



Empowering poor people through public information? Lessons from a movie in rural India[☆]



Martin Ravallion^{a,*}, Dominique van de Walle^b, Puja Dutta^c, Rinku Murgai^c

^a Georgetown University, Washington, DC 20057, USA

^b World Bank, Washington DC, USA

^c World Bank, New Delhi, India

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ABSTRACT

Mass public information campaigns have promised to empower poor people, but do they deliver on that promise? We designed and implemented a trial information campaign in poor rural areas of India, in the form of an entertaining movie that teaches people their rights under a large national antipoverty program. In randomly assigned villages, the movie brought significant gains in knowledge and more positive perceptions about the scheme and village life relative to control villages. But objectively measured outcomes showed no gain. The movie changed perceptions but not reality. We conclude that information is not the key constraint in this context.

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1. Introduction

It is often the case that poor people do not fully access the rights and services due to them. Incomplete information is often identified as a reason. There has been much recent enthusiasm for using information campaigns to improve service delivery and governance in poor places.

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* Corresponding author.

E-mail address: mr1185@georgetown.edu (M. Ravallion).

The premise is that lack of information is a decisive factor inhibiting successful participatory action by poor people to influence local decision making processes and access the services to which they are entitled. There is some supportive evidence from various settings.¹ The promise of information interventions to improve local governance is summarized by Mansuri and Rao (2013, p.79):

The rectification of information failures . . . has the potential to improve the ability of citizens to mobilize themselves to hold states

¹ For the U.S., Strömberg (2004) reports evidence that antipoverty programs have worked better in places with greater access to radios. For India, Besley and Burgess (2003) found that the governments of states where newspaper circulation is greater are more responsive in their relief efforts to negative agricultural shocks. Moehler (2010) provides a review of relevant field experiments, which are fairly encouraging of the scope for using information campaigns for promoting democracy and better governance (at least among those published). Useful overviews of the arguments and evidence on factors relevant to the success of information campaigns can be found in Keefer and Khemani (2005) Khemani (2007), and (in the context of immunization campaigns) Cappelen et al., (2010). World Bank (2004) provides an overview of the policy issues in service delivery, including the role of information. There is evidence that the media can help assure better services for poor people.

and markets more accountable.

However, there are also reasons to be skeptical about the scope for information alone to be decisive. Past disempowerment can be expected to carry a long legacy, which may well swamp a short-lived information campaign.² Or the information campaign may distort beliefs rather than promote real change—acting essentially as propaganda.³

This paper reports on a social experiment designed to test the efficacy of an information campaign to teach poor people their legal rights. We assess whether the campaign enhanced knowledge and (if so) whether it improved key aspects of the performance of a large antipoverty program. We also study the process of learning and forgetting in response to the campaign. As the setting, we deliberately chose one of the poorest areas of India, rural Bihar, which has had a reputation for unequal opportunities associated with caste, and problems of poor local governance and insecurity linked to caste politics, though with recent signs of progress.⁴

Our baseline survey data suggested that knowledge of the program was defective in many respects but that participants in the program were better informed. (We give details later.) This might suggest that enhanced knowledge of the program would enhance its performance, although without an exogenous source of variation in knowledge, one cannot infer a causal connection from the correlation between knowledge and participation. We thus designed a high-quality and entertaining fictional movie as a trial information campaign. In comparison to most past studies, this is a substantial (and relatively expensive) intervention. Based on our prior field work, it did not appear likely that anything less would have a reasonable chance of success in this setting. The movie was designed to inform people of their rights and options under a large national antipoverty program, namely, the Mahatma Gandhi National Rural Employment Guarantee Scheme. This scheme has explicit empowerment objectives—to help assure that poor people participate in local affairs and express their right to work to local officials. The supply side also involves local participation in implementation of the scheme, as functionaries are often chosen from the community. This can be a double-edged sword, promoting community ownership on the one hand and risking capture by local leaders, on the other (Mansuri and Rao, 2013). In practice, local leaders retain considerable power to decide who gets help and who does not.

We rely on randomized assignment across villages for identifying the mean impacts of the movie in this setting. Our surveys were designed for this purpose and included questions on perceptions as well as on real outcomes relevant to the scheme. Having established that the information campaign was a valid instrument for exogenously changing knowledge, the paper studies impacts on both perceptions about how things work in the village and on actual outcomes relevant to the scheme's impact on poverty.

The paper's main finding is that while the pilot information campaign was successful in enhancing knowledge of entitlements under the scheme, it did not result in better program performance. Yet the movie did have generally positive impacts on people's perceptions about their village and the scheme. They came away happier about the scheme, even though they did not benefit in real terms. Thus, our findings are consistent with the hypothesis that the movie created what Janis (1972) dubbed a "groupthink," interpretable as a stable

equilibrium of collective delusion.⁵ The main policy conclusion is that complementary actions are needed on the supply side to assure that the scheme's potential is realized; information interventions alone will not work in this setting.

The following section describes the setting, data and intervention. We then turn to the results. Section 4 concludes.

