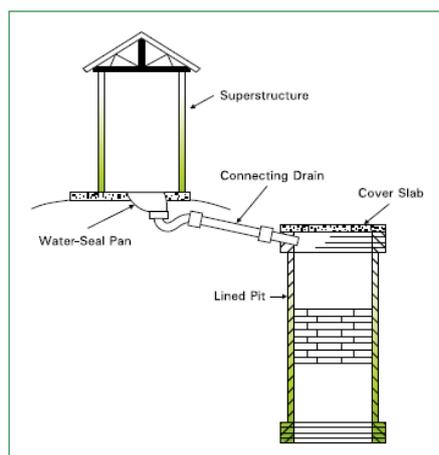
The average household size ranges between 4-6 members with the percentage of female and male composition approximately half of the total fraction. An interesting dimension was information on

- Household size: 5
- <17% female headed
- Education highest in TN

female headed households and its composition. Female headed households comprise less than 20% of the sample, the highest percentage in Gwalior (17%). Also female headed households display a strong correlation with the marital status of the woman –either widowed, separated or divorced. Education status of the household head (male or female) is highest in the state of Tamil Nadu where only 12% of household heads do not have formal education. In contrast the education status in Gwalior appears to be much lower nearly 36% of male household heads have no formal education and this percent rises to 48% in case of female heads. The average age of household head (male) is comparable similar across the three samples – in Tami Nadu the average age of household head is 49 years followed by 48 years in Orissa, and 42 years in Gwalior. Another interesting dimension of educational attainment is captured by the literacy indicators – individuals were asked whether they are able to read a newspaper and write a formal letter. Such indicators are usually much more informative of educational attainment of the sample under analysis. This is because in developing countries the structural definition of 'No formal education' may be very different in practise. Along these two indicators we again find the highest 'functional literacy' in Tamil Nadu where about three quarters of the sampled household heads report to be able to read and write. The lowest 'functional literacy' is found in Orissa where little over 30% of the population are able to read and write, while in Gwalior 'functional literacy' of household head falls just under 60%.

We next look at information on sanitation. We find that in both Orissa and Tamil Nadu a large fraction of households do not have their own toilet facility. In Tamil Nadu approximately a quarter of the households have a sanitation facility, while in Orissa less than 12% have their own toilet. In contrast households in Gwalior have a much higher proportion of sanitation facilities – 42% own a toilet. A small percentage in each region uses public toilets or the neighbour's toilet, but overall we find that in Orissa 81% go to the open fields, in Tamil Nadu 71% and in Gwalior 50%.

For those household that own a toilet, the most common type in all three regions is a water seal – 94% in Orissa, 99% in Tamil Nadu and 93% in Gwalior and this water seal typically leads to either a single pit in Orissa (48%) and Gwalior (50%) or a sceptic tank (88% in Tamil Nadu).[1]

Single pit toilet with a water seal

Households were also asked information how they constructed and financed their sanitation facility. We again find that across the three samples construction and finance was arranged by the households themselves out of their own savings. In Orissa the Total Sanitation Campaign (TSC) was also indicated to assist in construction of sanitation facilities (14%) and correspondingly 12% of households in Orissa acquired a government loan to finance the construction.

> Toilet construction **financed through savings.**

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[1] Please note that these might not actually be sceptic tanks. From experts' observations in the field we know that many so-called sceptic tanks do actually have an outlet or a pipe, which automatically declassifies it as a sceptic tank.

The primary motivation for building sanitation within their own home was the increase of convenience, in the case of a Gwalior an overwhelming 70% respondents indicated 'females in the house wanted one', as their main motivation as well.

Main motivation:
Convenience

Almost all households that do not have their own sanitation facility indicated as their alternative going either outside their dwelling or to the open fields. The use of public toilets is negligible even in Gwalior, where given the urban environment one would expect access to public toilets to be a fairly available alternative. Combining going outside the dwelling and the open fields, we find the percentage of households that go for open defecation to be 81% in Orissa, 71% in Tamil Nadu and 50% in Gwalior.

