

## Shame or subsidy revisited: social mobilization for sanitation in Orissa, India

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**Objective** To determine the effectiveness of a sanitation campaign that combines “shaming” (i.e. emotional motivators) with subsidies for poor households in rural Orissa, an Indian state with a disproportionately high share of India’s child mortality.

**Methods** Using a cluster-randomized design, we selected 20 treatment and 20 control villages in the coastal district of Bhadrak, rural Orissa, for a total sample of 1050 households. We collected sanitation and health data before and after a community-led sanitation project, and we used a difference-in-difference estimator to determine the extent to which the campaign influenced the number of households building and using a latrine.

**Findings** Latrine ownership did not increase in control villages, but in treatment villages it rose from 6% to 32% in the overall sample, from 5% to 36% in households below the poverty line (eligible for a government subsidy) and from 7% to 26% in households above the poverty line (not eligible for a government subsidy).

**Conclusion** Subsidies can overcome serious budget constraints but are not necessary to spur action, for shaming can be very effective by harnessing the power of social pressure and peer monitoring. Through a combination of shaming and subsidies, social marketing can improve sanitation worldwide.

Une traduction en français de ce résumé figure à la fin de l'article. Al final del artículo se facilita una traducción al español. الترجمة العربية لهذه الخلاصة في نهاية النص الكامل لهذه المقالة.

### Introduction

An inadequate water and sanitation infrastructure and unhygienic practices facilitate the transmission of pathogens that cause diarrhoea, which accounts for 2 million child deaths annually in the world, about half of them in India.<sup>1–3</sup> In light of the strong interaction between sanitation and health, education, malnutrition and poverty, and of insufficient progress towards improving sanitation, 2008 was declared the International Year of Sanitation.<sup>4–8</sup>

Experts disagree as to whether improved access to sanitation and other health technologies is better achieved through monetary subsidies or shaming techniques (i.e. emotional motivators). Subsidy proponents contend that the poor face severe income constraints and need economic incentives to supply public goods that benefit everyone (e.g. a microbiologically safe environment).<sup>9,10</sup> Shaming proponents believe that lasting behavioural change requires strong intrinsic motivation and that people are more likely to use and value things they have had to pay for.<sup>11</sup> This paper contributes to the debate by providing evidence on the effectiveness of a social mobilization strategy that combines shaming with subsidies for poor households in rural Orissa, a state that bears a child mortality rate that is higher than the average for India (65 versus 57 per 1000 live births, respectively).<sup>12</sup>

The Government of India has a nationwide Total Sanitation Campaign that seeks to change attitudes about latrines

in individual households.<sup>13</sup> The campaign is designed as a demand-driven community-led programme and is implemented by state governments. It targets all rural households, includes a range of community partners, provides economic incentives to meet programme objectives, and empowers individuals and communities to define and achieve their own goals. There is currently an emphasis on developing information, education and communication (IEC) activities to improve attitudes and knowledge about how sanitation, safe water and hygiene relate to health. The campaign also acknowledges the role of small subsidies in encouraging the poor to construct individual household latrines.

Despite the campaign, sanitation coverage remains low; less than a quarter of India’s population and less than 10% of the population of Orissa state have access to safe water and good sanitation.<sup>14,15</sup> Thus, the government of Orissa has a particular interest in the Total Sanitation Campaign’s potential to encourage individual household latrine uptake and reduce open defecation.<sup>14</sup>

This paper, which contributes to the “shame” versus “subsidy” debate, examines the effects in Orissa of an intensified version of the IEC campaign that draws on a promising but untested “community-led total sanitation” model initiated in Bangladesh and subsequently implemented in some Indian states.<sup>11,16</sup> The resulting IEC campaign seeks to generate strong emotional responses at the community level that will

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culminate in a community-wide resolve to end open defecation. The study followed a cluster-randomized design, with villages randomly assigned to treatment or control groups.