2. The setting, the survey data, and the intervention

India's ambitious National Rural Employment Guarantee Act of 2005 (hereafter the "Act") created a justiciable "right-to-work" for all rural households implemented through the National Rural Employment Guarantee Scheme—renamed the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) in 2009. The scheme is huge; over 50 million rural households participated in MGNREGS in 2009/10.⁶

The most direct and obvious way this scheme tries to reduce poverty is by providing extra employment in rural areas on demand. The scheme promises 100 days of work per year to all rural households whose adults are willing to do unskilled manual labor at the statutory minimum wage notified for the program. Work is to be made available within 15 days to anyone who asks for it, failing which the state government is liable to pay an unemployment allowance. Access to the scheme can entail both valuable income support for the chronically poor and insurance against the many risks faced by India's rural population in their daily lives. Even those who do not normally need such work can benefit from knowing it is available.⁷

Underlying this expected direct impact on employment and incomes is an explicit effort to empower poor people (Drèze and Khera, 2011). This is seen to be done in two ways: First, empowerment is to be promoted through peoples' participation in local collective decision making. Under the scheme, broad participation in open village meetings (*Gram Sabhas*) is supposed to identify suitable projects. Local government institutions (*Gram Panchayats* or GPs) with elected representatives are then given a central role in planning and implementation. Second, empowerment of poor people is to be generated by them taking deliberate unilateral actions to ask local officials for work on the scheme when they need it.

The scheme relies heavily on local implementation. Local leaders exercise considerable control and may not be willing to give up their power over public resources to the demands of poor people. Indeed, the power to control the disbursement of the (considerable) sums of money available through MGNREGS can help them maintain their power, including their power over the timing of disbursements to help assure their return to elected positions.

2.1. Bihar

One would hope that MGNREGS worked well in India's poorest states, where it is presumably needed most. Bihar is one of the poorest

² Sah (2007) formalizes this argument in a model of Bayesian learning. In the context of the scheme we study, Niehaus and Sukhtankar (2013) find that the threat of complaint does not improve the scheme's performance.

³ In one of the few empirical studies to look at this issue, Di Tella et al. (2010) show that an erroneous propaganda message can influence beliefs; in the application considered, the beliefs concerned water privatization in Argentina.

⁴ See the discussion in Clements (2005), which provides an overview of the relevant literature.

⁵ Janis defined a groupthink as a psychological drive for consensus in a group, a drive that suppresses contrary information and dissent. Janis used this idea to help explain aspects of American foreign policy in the 1960s. However, it has long been recognized that the idea has broader applications. Bandwagon effects have been studied in various contexts, including public opinion formation; see, for example, Nadeau et al. (1993). Bandwagon effects stimulated by new poll results are a well-known phenomenon in elections; for further discussion, see Marsh (1985). Bénabou (2013) provides an economic model of how erroneous beliefs held by groups of people can emerge and persist for some time among individually rational agents. Bénabou also points to arguments about the relevance of such behavior in diverse settings. Also see the interesting discussion in Bénabou and Tirole (2006, p.705) of "the nearly universal human tendency to want to believe that people generally get what they deserve."

⁶ See Government of India website for MGNREGS (<http://nrega.nic.in>).

⁷ For example, knowing that work is available if needed can help underpin otherwise risky investments and come with efficiency gains given existing credit and labor market distortions.

two or three of India's larger states.⁸ Yet despite high expressed demand for work on MGNREGS, Bihar has one of the lowest participation rates of any state (Dutta et al., 2012).

One possible explanation for why one of the poorest states has one of the lowest participation rates in MGNREGS is that a large share of the central government's disbursements to Bihar may be being siphoned off, before the money reaches workers. Dutta et al. (2014) address this question by using a household survey representative of rural Bihar (the same survey used in this paper and described further below) to estimate the gross wages and employment received by households. They then compare this with the total central disbursements to the state recorded in the official administrative data. The survey aggregates accounted for 80% of the employment claimed in the administrative data for 2008/09, rising to 86% in 2009/10. (The survey aggregates account for a slightly lower share of the administrative data on wages paid, namely, 75% in the first year and 80% in the second.)

So, while there are signs of leakage, this does not by itself explain the low participation rate of workers based on survey data. It appears that the center's money is not flowing to Bihar's poor for some other reason. It may well be that people are too ill-informed about their rights, or of how to demand them, for the scheme to function as intended in Bihar. As well as a forum for the validation of projects, periodically held Gram Sabhas are supposed to enable the sharing of information at the GP level. Yet, the same local officials who implement the scheme also organize these village meetings, or don't. Our survey indicates that these meetings rarely take place in Bihar: nearly 60% of households reported that no Gram Sabha had been held in the last year or that they were unaware of one being held (Dutta et al., 2014). This is in stark contrast to the South Indian case where Besley et al. (2005) find that Gram Sabhas are functional and that the poorest and most disadvantaged households are the most likely to participate and garner greater benefits from targeted schemes as a result.

In an attempt to minimize corruption, the scheme's designers also made its take-up procedures rather complex, and possibly too complex for many potential participants. Low schooling attainments may impede learning about one's rights and self-efficacy; about half the adults in rural Bihar and an even higher proportion of those from poor families are illiterate. In such a situation, intervention through a public information campaign appears to make sense. However, as we have argued, while public knowledge of program eligibility and take up procedures is a necessary condition for people to demand their rights, it is far from obvious that it is sufficient in this setting. Nor is it even obvious that the new information will either encourage higher participation or be accepted as valid when it does not accord with the perceived local reality.