Open Defecation
Orissa: 81%
Tamil Nadu: 71%
Gwalior: 50%

Households were also asked their reasons for now having their own sanitation facility: in all three survey areas 90% and above of household indicated that it was too expensive for them to have their own toilet. This is an encouraging dimension of response given the objectives of the FINISH programme.

Detailed information was also collected on household consumption, income, assets, credit and savings. The total annual consumption expenditure of households (food and non-durables) is largely similar, ranging between Rs. 51,000 in Orissa to Rs. 64,000 (~US$1100-1400) in Tamil Nadu. Largest fraction of the expenditure is on food and durables (approx 50%). We would have expected this share to be higher, given that the survey villages are generally considered to be poor. Nevertheless, the main driver for non-durable consumption is health expenditures, which in Orissa for example make up about 40% of non-durable expenditures.

In Orissa, households' health expenditures make up 40% of non-durable expenditures.

Information was also collected on households' total annual income and the sources households derive it from. In Orissa, the average annual income is the lowest at Rs. 41,711 ($900) followed by Tamil Nadu Rs. 63,855 ($1,392) and Gwalior Rs. 72,003 ($1,575). Consistent with the primary activity indicated by the households the primary source of income derived relates to their economic activity. In Tamil Nadu 58% and in Orissa 61% of households derive their income from agriculture and/or wages from agricultural activity. In Gwalior, conversely 87% of households derive their income from non-agricultural activity (informal and formal).

Average annual income:
Orissa: Rs. 41,711
Tamil Nadu: Rs.63,855
Gwalior: Rs. 72,003

In terms of assets owned by the household the largest fraction comprises the value of the dwelling they live in and own (approx 80%) followed by livestock (approx 10%). Furthermore, in Orissa 57% of the households indicate that they own some form of land in addition to their dwelling.

Households were also asked about the credit and savings sources available to them and whether they currently make use of any of these. In Tamil Nadu 88% of sampled households claim they know a source they can borrow from. 58% of all households claim that they have at the moment debt outstanding. The average amount a household in Tamil Nadu with debt had to repay at that point in time was Rs. 32,401 (~USD 709).   In Orissa, while 58% state not to be credit constrained, only 11% of

households report to actually have debt outstanding. The average amount a household in Orissa with debt had to repay at that point in time was Rs. 23,211 (~USD 517). In the surveyed slums of Gwalior, 83% of households state not to be credit constrained but only 22% of households report to actually have debt outstanding. The average amount a household in Gwalior with debt had to repay at that point in time was Rs. 8,865 (~USD 194).

In line with the credit availability the households' saving behaviour follows a similar trend. In Tamil Nadu we find the highest fraction of savers. 45% households save in Tamil Nadu and conditional on savings households save 16% of their annual income. In contract only 26% of households have savings in Gwalior and 16% of households in Orissa. We note an interesting observation in Orissa, though the fraction of households is the lowest among the three samples, of the households that save we find the average saving to be as large as 45% of annual income.

% of households with savings:	
Orissa:	16%
Tamil Nadu:	45%
Gwalior:	26%

Information on shocks experienced by households depends on both the demographics of the sample as well as the correlation of the shocks with primary activity of the households. In our rural samples of Tamil Nadu and Orissa the most prevalent shock experienced by households is 'bad harvest' since the primary activity is agriculture for these households. While in Gwalior, though reported shocks experienced are scarce they cover job loss (2%), death of a household member (3%) and robbery/theft (2%).

And, if a shock is experienced, it can be severe: In Orissa for example, two households experiences a health shocks which resulted for them in expenditures 4-6 times their annual income. In general, households in Orissa spent on average 9% of their annual income on health expenditures. In Tamil Nadu and Gwalior, the percentages are very much in line with 8.7% and 8.8% respectively

Health expenditures (as % of total income):	
Orissa:	9%
Tamil Nadu:	8.7 %
Gwalior:	8.8%