## Methods

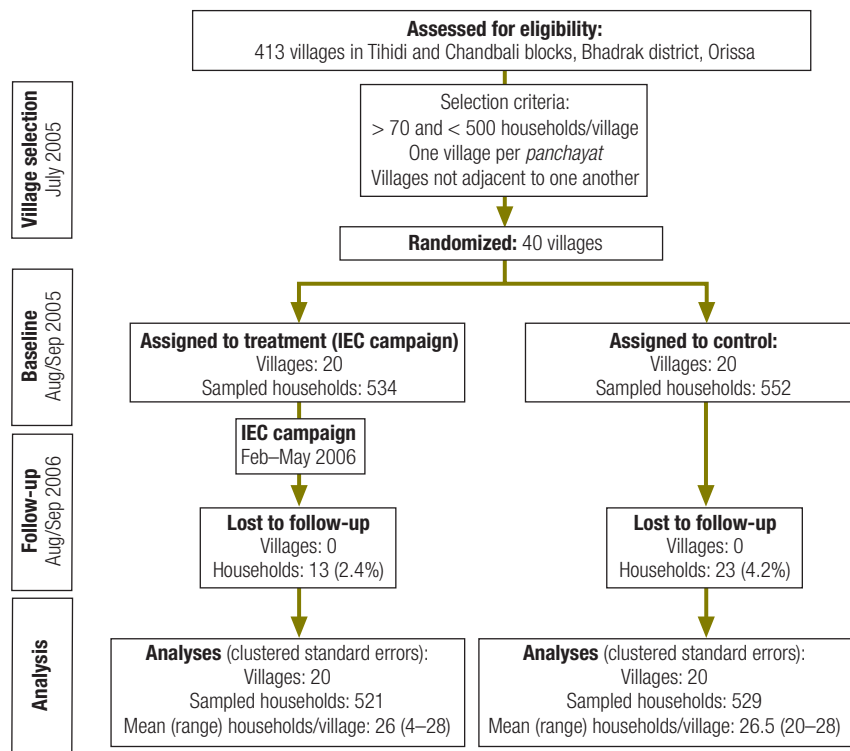
### Intervention

Development of the intensified IEC campaign was informed by in-depth interviews and focus groups made up of state and local government officials, village residents and key informants. The interviews revealed the importance of social marketing tools that go beyond merely providing “information” on health and that focus on education and communication about the need for a strong, sustained and widely-accepted commitment to improve sanitation.<sup>17</sup> Our discussions showed that it was critical to secure the support of district administrators, public health engineers and nongovernmental organizations (NGOs), as well as to train government civil engineers in social engineering. Interviews with key informants, local government officials and village focus groups suggested that any effective IEC effort must look beyond health to the privacy, dignity and safety benefits to women from using latrines.

By changing knowledge, attitudes and practices (the “software”), rather than simply providing a latrine (the “hardware”), the community-led total sanitation approach empowers local people to analyse the magnitude and risk of the environmental pollution caused by open defecation.<sup>11</sup> For social mobilization in treatment villages three “tools” were used: a “walk of shame” (the main consciousness-raising exercise), defecation mapping and core faecal counts. The first is a community walk aimed at drawing attention to poor hygiene and triggering a collective emotional response. The second is a participatory exercise that seeks to identify the spatial distribution of defecation behaviours and to demonstrate the external effects of poor hygiene on the entire village. The third, which also serves to explain external consequences, involves determining and discussing the volume of faecal matter accumulated in a village.

Subsidies were offered to poor households because the campaign was implemented within the framework of

Fig. 1. Flow of household clusters and participants through each stage of study of the effect of an IEC sanitation campaign in Bhadrak, Orissa, India, 2005–2006



IEC, information, education and communication.

the Government of India’s nationwide Total Sanitation Campaign, which recognizes that low income constrains many households in the study area. Interviews and focus groups revealed that constructing the off-pit latrines promoted under this campaign was prohibitively costly, about 2000 rupees (Rs) or 50 United States dollars (US\$), per latrine. Moreover, our baseline survey confirmed that cost was the main reason households did not construct latrines. Thus, following Total Sanitation Campaign guidelines, households below the poverty line (with a monthly per capita consumption expenditure of Rs 356) were only required to pay Rs 300 (or US\$ 7.5) to build a latrine, whereas other households had to pay the full price.