2.2. Data

We collected two rounds of data from 150 villages spread across rural Bihar.⁹ The first round (R1) was implemented between May and July of 2009 and the second (R2) during the same months 1 year later. These periods were chosen for being lean periods for agricultural work and were thus expected to be peak periods for BREGS. The first of our survey periods witnessed severe floods during the monsoon (July–August of 2008) in some districts falling in the catchment area of the Kosi river. In contrast, rainfall was scanty during the 2009 monsoons and drought was declared in many districts.

A two-stage sampling design was followed, based on the 2001 Census list of villages. In the first stage, 150 villages were randomly selected from two strata, classified by high and low BREGS coverage based

on administrative data for 2008/9. In the second stage, 20 households per village were randomly selected, drawing from three strata based on an initial listing of all village members and a few selected attributes. With numbers in parentheses, the three strata were those with at least one member who had done public works in the last year (7), those with a member who had engaged in other (non-public works) casual work (7) and all other households (6). This stratified approach ensured that the sample included both scheme participants and households with likely participants. All summary statistics reported in the study are weighted with appropriate sample weights to be representative at state level and the regressions allow for the survey design and include corrections for the village clustering of the intervention.

The household survey collected information on a range of characteristics including demographics, asset ownership, consumption, employment and wages, political participation and social networks, as well as information on BREGS participation, process-related issues and questions related to perceptions about the scheme in the specific village context.

Individual-level surveys were also administered to one male and one female member of each household, who were interviewed about their participation in BREGS, experience at the most recent BREGS worksite and knowledge and perceptions of the program, the village labor market and the role of women. We also collected data to calibrate a simplified individual-specific version of the Pearlin Mastery scale, which is a measure of the extent to which individuals perceive themselves to be in control of factors that affect their lives.¹⁰ In addition, in each village, key informants were interviewed about physical and social infrastructure in the village, and access to government programs.

We supplemented these quantitative surveys with qualitative research in purposively selected villages in six districts in north and south Bihar (Gaya, Khaimur, Kishanganj, Muzaffarpur, Purnea, and Saharsa) during February and August 2009.¹¹ We drew on the qualitative work in designing both the intervention and follow-up surveys and in interpreting some of our quantitative findings.

In total, 3000 households and about 5000 individuals were interviewed. The balanced panel comprises 2728 households and 3749 individuals. The overall attrition rate between the two rounds was 8% and was not concentrated in any particular stratum. There were relatively few refusals; two-thirds of the attrition was because a household was away temporarily when the survey team visited the village. There is virtually no attrition effect for household-level BREGS participation or when estimating the impacts of the RCT for the information campaign.

2.3. Motivation for the information campaign

In both the baseline and follow-up surveys, individuals were asked whether they had heard of the scheme and if so, they were asked 12 questions testing their knowledge of the scheme's functioning and their rights under the Act. Table 1 provides the mean of correct responses for each of the questions by gender and survey round.¹² Knowledge of the details of the scheme is found to be low and even lower for women. Most men and three-quarters of women had heard about the program by R1, but many were unaware of their precise rights and entitlements under BREGS. As an overall measure of knowledge about the

⁸ Based on official Planning Commission poverty lines for 2009/10, 55% of its rural population of 90 million lived below the poverty line.

⁹ The survey instrument is available to readers online at <http://explore.georgetown.edu/people/mr1185/>. The data are available for replication purposes from the authors.

¹⁰ The original scale consists of a 7-item scale developed by Pearlin et al. (1981). Each item is a statement about the respondent's perception of self, and they are asked how strongly they agree or disagree with each statement with four potential categories. We have transformed the answers into "yes/no," which proved to be a better approach in our setting, based on our field tests. Our scale is then created by adding up the answers and so ranges from 0 to 7.

¹¹ The qualitative results are reported in Development Alternatives (2009), Indian Grameen Services (2009) and Sunai Consultancy Pvt. Ltd. (2009). Dutta et al. (2014) provide summaries of the findings and their implications.

¹² Note that the relevant means in Table 1 treat those who had not heard of the scheme as missing observations rather than including them as zeroes.

Table 1
Summary statistics on individuals' knowledge about BREGS rules.

		Round 1				Round 2			
		Women		Men		Women		Men	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
Heard of scheme	Has heard of BREGS	0.73	0.44	0.95	0.21	0.88	0.33	0.98	0.15
<i>Work score</i>		1.51	1.52	2.60	1.88	2.10	1.56	3.14	1.83
Days	Entitled to 100 or thinks 90 days	0.11	0.31	0.37	0.48	0.13	0.34	0.38	0.49
Gender	Both men & women can demand work	0.51	0.50	0.57	0.50	0.62	0.49	0.68	0.47
BPL	Non-BPL families can demand work	0.38	0.48	0.53	0.50	0.57	0.49	0.69	0.46
Work lag	Work is to be provided within 15 days	0.02	0.13	0.06	0.25	0.07	0.26	0.14	0.34
Unempl.	Knows about unemployment allowance	0.11	0.32	0.29	0.45	0.22	0.42	0.41	0.49
Wage rate	Knows wage rate	0.21	0.41	0.44	0.50	0.26	0.44	0.45	0.50
Wage lag	Wages to be paid within 2 weeks	0.08	0.27	0.12	0.32	0.10	0.30	0.14	0.35
Contractor	Contractors not allowed	0.11	0.32	0.24	0.43	0.13	0.34	0.27	0.44
<i>Facilities knowledge score</i>		0.98	1.29	1.39	1.41	1.12	1.20	1.55	1.29
Crèche	Knows of childcare facilities	0.19	0.39	0.19	0.39	0.12	0.32	0.18	0.38
Water	Knows of drinking water facilities	0.42	0.49	0.59	0.49	0.53	0.50	0.67	0.47
Shade	Knows of shade facilities	0.21	0.40	0.36	0.48	0.38	0.48	0.51	0.50
First aid	Knows of first aid facilities	0.18	0.38	0.26	0.44	0.10	0.30	0.20	0.40
Board	Knows of info board	–	–	–	–	0.01	0.11	0.06	0.23
Demand	Knows work has to be demanded	–	–	–	–	0.52	0.50	0.74	0.44