Information on health indicators and health perceptions as well as costs was collected in more detail in the survey. Among other, we collect data on how the households perceive their own health and about their health seeking behaviour, including health expenditures and distances covered to access health services. Households in all three regions either overestimate or rate their health similar to their peers'. In the case of Tamil Nadu households overestimate their health – where 45% of households perceive their own health to be significantly better than their peers (i.e. neighbours, relatives etc.). With regards to health seeking behaviour, in Tamil Nadu 51% sought some form of outpatient care (visit to a hospital or doctor) while in Orissa and Gwalior only a quarter of the households indicate to have sought outpatient care. The most common reason for hospitalization was illness or surgery. However, in Orissa we find an alarmingly high fraction of hospitalization attributed due to physical aggression (violence), namely 26% of all reported hospitalizations. In India information pertaining to abortion is usually not available because of the unwillingness of the respondents to answer. Nevertheless, we

% of households seeking care: outpatient/hospital	
Orissa:	21/15%
Tamil Nadu:	51/15%
Gwalior:	25/9%

find some evidence of hospitalization due to an abortion. Yet again the percentage of hospitalizations in Orissa attributed to abortion is much higher – 14% as compared to Gwalior and Tamil Nadu, where only 3% household had a member hospitalized due to an abortion. The total

health expenditure per visit is similar across the three samples, an average visit costs Rs. 700 ($15). Of the total cost 90% of cost is associated with medical costs and 10% with transportation costs.

Main woman in survey households

One of the survey instruments is a questionnaire specifically designed for and administered to the main woman of each household. In this questionnaire, the key dimensions of comparison are indicators on the level of education, personal and financial freedom, health and hygiene and general level of knowledge of health practices.

We find that the educational level of the main woman in our surveyed households is lowest in the slums of Gwalior, where the fraction with no formal education is as high as 61%. In Orissa 47% of the main woman in the household have no formal education and in Tamil Nadu the fraction drops to about half of that, to 23%. Nevertheless, those that do have some form of education do not have much more than primary education: In Tamil Nadu 48% of women stayed in school up to maximum grade VIII, in Gwalior 24% and in Orissa 35%. However, overall the 'main woman' has on average a higher educational status than both her parents – especially more so than her mother. This intergenerational improvement is also observed with the next generation, children in the sample being on average higher educated than their mother.

> **We find an improvement in the educational status from generation to generation.**

The marital status of women is also similar across survey areas with over 90% of the 'main women' being married. The fractions of never having married or widowed are also equally (low) across the three regions.

An interesting area of comparison to look at are the difference in the level of freedom the 'main woman' has with respect to moving outside and within the community as well as financial freedom to spend money. Women in Gwalior appear to have the highest degree of freedom with regards to movement where over 90% of sample is allowed to visit the local market, doctor, temple, friends and relatives on their own. Woman in Tamil Nadu have comparable freedom to move around, percentages of being allowed to go alone to the mentioned places ranging from 80%-93%. Most constrained are women in Orissa where only half of the sample report to be allowed to go to the local market or doctor on their own. One reason for the high level of freedom for woman to move about in Gwalior can be attributed to the relatively urban nature of the sampling area.

The extent of financial control over household consumables and non-consumable expenditure that the 'main woman' has displays a similar pattern as observed with freedom to move around. 80% of women in Gwalior say that they have money of her own which is under her control, whereas only 52% in Tamil Nadu and 51% in Orissa do so. In terms of spending, we learn that woman have most control over buying fruits and vegetables (85% in Gwalior, 80% in Tamil Nadu) and least for clothes in Gwalior (75%) and toiletries for herself in Tamil Nadu (60%) and in Orissa (23%).

> **% Women with own money under their control:**
> Orissa: 51%
> Tamil Nadu: 52%
> Gwalior: 80%

We next look at hygiene practices of the women. In general the fraction of households that have some form of bathing and sanitation facilities within their house compound (open or closed) is higher in Gwalior as compared to the other two regions. In Gwalior 78% of the 'main woman' live in households where the bathing facility is within the household compound this percentage falls to 29% in Tamil Nadu and 7% in Orissa. Accordingly, women in Gwalior report a much higher level of comfort and convenience with their bathing and toilet facilities. Partly due to not having their own bathing facilities, but surely not exclusively, household members do not undress when they bathe: only 11% in Gwalior report to do so, 7% in Tamil Nadu and 1% in Orissa. But, basically all women report to bathe daily, most women doing so in the morning in the East and in the North (98% in Orissa, 70% in Tamil Gwalior) and in Tamil Nadu women typically bathe in midday (57%).