Campaigns, which typically lasted from 1 to 2 months between February and April 2006, were undertaken in each of the 20 intervention villages. To ensure that social mobilization was conducted with sensitivity to local customs, in each village a local community-based organization – the implementing agency – helped the community to establish systems of fines, taunting or social sanctions to punish those who

continued to defecate in the open. The local government helped these organizations to establish sanitation marts, produce latrine components in the village and provide know-how on latrine engineering. Although some aspects may have varied as a result of local implementation, a similar mobilization protocol was followed across the 20 intervention villages to achieve the same goal: a community able to analyse its sanitation situation and agree to end open defecation.

### Study design

We applied a cluster randomized design to assess the effect of the intensified IEC campaign on latrine adoption in two selected blocks of Bhadrak district in Orissa. This was felt to be the best experimental design because social mobilization is essentially an attempt to achieve group consensus and move social norms by targeting entire communities, not just individuals.<sup>18</sup>

### Sample size

We calculated that a sample of approximately 25 eligible households from each of 20 treatment and 20 control

villages would be required to demonstrate an increase from baseline of 10% to 30% in individual household latrine building with a statistical power of 90%. Additional parameters used to calculate the desired statistical power included a significance level of 95%, an intra-cluster correlation of 0.12 and an attrition rate of 10%.

### Sampling frame

We limited our study area to Tihidi and Chandbali blocks in the coastal district of Bhadrak, rural Orissa, for the following reasons: Many villages were not subject to interventions by the Total Sanitation Campaign; latrine coverage in the area remained low, despite adequate water availability; and the areas were accessible by road. The sample was made more homogeneous by excluding villages with fewer than 70 or more than 500 households. To reduce possible spillover effects, we grouped the villages by *panchayat* (the smallest local governance unit consisting of multiple villages), selected one village per *panchayat* and removed contiguous villages. Collectively, this produced a sampling frame of 40 eligible villages.

### Randomization

Numbers corresponding to the name of each village were written on separate cards and placed in a covered urn. In a town hall meeting, a local official (not involved in the implementation) randomly drew cards from the urn to select 20 intervention villages. Finally, a mapping team listed all households having at least one child less than 5 years of age in each of the 40 villages. For each village, a simple random selection of 28 households from that list was conducted by a survey manager who was not on the mapping or enumeration teams. Thus, neither the implementers nor the survey respondents influenced the selection of villages or households. Furthermore, the enumerators collecting the data were blinded to the intervention status of the villages.

### Survey design and implementation

Preliminary household and community survey instruments were based on existing questionnaires, literature reviews of various water, sanitation and health studies, and inputs from local advisors.<sup>19–21</sup> The instruments were refined

Table 1. Household characteristics in 20 treatment and 20 control villages before an IEC sanitation campaign in Bhadrak, Orissa, India, 2005–2006

Household characteristic	Treatment (n = 534) %	Control (n = 552) %	P-value <sup>a</sup>
With individual household latrine	6	12.7	0.030
With female respondent	93	94	0.810
From open/general caste <sup>b</sup>	36	44	0.227
From scheduled caste <sup>b</sup>	28	26	0.858
From other backward classes <sup>b</sup>	29	24	0.449
Below poverty line <sup>c</sup>	60	61	0.910
Used improved water source <sup>d</sup>	37	42	0.602
Used pots to store water	55	49	0.335
Used buckets or vessels to store water	69	74	0.454
Boiled or treated drinking water	9	13	0.192
Adults washed hands before preparing food, eating and feeding children and after handling child's faeces and defecating	11	9	0.564
Children washed hands before eating and after defecating	47	50	0.549
Reported case of adult diarrhoea in past 2 weeks (treatment, 2007; control, 2110)	9	8	0.905
Reported case of child diarrhoea in past 2 weeks (treatment, 797; control, 775)	28	23	0.218
Dumped garbage outside of house	68	69	0.794
Threw wastewater in the backyard	46	48	0.705
Attended village council ( <i>gram sabha</i> ) meeting	34	38	0.540
Helped sweep streets	5	4	0.761
Helped clean water sources	4	4	0.751
Helped clean drains	4	4	0.757

IEC, information, education and communication.

<sup>a</sup> Statistical tests were used to assess the difference between intervention and control villages; standard errors were corrected for clustering at the village level.

<sup>b</sup> The Government of India uses social, educational and economic criteria to identify socially marginal groups (officially categorized into scheduled castes and other backward castes) that qualify for welfare programmes, notably employment quotas. People from other castes that are not in these categories (e.g. open castes) are not eligible for welfare programmes.