Notes: Household weighted. Approximate sample sizes: (a) "Has heard of BREGS": N = 2800 for women; N = 2300 for men; (b) N = 2000 for remaining questions. Questions about the information board and having to demand work were not asked in R1. The "work score" is an overall measure of knowledge about the scheme's employment aspects, based on the number of correct answers to the 8 employment-related questions. The "facilities score" is an overall measure of awareness of the facilities and amenities that BREGS mandates must be provided at work sites (crèche, drinking water, shade, and first aid kits). The stipulated 100 days of work is sometimes referred to as 3 months and hence interpreted by the public as 90 days, which we take to be an acceptable answer to the question.

scheme's employment aspects, we estimate a "work score" as the number of correct answers to the 8 employment-related questions. The average work score in R1 is 2.6 for men and 1.5 for women out of a maximum of 8.

A second measure can be created for knowledge of the facilities and amenities that the scheme mandates must be provided at work sites (daycare, drinking water, shade, and first aid kits). Respondents were asked to identify what facilities were supposed to be provided. We call this the "facilities score." The mean number of correct answers on the facilities test in R1 was 1.4 and 1.0 for men and women, respectively, out of a maximum of 4.

Clearly then, knowledge about the program is deficient. Focusing on specific aspects of the scheme, knowledge is particularly low on entitlements such as the maximum time period of 15 days within which work should be provided, the requirement that wages be paid within 2 weeks, or the fact that contractors are not permitted. These are critical provisions of the scheme guidelines to ensure that rights are met. Knowledge that work needs to be demanded is higher (based on R2 information), but in practice, it is not yet widespread. Only a quarter of male (and only 16% of female) workers in our sample had actually demanded work at the last worksite at which they worked in R1. The rest had obtained work through village leaders (including the Mukhiya¹³), scheme functionaries, or contractors (who are specifically banned under the MGNREGS stipulations), or simply by turning up at the worksite when it opened. However, there was a marked increase in the proportion demanding work between the two survey rounds, particularly among female workers, for whom the proportion rose from 16% to 34%. (For men, it rose from 25% to 40%.)

Awareness that access to employment under the scheme is a right for all rural households, and not limited to specific groups or by gender, is far from universally known. In consequence, potential applicants can be excluded based on certain characteristics (e.g., widowhood, gender, old age, and disability) or a lack of documentation, such as a Below Poverty Line (BPL) card which is used to identify target groups for

some antipoverty schemes in India but is expressly not required for MGNREGS.

Participants tend to be more knowledgeable than non-participants. Table 2 gives the breakdown of mean scores on our knowledge tests between participants, excess demanders—defined as those who wanted BREGS work but did not get it—and others. Participants scored better than either excess demanders or others. Of course, knowledge about a program can hardly be exogenous to program participation. One cannot conclude from Table 2 that knowledge was the cause of usage; the opposite may well be the case. There are likely to be various (observed and unobserved) factors underlying the differences in Table 2. There is substantial un-met demand for work on the scheme and jobs are rationed according to a number of observable characteristics (Dutta et al., 2014). These overlap with the characteristics that enhance knowledge; workers with more experience of doing casual labor tend to be both more knowledgeable and to use the scheme more; the same is true of those with good local political connections. However, the opposite is true regarding education, with better educated workers tending to be more knowledgeable about the scheme but less likely to use it.

To determine whether knowledge is decisive, we need an exogenous source of new knowledge. That is the role of our RCT, which we now turn to.

Table 2
Summary statistics on knowledge between participants and others in Round 1.

	Participants		Excess demanders		Rest	
	Mean	SD	Mean	SD	Mean	SD
<i>All</i>						
Work score	2.98	1.61	1.99	1.86	1.81	1.70
Facilities score	1.80	1.38	1.12	1.34	1.02	1.32
<i>Men</i>						
Work score	3.22	1.56	2.35	1.97	2.47	1.86
Facilities score	1.88	1.36	1.26	1.38	1.18	1.40
<i>Women</i>						
Work score	2.15	1.50	1.54	1.60	1.38	1.43
Facilities score	1.52	1.42	0.96	1.28	0.91	1.25

¹³ The Mukhiya is the elected leader of the GP and plays an important role in the implementation of development programs at the panchayat level.

Table 3
Balancing test for equality of means between treatment and control villages.