Another measure of hygiene we consider is whether the women wash their hands before they prepare meals. We find that in Gwalior and Tamil Nadu 91% and 91% respectively report to do so, compared to only 49% in Orissa.

Based on the data collected, all women in the Gwalior sample indicated having children in the age range 0-17 years, while in Tamil Nadu and Orissa the fraction of woman reported having children were 49% and 51% respectively. Within this fraction the percentage of new mothers is small – less than 6% have a baby (less than 1.5 years) in Tamil Nadu and Orissa while in Gwalior 14% of mothers have a baby.

Finally, detailed information was elicited on the level of knowledge with regards to diseases and health practices. Across all three samples we find woman have a good level of general hygiene knowledge such as washing hands before preparing meals and after using the toilet. Women were also asked about their perceptions on the causes and prevention of common waterborne diseases such as diarrhoea and worms. Diarrhoea is the most common water borne disease caused primarily due to poor sanitation and unclean water sources. On the whole across the three samples, women indicated a good level of understanding of factors that cause diarrhoea such as dirty water, flies, unwashed food, poor hygiene etc. An interesting observation to note is that woman in urban Gwalior had a lower knowledge of causes of diarrhoea as compared to the women of rural Tamil Nadu and Orissa. In addition to causes of diarrhoea, women were also asked about the common methods of preventing the disease. Across all three regions women displayed a much higher knowledge with respect to methods of prevention than causes of diarrhoea, this may reflect the presence of NGOs and MFIs that operate within the region and conduct health information programs.

Communities

For communities the key characteristic of comparison arises from the rural vs. urban nature of the communities sampled in the three regions. On the community level for Gwalior the main unit of analysis are a combination of peripheral villages and urban slums, while the southern states comprise of rural villages which are a subunit of gram panchayats, the unit of randomization in those two areas. Given this, we expect to see significant differences on dimensions such as population, infrastructure, water and sanitation availability between the rural and urban areas.

Firstly, the urban communities in Gwalior are – as to be expected - significantly larger and more densely populated than the rural communities under study. In Orissa and Tamil Nadu an average

village comprises approx 1000-1500 individuals distributed over 200-250 households. In contrast in Gwalior the average size of a community is just under 5000 individuals indicating a much higher population density.

The availability of transport facilities is also significantly different - only half of the samples in Orissa and Tamil Nadu have access to bus transportation, whereas close to 80% of the communities in Gwalior have bus services available to them. Also, communities in Gwalior are less remotely situated with the average distance to railway station or nearest town less than 10 kms away. For communities in Tamil Nadu and Orissa on the other hand the nearest town is on average 8 km to 11 km away.

The presence of basic infrastructure and public amenities though poor across the three samples is also considerably different between the rural and urban communities. For example, the presence of a government hospital and police station in Gwalior is close to 18% and 24% respectively which reflects limited access to basic amenities. However in the rural communities of Tamil Nadu and Orissa we find the availability to be much lower, notably in Tamil Nadu where only 1% of the sample communities have a police station nearby and 5% have access to a government hospital/dispensary. Another important dimension of comparison is the availability of water and sanitation related services. The community respondents were asked about the presence of MFIs and NGOs within their community and specifically if the institutions offered any credit support for sanitation related projects. Though the response for the presence of MFIs are varied in the three areas their involvement in sanitation and water specific projects in consistently limited in all three areas (less than 10%). This is also consistent with the implementation goals of FINISH with a bottom up approach – to target the most excluded households. In Tamil Nadu where MFI and NGO presence is most scarce, we see a larger presence of the government sector in these communities indicating that the role of the MFIs is to expand the coverage of credit availability in complement to the public sector efforts, and not act as a competing form of credit service.

> **We find limited access to basic public services in all three evaluation areas.**

> MFI &NGO **involvement in water and sanitation** related projects are extremely limited in project areas.