<sup>c</sup> The poverty line is defined by a monthly per capita consumption expenditure of 356 rupees.

<sup>d</sup> According to WHO, improved water sources are defined as household connections, public standpipes, boreholes, protected dug wells, protected springs, and rainwater collections.

based on focus group discussions, input from key informants and pretests. Survey data were collected in August 2005 and August 2006 (immediately before and after the intervention) by 30 trained local enumerators and supervisors, all of whom had at least completed college or high school education and were fluent in Oriya (the local language). Enumerators interviewed the primary caregiver (usually a mother).

### Analysis

Data were collected before and after the intervention. This allowed us to use a difference-in-difference (DID) estimator to measure “treatment effect” by comparing latrine construction in the treatment and control villages during

both periods.<sup>22</sup> That is, we were able to compare the number of individual household latrines built before and after the intervention by poor and non-poor households in control villages to the number built by (a) poor households (those below the poverty line) in treatment villages exposed to both IEC and subsidies, and by (b) non-poor households (those above the poverty line) in treatment villages exposed only to IEC.

The DID estimate is the mean of subtracting the difference in outcome measure in control villages from the difference in outcome measure in intervention villages. To correct for clustering of survey data at the village level, standard errors were inflated by using the robust variance estimator

Table 2. Public attitudes<sup>a</sup> in 20 treatment and 20 control villages regarding local health and hygiene before an IEC sanitation campaign in Bhadrak, Orissa, India, 2005–2006

Attitude	Treatment (n = 534) % <sup>b</sup>	Control (n = 552) % <sup>b</sup>	P-value <sup>b</sup>
Village is dirty	15	16	0.942
Village is very dirty	44	36	0.125
Completely dissatisfied with current sanitation situation	72	61	0.011
Somewhat dissatisfied with current sanitation situation	15	17	0.517
Roads are most important community improvement (over next 10 years)	63	55	0.282
Water supply is most important community improvement (over next 10 years)	7	12	0.149
Sanitation is most important community improvement (over next 10 years)	5	8	0.264
Women lack privacy during defecation	32	30	0.820
Women are not safe defecating in the open during the day	33	34	0.408
Women are not safe defecating in the open during the night	29	29	0.463
Family should bear the cost of improving sanitation	24	31	0.130
Government should bear the cost of improving sanitation	53	50	0.561

IEC, information, education and communication.

<sup>a</sup> Based on the results of a pre-intervention household survey.

<sup>b</sup> Represents the percentage of households with the attitude indicated.

to account for the fact that multiple households from the same village provide correlated information. This adjustment is a standard routine in the statistical package, Stata 10/SE (Stata-Corp LP, College Station, TX, USA). Fig. 1 presents the flow of clusters and participants through each study stage.

## Results

### Baseline findings

In total, 1086 households were surveyed before and after the intervention; 534 were in the treatment villages and 552 in the control villages. Randomization to treatment and control groups

ensured uniformity in almost all characteristics at baseline in the household sample, as shown in Table 1 and Table 2 (note high *P*-values). The majority of respondents were female, and there was no significant difference in the mean age of respondents (29 versus 29.5 years in treatment and control households, respectively).

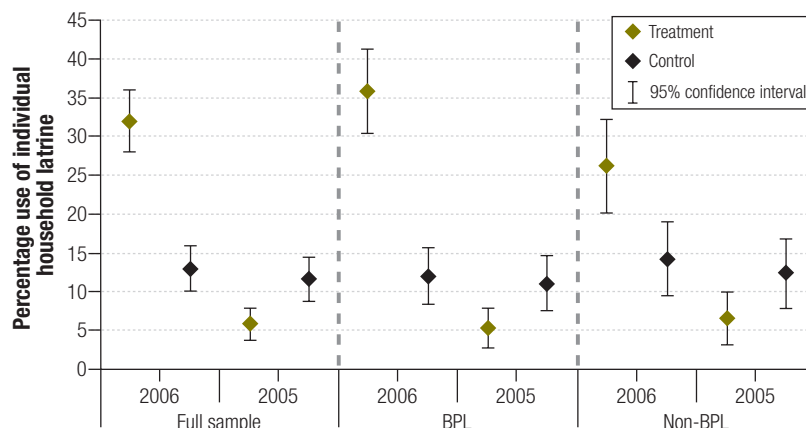
Between 23% and 28% of the households reported having a child less than 5 years of age who had experienced diarrhoea in the 2 weeks before the survey. Many households indicated lack of access to private water sources, roads and village dispensaries, and most felt that it was critical to improve village roads