Variable	Treatment	Control	t-test	Prob. > t
Has heard of the scheme	0.83	0.84	0.76	0.45
Work score	1.75	1.74	0.68	0.50
Facilities score	1.04	0.99	0.49	0.63
Total land (excl. dwelling)	0.60	0.52	0.95	0.34
Age (male)	42	42	0.67	0.50
Age of head	46	46	-0.36	0.72
Asset index	0.17	0.03	0.86	0.39
BPL card	0.57	0.59	-0.60	0.55
Caste Mahadalit	0.15	0.16	-0.59	0.55
Caste OBC	0.61	0.59	0.47	0.64
Caste SC	0.11	0.11	-0.14	0.89
Caste ST	0.01	0.01	0.44	0.66
Knows Block District Officer	0.01	0.01	0.12	0.91
Knows Mukhiya	0.16	0.15	0.12	0.90
Knows political worker	0.02	0.01	0.87	0.39
Knows Ward member	0.28	0.28	0.07	0.95
Education in years	1.94	1.95	-0.04	0.97
Maximum education	3.29	3.34	-0.41	0.69
Households size (log)	1.58	1.58	-0.14	0.89
Share of female adult	0.28	0.28	-0.03	0.97
Share of male adults	0.23	0.24	-1.14	0.26
Share of elderly	0.06	0.06	1.02	0.31
Share of children	0.15	0.14	0.13	0.89
Female Pearl scale	2.07	2.01	0.79	0.43
Male Pearl scale	1.83	1.88	-0.65	0.52
Voted?	0.96	0.96	0.34	0.73
Male gender	0.43	0.45	-1.53	0.13
Male head	0.84	0.85	-0.12	0.91
Marital status (married)	0.94	0.92	2.12	0.04
Marital status (widowed or divorced)	0.05	0.06	-0.68	0.50
GP has panchayat bhawan	0.59	0.67	-0.93	0.35
Religion Hindu	0.89	0.90	-0.28	0.78
Household shock: accident	0.36	0.36	-0.28	0.78
Household shock: illness/death	0.03	0.04	-1.47	0.14
Household shock: job loss	0.08	0.06	0.67	0.51
Household shock: natural disaster	0.08	0.09	-0.43	0.67
Household shock: other	0.08	0.08	-0.28	0.78
Share of households with BPL (listing schedule)	0.56	0.53	0.84	0.40
Share of households with kutcha house (listing)	0.63	0.61	0.50	0.62
Share of OBC households (listing)	0.54	0.55	-0.24	0.81
Share of SC households (listing)	0.22	0.23	-0.28	0.78
Village asset index	1.40	1.36	1.24	0.22
Village asset inequality index	0.16	0.16	0.43	0.67
Age of Mukhiya	43	42	0.12	0.90
Mukhiya is contractor	0.08	0.05	0.75	0.46
Mukhiya has held GP post	0.24	0.13	1.61	0.11
Mukhiya family has held GP post	0.26	0.23	0.45	0.66
Mukhiya lives in village	0.50	0.60	-1.09	0.28
Mukhiya is male	0.53	0.54	-0.11	0.92
Mukhiya has primary schooling	0.13	0.22	-1.18	0.24
Mukhiya is farmer	0.79	0.73	0.75	0.45
Civil society organization in village	0.23	0.20	0.28	0.78
BREGS group in village	0.93	0.91	0.35	0.73
No male migration	0.53	0.52	0.49	0.63
Other group in village	0.83	0.79	0.46	0.65
Women do casual work	0.39	0.39	-0.14	0.89
Men do casual work	0.64	0.62	0.44	0.66
Village distance to block HQ	0.18	0.34	-1.85	0.07
Village distance to bus	0.55	0.64	-1.02	0.31
Village distance to GP	0.89	0.90	-0.12	0.90
Village distance to town	0.08	0.13	-0.85	0.40
Village has electricity	0.48	0.72	-2.82	0.01
Village has nonfarm enterprise	0.41	0.50	-1.55	0.12
Village has Post Office	0.53	0.55	-0.32	0.75
Village had good relations among groups	0.98	0.97	0.08	0.94
Village is mainly Hindu	0.83	0.87	-0.74	0.46
Village has good road	0.28	0.43	-1.70	0.09
Village has had drought	0.80	0.78	0.24	0.81
Village has had a flood	0.30	0.25	0.67	0.50
Village has had any shock	0.93	0.95	-0.46	0.64
Women's group in village?	0.60	0.58	0.18	0.86

2.4. The information campaign

The campaign was conducted in February–March 2010 in 40 villages randomly selected from the BREGS baseline sample of 150 villages. The intervention was done 2–4 months prior to the follow-up survey (R2). As always, the choice of the follow-up time period is important. Given the timing of the seasons and the nature of the program, our expectation is that if the intervention had impact it should be evident within this time period, given that this coincided with the lean season, when demand for BREGS should be high. Around the time that many people would be in need of extra work, the intervention tells them how to go about getting that work. We cannot rule out the possibility of longer lags, but we would still expect at least some impacts to be evident within this time period if learning about rights is the key constraint. The follow-up survey also added extra questions related to the scheme and how it was perceived.

Our baseline survey results and observations from qualitative field work suggested that for the information campaign to be successful, it had to meet several criteria: (i) it would need to engage viewers emotionally if it was to be relevant to them, (ii) it should influence public knowledge and not just that of participants, and (iii) it should be relatively easy to scale up if it proved effective in the trial. After showing the movie, we did a second round of surveys, returning to the same villages and households.

In terms of content, an effective information campaign in this context needs to stress the fact that all adults are eligible for the scheme and that potential workers need to demand work in order to get it, in addition to providing information on guidelines for time-bound responses from the government on providing work or an unemployment allowance, and for paying wages. Crucially, such a campaign needs to keep in mind the high levels of illiteracy in rural Bihar; in R1, we find that 56% of the heads of households are illiterate.