and health facilities. Most households reported using public wells and surface water sources for their daily water supply and covering their stored water at home, yet few reported treating their water. Most adults reportedly washed their own hands and their children's after defecating and before eating, but they rarely used soap or ash. Respondents reported limited access to latrines, and more than 90% of the households reported open defecation. Most people disposed of their waste directly outside the house.

Although very few households reported engaging in community activities such as sweeping streets, cleaning schools and planting trees, most respondents rated their villages as “very dirty” (40%) or “dirty” (35%) and expressed “complete” dissatisfaction with current sanitation practices (67%). More than 50% of respondents felt the state should pay for improving sanitation. Thus, at baseline households were generally found to be dissatisfied with prevailing poor sanitation and uncleanliness but unaware that they were caused by widespread unhygienic behaviours. Collectively, these findings suggest that social mobilization is needed to improve overall sanitation.

Through simple chance, treatment villages had fewer individual household latrines at baseline than did control villages. However, this does not pose a problem for estimating the effect of the intervention because, by measuring

Fig. 2. Latrine ownership in households below and above the poverty line and in the overall sample before and after an IEC sanitation campaign in Bhadrak, Orissa, India, 2005–2006



BPL, below the poverty line; IEC, information, education and communication.



changes, the DID estimator accounts for pre-existing differences. Furthermore, selection bias is unlikely because of random assignment into treatment and control villages and because most factors (see variables listed in Table 1 and Table 2) were balanced.

### Effect estimates

Data on the number of households that owned individual household latrines and reported using them suggest that the IEC campaign fulfilled its primary purpose of motivating households to switch from open defecation to using latrines. In control villages, there was no change in individual-household latrine ownership, while in treatment villages, the number of households (both below and above the poverty line) owning latrines increased dramatically between 2005 and 2006 (Fig. 2).

Table 3 summarizes the intervention's estimated effects on latrine ownership. The first estimate (model 1), which is based on a simple comparison of means in 2006, shows that after the intervention individual household latrine ownership was about 19% higher in treatment villages than in control villages. The DID estimator (model 2), which accounts for lower levels of latrine ownership among treatment villages at baseline, suggests a 29% increase in latrine ownership because of the intervention.

To examine the relative contribution of the "subsidy" and "shame" components of the treatment, we stratified our analysis by household status below or above the poverty line (B and C in Table 3). In treatment villages we found a treatment effect of 34% for households below the poverty line and 21% for other households, compared to their counterparts in control villages. Thus, by taking the difference between the two DID estimates for below and above the poverty line, we obtained a triple-difference<sup>23</sup> estimate of 13%, which suggests that subsidies caused about a third of the treatment effect, while "shame only" caused about two-thirds.

### Additional analyses

These treatment-effect estimates may underestimate the full effect of the intervention. For example, our field-work 2 weeks before the second survey revealed that many households had begun to construct latrines but had not

Table 3. DID estimates<sup>a</sup> of the effect of an IEC sanitation campaign on individual household latrine ownership in Bhadrak, Orissa, India, 2005–2006

	Model 1 <sup>b</sup>	Model 2 <sup>c</sup>
<b>A: Full sample</b>		
No. of households/clusters	1050/20	2100/20
IEC effect (%)	19.0	28.7
95% CI <sup>d</sup>	4.7–33.3	14.6–42.9
P-value	0.006	0.000
<b>B: BPL only</b>		
No. of households/clusters	632/20	1264/20
IEC effect	23.7	34.2
95% CI <sup>d</sup>	6.7–40.7	18.0–50.4
P-value	0.003	0.000
<b>C: Non-BPL only</b>		
No. of households/clusters	418/20	836/20
IEC effect	12.0	20.7
95% CI <sup>d</sup>	1.9–25.8	6.2–35.2
P-value	0.084	0.000

BPL, below the poverty line; CI, confidence interval; DID, difference-in-difference; IEC, information, education and communication.

<sup>a</sup> Standard errors were corrected for clustering at the village level.

<sup>b</sup> Estimate based on a simple comparison of means in 2006.

<sup>c</sup> DID using observed latrine ownership in 2005 and 2006. As a check for robustness, we estimated a semi-parametric DID model<sup>22</sup> that essentially uses inverse probability weights as a function of baseline latrine coverage, and found virtually identical results. This confirms that the combination of randomized assignment, covariate balance and DID estimation eliminates any potential bias.

<sup>d</sup> The intracluster correlation coefficient is set at 0.125.

yet finished. Thus, to get a sense of the longer-term effects of the campaign, DID models were re-run by adding "future adopters" (i.e. households that had started to build a latrine or were planning to do so) (Table 4). Adding households that reported having started to build an individual household latrine at the time of the second survey (model 3) yielded an estimated treatment effect of 38%. Adding households that reported plans to build an individual household latrine within the following year (model 4) increased the treatment effect to 46%.

The DID analysis showed that relative to 2005, the substantial number of new latrines in 2006 paralleled a significant increase in reported regular latrine use of 26% among men, 23% among women and 11% among children less than 5 years of age in treatment villages, while reported use actually declined in control villages (Table 5).

## Discussion

In this study, an intensive IEC campaign had a substantial and statistically significant effect on latrine adoption and use. By exploiting the quasi-exper-

imental backdrop to our experiment (created by Indian government social insurance programmes directed to households below the poverty line), we were able to show that the "shame and subsidy" strategy had a larger effect than "shame" alone.

Are these effects sustainable? Data from the government of Orissa suggest that sanitation continued to improve in the year following the second round of household surveys. In 10 of the 20 treatment villages, 100% of households had installed a latrine by 2007. While these data are not directly comparable to the 2005 and 2006 data, they nonetheless suggest an increasing medium-term effect. However, a follow-up survey in 5–10 years should be conducted to confirm whether the effects persisted, increased or declined (e.g. latrines are disused).

Is this intervention scalable? We can generalize to some extent because our sampling frame (medium-sized villages in coastal districts with limited exposure to government sanitation programmes) is fairly typical of rural India (see other studies in Andhra Pradesh<sup>24</sup> and Maharashtra<sup>25</sup>). While training of NGOs and public works civil engineers

in “social engineering” involves up-front costs, replication will lower the costs. The rapid diffusion of community-led total sanitation from Bangladesh to Ethiopia, India, Indonesia, Kenya and Pakistan suggests scalability.<sup>26</sup> Additionally, a recent Monte Carlo-based economic evaluation of community-led total sanitation, which uses cost (e.g. material, time, supervision) and benefit (health and time savings) estimates for a range of settings, showed that the benefit–cost ratio significantly and typically exceeds 1 and that the intervention is generally viable.<sup>27</sup>

After trying to gain insights into the campaign’s success by applying economics, sociology and psychology to behavioural health interventions<sup>21,28–31</sup> we conclude that success can be described in terms of four interrelated social marketing concepts – product, placement, promotion and price – as discussed below.

### Product

The product was not just health. Before the sanitation programme was implemented, more than 90% of households cited open defecation as a cause of diarrhoea, yet this health awareness alone was not enough to generate widespread latrine use. Instead, attitudes surrounding the importance of privacy and dignity played a key role in influencing household demand for latrines.

### Placement

Part of the campaign’s effect was an increased supply of materials and technical know-how through local motivators’ door-to-door campaigns and rural sanitation marts, which used local materials and masons. This intervention

Table 4. DID estimates of the effect of an IEC sanitation campaign on potential household latrine ownership in Bhadrak, Orissa, India, 2005–2006

	Model 3 <sup>a</sup>	Model 4 <sup>b</sup>
<b>A: Full sample</b>		
No. of households/clusters	2100/20	2100/20
IEC effect (%)	37.5	46.1
95% CI <sup>c</sup>	23.8–51.3	31.1–61.1
P-value	0.000	0.000
<b>B: BPL only</b>		
No. of households/clusters	1264/20	1264/20
IEC effect (%)	43.1	51.5
95% CI <sup>c</sup>	28.4–57.8	36.9–66.1
P-value	0.000	0.000
<b>C: Non-BPL only</b>		
No. of households/clusters	836/20	836/20
IEC effect (%)	29.3	38.2
95% CI <sup>c</sup>	13.8–44.8	20.0–56.4
P-value	0.000	0.000

BPL, below the poverty line; CI, confidence interval; DID, difference-in-difference; IEC, information, education and communication.