We initially explored alternative modes of information campaigns through several open-ended focus group discussions with participants and non-participants, and men and women, separately, in Nalanda and Patna districts of Bihar. In two focal groups, information about the scheme was read out by facilitators, while in another, the team showed short video clips on the scheme produced by the (national) Ministry of Rural Development and additionally provided information through facilitation and discussion. Prior to the focal groups, we informally interviewed likely participants and then again after. The film format attracted more interest and discussion in the focus groups and appeared to show greater potential for creating knowledge.

Based on these preliminary findings from our fieldwork, we produced (in collaboration with the NGO Praxis—the Institute for Participatory Practices) a 25 minute movie to explicitly convey information about rights and entitlements under BREGS. The movie was tailored to Bihar's specific context and program guidelines. Professional actors performed in an entertaining and emotionally engaging story-based plot whose purpose was to provide information on how the scheme works, who can participate and how to go about participating. The main story line was centered on a temporary male migrant worker returning to his village from the city to see his wife and baby daughter. He learns that there is BREGS work available in the village, even though it is the lean season, so he can stay there with his family and friends rather than return to the city to find work. It was intended that the audience would identify strongly with the central characters. While the lead actor was a man, and the main focus was on him

Notes to Table 3:

t — tests for difference in means (treatment group minus control group). Both weighted village means of individual and household variables are given, as well as village — level variables. All variables for R1. Detailed test results for the components of the work and facilities scores are omitted for brevity; none of the differences were statistically significant. Kutcha refers to crude or temporary; a panchayat bhawan is a building where the GP conducts its official work.

throughout, the story line included a deliberate flow of supporting actors, including women who indicated that the scheme was open to women.

The film was disseminated between mid-February and mid-March 2010 in the randomly selected subsample of 40 out of the 150 villages that were surveyed in R1. (Section 2 discussed the timing of the intervention and follow-up surveys.) Compliance at the village level was complete. Since our 150 villages are drawn randomly from all villages in rural Bihar, we can infer mean impacts of a village receiving a screening of the film for rural Bihar.

As a check on the randomization, we tested for differences in the sample means of the village variables used in our analysis (including village means of household and individual variables). The difference in sample means was only statistically significant at the 5% level for three variables; Table 3 provides details. Some significant differences are to be expected by chance even when fully randomized. There are four variables that show a significant difference at the 10% level. One is marital status of the head but the difference is still small. The treatment villages are closer to the block headquarters, and more likely to have a road; these might suggest some non-random process favoring villages with better infrastructure, but it is not found in other aspects of infrastructure; indeed, the fourth significant difference is for electricity, for which treatment villages had lower rates of electrification. Overall, the two samples are well balanced.

In each village, the film was shown in two separate locations at different times over 1 or 2 days. Typically, it was projected in common areas, such as an open ground, school building, or community hall. The screenings were in an open space about half the time; school buildings were the venue for about half the remainder. At each location, the film was screened twice, followed by a question and answer session and distribution of one-page flyers that pictorially illustrated the main entitlements and processes under the scheme. On arriving in each village, efforts were made by the facilitators to announce and advertise the upcoming screenings in advance. Local officials such as the Mukhiya and Sarpanch, opposition leaders, and local BREGS officials were invited to attend.

The movie was clearly a big event in the treatment villages. On average, about 365 people attended either screening, roughly evenly split between the two screenings. Average population of the treatment villages is 1873. So 20% of the village population saw the movie, although the information could also be passed on to others who did not. Almost two-thirds (62%) of those attending were men. (The proportion was no different between the first and second screenings.) In a third of the villages, the Mukhiya attended the show as did his assistant (the “mate”); the Panchayat Rozgar Sewak (PRS) attended in half the treatment villages and the local opposition leader did so in close to 60% of villages.¹⁴ Only in 11% of the showings did people say that the information provided was not new. The average discussion time after the movie was 38 minutes and the movie was deemed by the facilitators to have generated a “lot of discussion” in 29% of the showings. Based on our survey, 86% of men and 77% of women in the treatment villages were aware that the movie had been shown. 55% of men in the sample had actually seen the movie, as compared to 43% of women. 27% of men and 33% of women had not seen the movie but reported that they had discussed it with others in the village. This is consistent with the existence of a bandwagon effect. However, it is notable that this appears to have been more important for women, who were less likely than men to have seen the movie first hand, and more likely than them to have learnt about it by talking to others.

There was negligible spillover effect on the control villages; only 12 households (0.4%) in our R2 sample from the control villages reported that they were aware that a film on BREGS had been shown elsewhere.

3. Impacts of the movie

As validation of the intervention, Table 4 reports the estimated impacts of the movie on knowledge of BREGS for both men and women separately, as well as for the full sample. These are regression coefficients of knowledge on the village assignment of the movie.¹⁵ The dependent variable is a dummy variable taking the value 1 if the respondent was aware of BREGS or got the right answer to the relevant question and 0 otherwise. Thus, the regression coefficient is the difference in the mean knowledge score between those who live in a village that was assigned the movie and those who live in a control village. The constant gives the mean knowledge score for the control group.

The movie had a significant impact on knowledge of the existence of BREGS for the sample as a whole. The magnitude of the effect is small (a 3% point gain), although that is not surprising as knowledge of the existence of BREGS was high to begin with. Also note that a larger and more significant effect on knowledge is found among women. However, it should be recalled that women were less aware initially. For example, while the movie increased the proportion of women who had heard of the scheme by 5 percentage points (significant at the 1% level), but added nothing for men, in the baseline survey, 73% of women had heard of the scheme, compared to 95% of men. So there was some catch-up, although the gap in knowledge remained. The movie helped improve women’s knowledge of employment-related rights (as measured by the work score). However, there is not much sign of such a catch-up effect for other aspects of knowledge. Indeed, most effects in Table 4 are both larger and more precisely estimated for men.

Large impacts are seen on knowledge about the number of days of work available (a 12% point increase), about the fact that work has to be provided within 15 days, that wages are to be paid within 2 weeks, that contractors are not permitted under the legislation, and about the prevailing BREGS wage rate; these impacts are all significant at the 1% level for men. Awareness of the right to unemployment compensation if work cannot be provided also rose substantially due to the movie, with a larger effect for men (12%) than for women (8%). In contrast, there was no effect on awareness of the fact that BREGS work is not restricted to men, or to BPL households only. Awareness of these features improved considerably between R1 and R2, but there was no added impact of the movie.

The impact of the movie on knowledge of worksite facilities is mixed, and not robust. There was no impact for either men or women on the facilities score. The fact that childcare is to be provided was little known in the control group, but rose for treatment villages, from 13% to 20%.¹⁶ Among women, but not men, there was a puzzling negative effect on knowledge that the scheme requires that drinking water and shade be provided at work sites. However, this was not robust to using a difference-in-difference estimator, which did not reveal any significant impact for these two items. We infer that the perverse effect stemmed from a minor small-sample bias in the randomization, which can never be ruled out.

Note the sizeable and significant effect of the movie on knowledge that work has to be demanded among men, but not women. 72% of men knew this in the control villages, rising to 80% with the movie. It is striking that there was no impact on knowledge that work has to be

¹⁵ The “svy” command in Stata was used to assure that the regression coefficient on the assignment dummy variable is equivalent to the difference in weighted means. Given the randomized assignment, the regression coefficient on village assignment is unbiased for mean impact in large samples. Small-sample properties mean that there may be some dissimilarities between the randomized in and out villages. We also tested a difference-in-difference (DD) estimator that corrects for time-invariant selection bias that may be present due to any small sample bias. This is not feasible for all outcome indicators of interest. However, for those for which DD is feasible, we found that the DD impact estimates were almost always very similar to those found for the single difference; we comment on any exceptions below.

¹⁶ The impact on knowledge about childcare was not robust to using a DD estimator, which showed no significant impact.

¹⁴ The PRS is hired on contract by the state government for implementing the scheme.

Table 4
Estimates of the effect of the randomly assigned movie on knowledge of BREGS by gender.

	Full Sample			Women			Men		
	Movie in village	Constant	Obs	Movie in village	Constant	Obs	Movie in village	Constant	Obs
Has heard of scheme	0.028**	0.915***	5012	0.047***	0.867***	2782	0.006	0.976***	2230
Work score	0.497***	2.465***	4655	0.368***	2.006***	2464	0.696***	2.977***	2191
Days	0.118***	0.221***	4597	0.117***	0.104***	2429	0.130***	0.351***	2168
Gender	-0.022	0.654***	4635	-0.007	0.622***	2452	-0.037	0.690***	2183
BPL	0.042*	0.615***	4636	0.048	0.559***	2453	0.039	0.676***	2183
Work lag	0.062***	0.088***	4629	0.038*	0.064***	2450	0.094***	0.114***	2179
Unempl.	0.094***	0.286***	4635	0.081**	0.201***	2451	0.117***	0.381***	2184
Wage rate	0.116***	0.322***	4637	0.082***	0.239***	2452	0.165***	0.413***	2185
Wage lag	0.048***	0.106***	4609	0.025	0.093***	2438	0.078***	0.122***	2171
Demand	0.049**	0.605***	4989	0.027	0.515***	2767	0.083***	0.717***	2222
Contractor	0.047**	0.184***	4634	-0.011	0.132***	2449	0.121***	0.242***	2185
Facilities score	0.02	1.317***	4655	-0.068	1.140***	2464	0.144	1.514***	2191
Crèche	0.075***	0.128***	4644	0.073***	0.100***	2458	0.081***	0.160***	2186
Water	-0.041*	0.604***	4645	-0.063*	0.546***	2458	-0.009	0.668***	2187
Shade	-0.026	0.445***	4644	-0.067**	0.394***	2457	0.027	0.502***	2187
First aid	0.016	0.142***	4642	-0.008	0.102***	2457	0.049	0.186***	2185
Board	0.023**	0.028***	4996	-0.004	0.014***	2773	0.058***	0.045***	2223

Note: The "Movie in village" columns present the difference in the mean knowledge score between individuals in villages that were assigned the movie and those in control villages. The constant gives the mean knowledge score for the control group. Regressions used the "svy" command in Stata to correct for survey design (stratification and clustering), household weights, and individual outcomes. Based on R2 data only. If an individual has not heard about BREGS, answers to other questions are coded as missing. Full definitions of the knowledge questions are given in Table 1. Source: Authors calculations from special-purpose survey data reported in further detail in Dutta et al. (2014).