<sup>a</sup> DID adding households that reported having started to build an individual household latrine at the time of the second survey.

<sup>b</sup> DID adding households that reported plans to build an individual household latrine within the next year.

<sup>c</sup> Standard errors were corrected for clustering at the village level.

was unlike previous attempts to promote unpopular community latrines in that individual household latrines were placed conveniently next to the house for the family’s exclusive use.

### Promotion

By targeting whole communities rather than individuals, the intensive IEC campaign harnessed the power of social pressure and peer monitoring to conform to accepted practices. The campaign’s success confirms lessons learned from 30 years of experience in the United States with behavioural health interventions. This experience showed that campaigns succeed when

the information permeates widely to overcome individual inertia, highlights the external consequences of private choices and triggers peer pressure.<sup>32</sup>

### Price

Returning to the “shame” versus “subsidy” debate, all households (below and above the poverty line) in our study villages received the “shame” intervention (i.e. intensive IEC), whereas only those below the poverty line received subsidized individual household latrines. Since the poor are less likely to adopt public health technologies (in this case needing to spend 85% of their monthly income on a full-price latrine), subsidies clearly helped. However, the favourable response seen among households above the poverty line suggests that subsidies are not necessary to spur action and that shame alone can be very effective in this population. The success of this campaign can thus be attributed to its unique combination of shame and subsidies.

### Conclusion

On the heels of the International Year of Sanitation, our study delivers timely evidence on how to promote sanitation, a technology that some refer to as the most important medical advance of the past 150 years.<sup>33</sup> ■

Table 5. DID estimates of the effect of an IEC sanitation campaign on latrine use among men, women and children in households in Bhadrak, Orissa, India, 2005–2006

Dependent variable: latrine use during the day and at night	Model 1 <sup>a</sup>	Model 2 <sup>b</sup>	Model 3 <sup>c</sup>
N	2100	2100	2100
IEC effect (%)	25.6	23.2	11.3
95% CI <sup>d</sup>	13.5–37.8	11.3–35.1	3.4–19.2
P-value	0.000	0.000	0.001

CI, confidence interval; DID, difference-in-difference; IEC, information, education and communication.

<sup>a</sup> DID for men.

<sup>b</sup> DID for women.

<sup>c</sup> DID for children.

<sup>d</sup> Standard errors were corrected for clustering at the village level.

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## Résumé

### Sentiments de honte et subventions : une nouvelle combinaison pour mobiliser la société en faveur de l'assainissement dans l'Etat d'Orissa, en Inde

**Objectif** Déterminer l'efficacité d'une campagne d'assainissement combinant la génération d'un sentiment de honte (motivation émotionnelle) et l'attribution de subventions aux ménages pauvres de l'Orissa rural, un Etat indien qui compte pour une part disproportionnée dans la mortalité infantile indienne.

**Méthodes** Par sondage en grappe randomisé, nous avons sélectionné 20 villages bénéficiant de l'intervention et 20 villages témoins dans le district côtier de Bhadrak, situé dans la partie rurale de l'Orissa, pour réunir un échantillon total de 1050 ménages. Nous avons recueilli des données sur l'assainissement et la santé avant et après un projet d'assainissement sous direction communautaire et nous avons utilisé un estimateur en différence de différences pour évaluer l'ampleur de l'impact de la campagne sur le nombre de foyers construisant et utilisant des latrines.

**Résultats** Le taux de possession de latrines n'a pas augmenté dans les villages témoins, mais dans les villages bénéficiant de l'intervention, il est passé de 6 à 32 % dans l'échantillon global, de 5 à 36 % parmi les ménages situés au-dessous du seuil de pauvreté (ceux admis à bénéficier d'une subvention gouvernementale) et de 7 à 26 % parmi les ménages situés au-dessus de ce seuil (ne pouvant bénéficier d'une telle subvention).

**Conclusion** Les subventions permettent parfois de surmonter de fortes contraintes budgétaires, mais ne sont pas indispensables pour inciter à l'action ; en effet, susciter un sentiment de honte peut être un moyen très efficace pour tirer parti de la pression sociale et de la surveillance entre individus. En combinant sentiments de honte et subventions, le marketing social peut améliorer l'assainissement partout dans le monde.

## Resumen

### Vergüenza y subvenciones: reanálisis de la situación en un caso de movilización social para mejorar el saneamiento en Orissa, India

**Objetivo** Determinar la eficacia de una campaña de saneamiento que combina medidas de « avergonzamiento » (motivación emocional) y la concesión de subvenciones a familias pobres en zonas rurales de Orissa, un Estado indio con un porcentaje desproporcionadamente alto de la mortalidad en la niñez del conjunto del país.

**Métodos** En el marco de un estudio aleatorizado por conglomerados, seleccionamos 20 aldeas de tratamiento y 20 aldeas de control en el distrito costero de Bhadrak, en la Orissa rural, hasta reunir una muestra total de 1050 hogares. Recogimos datos sobre el saneamiento y la salud antes y después de emprender un proyecto de saneamiento dirigido por la comunidad, y utilizamos un estimador de diferencias en diferencias para determinar en qué medida influyó la campaña en el número de hogares que construían y usaban letrinas.

**Resultados** El número de hogares con letrina no aumentó en las aldeas de control, mientras que en las aldeas de tratamiento aumentó del 6% al 32% en la muestra general: del 5% al 36% en los hogares situados por debajo del umbral de pobreza (con derecho a recibir subvenciones del Gobierno), y del 7% al 26% en los situados por encima del umbral de pobreza (sin derecho a recibir subvenciones).

**Conclusión** Las subvenciones permiten solucionar los casos graves de falta de presupuesto pero no son necesarias para estimular la adopción de medidas, pues el avergonzamiento, basado en el poder de la presión social y la vigilancia entre compañeros, es muy eficaz. Mediante una combinación de avergonzamiento y subvenciones, la mercadotecnia social puede mejorar el saneamiento a nivel mundial.

## ملخص

### البحث مجدداً في مسألة التخجيل أو تقديم الإعانات: استنهاض المجتمع من أجل تحسين الإصحاح في أوريسا، الهند

للمعالجة و20 قرية شواهد في مقاطعة إيدراك الساحلية في ريف أوريسا، وبلغ إجمالي عدد العينات 1050 من الأسر، وجمعوا معطيات حول الصحة وحول الإصحاح، واستخدموا أداة تقدير للتعرّف على الاختلافات ومدى تأثير الحملة على عدد الأسر التي تبني وتستخدم المراحيض. **الموجودات:** لم تزد أعداد المراحيض في القرى الشاهدة، فيما زادت في القرى

الهدف: التعرّف على مدى فعالية حملة دعم الإصحاح التي تضم "التخجيل" (كحواض عاطفية) إلى جانب تقديم إعانات للفقراء من سكان الريف في أوريسا، وهي إحدى المقاطعات الهندية التي تنوء بعبء يفوق كثيراً ما يعانيه من حولها من وفيات الأطفال في الهند. **الطريقة:** استخدم الباحثون تصميماً عشوائياً للمجموعات، فاخترنا 20 قرية

ولكنها ليست ضرورية لاستحداث اتخاذ إجراء، أما التخجيل فقد يكون فعالاً جداً في استغلال قوى الضغط الاجتماعي ومراقبة الأقران. ويمكن للأندية الاجتماعية، من خلال الجمع بين التخجيل وتقديم الإعانات أن تحسّن من الإصحاح في جميع أرجاء العالم.

المعالجة من 6% إلى 32% في مجمل العينة، ومن 5% إلى 36% لدى السكان الذين يعيشون تحت خط الفقر (وهم المؤهلون لتلقي الإعانات الحكومية) ومن 7% إلى 26% لدى الأسر فوق خط الفقر (ممن هم غير مؤهلين لتلقي الإعانات الحكومية).  
الاستنتاج: يمكن للإعانات أن تتغلب على الحواجز التي تفرضها الميزانية،

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