* p < 0.1, based on robust standard errors.
 ** p < 0.05, based on robust standard errors.
 *** p < 0.01, based on robust standard errors.

Table 5
Estimates of the effect of the movie on perceptions and BREGS participation by gender.

Dependent variable	Full R2 Sample			Women			Men		
	Movie in village	Constant	N	Movie in village	Constant	N	Movie in village	Constant	N
<i>Perceptions about BREGS in village</i>									
1 Get work under BREGS when demands	0.085***	0.084***	4201	0.072***	0.069***	2125	0.100***	0.099***	2076
2 BREGS projects have increased employment	0.084***	0.176***	4173	0.067**	0.147***	2096	0.105***	0.206***	2077
3 BREGS decreased migration of labor	0.093***	0.140***	4071	0.087***	0.108***	2028	0.102***	0.172***	2043
4 BREGS work will be available next year	-0.032	0.563***	1906	-0.041	0.520***	831	-0.03	0.599***	1075
5 Women have the right to choose BREGS projects	0.047*	0.632***	3188	0.03	0.614***	1515	0.064*	0.649***	1673
6 Assets created under BREGS are useful to women	-0.088**	0.832***	4013	-0.090**	0.844***	2039	-0.088**	0.821***	1974
7 Women work in BREGS projects	-0.072***	0.721***	4211	-0.045	0.717***	2162	-0.104***	0.726***	2049
8 Women treated well at BREGS worksite	0.003	0.981***	2602	-0.004	0.983***	1274	0.01	0.978***	1328
9 Women get work if they bring children to worksite	0.008	0.779***	2322	0.01	0.762***	1104	0.009	0.795***	1218
10 Women paid same wages as men on BREGS works	0.021	0.807***	2454	0.004	0.824***	1198	0.038	0.790***	1256
<i>Perceptions of BREGS as it relates to the household</i>									
11 Women of HH would like to work on BREGS	-0.013	0.454***	4929	-0.011	0.467***	2740	-0.015	0.437***	2189
12 Women of HH would be allowed to work on BREGS	-0.017	0.458***	4913	-0.019	0.473***	2724	-0.014	0.440***	2189
13 Knowledge of BREGS increased in last year in your family	0.163***	0.427***	4834	0.163***	0.348***	2637	0.166***	0.522***	2197
14 BREGS work opportunities improved in last year for your family	0.105***	0.119***	4798	0.110***	0.110***	2606	0.098***	0.129***	2192
<i>Perceptions about other outcomes in the village</i>									
15 Benefit of participating in Gram Sabha	0.104***	0.152***	4356	0.096***	0.112***	2267	0.115***	0.197***	2089
16 Women participate in Gram Sabha	0.088***	0.367***	4507	0.087***	0.340***	2395	0.090**	0.398***	2112
17 Workers can influence wages	0.033	0.637***	4408	0.016	0.617***	2259	0.053	0.659***	2149
18 Infrastructure improved in village	0.068***	0.611***	4888	0.087***	0.602***	2671	0.044	0.621***	2217
19 Work increased in village	0.063**	0.424***	4560	0.048	0.407***	2410	0.081**	0.444***	2150
20 Wage increased in village	0.018	0.755***	4627	0.017	0.740***	2472	0.018	0.771***	2155
21 Migration decreased in village	0.112***	0.184***	4506	0.094***	0.148***	2355	0.134***	0.225***	2151
<i>Measured outcomes</i>									
22 BREGS participation post-movie	-0.01	0.054***	5012	-0.009	0.035***	2782	-0.009	0.078***	2230
23 BREGS days post-movie	-1.232	4.690***	1047	-0.586	2.842***	430	-1.704	6.011***	617
24 BREGS wages post-movie	-72.841	406.176***	1047	-52.766	261.668***	430	-88.228	509.487***	617
25 Desired participation in R2	-0.012	0.532***	5012	-0.021	0.446***	2782	0.002	0.641***	2230

Note: The "Movie in village" columns present the difference in the mean knowledge score between individuals in villages that were assigned the movie and those in control villages. The constant gives the mean knowledge score for the control group. Svy regressions (see Table 3 note). Based on R2 data only. If an individual has not heard about BREGS, answers to other questions are coded as missing. If an individual reports that they "don't know" the answer to a question, the observation is coded as missing. Numbers of observations for perceptions of women's treatment on BREGS worksites (8–10 in the table) are lower as these questions were only asked if respondents stated that women in the village work on BREGS. Source: Authors calculations from special-purpose survey data reported in further detail in Dutta et al. (2014).

* p < 0.1 based on robust standard errors.
 ** p < 0.05 based on robust standard errors.
 *** p < 0.01 based on robust standard errors.

demanded for women, given that barely half of them knew this in the control villages. It may be that since women typically go to BREGS worksites with male family members or as part of groups, this is information they don't feel they need to retain.

These results establish that the information campaign worked in raising knowledge about the scheme. But did that knowledge translate into better program performance?

3.1. Impacts on perceived and actual outcomes

Table 5 presents estimates of the movie's impacts on both perceptions and actual outcomes. Rows 1 through 21 report differences in perceptions about a number of factors relevant to BREGS, while the last four rows give impacts on objective aspects of how the scheme functioned post-movie, namely, participation, days of work, and wages.

Perceptions about the benefits of participating in Gram Sabhas, including women's participation, were enhanced by the movie. So too were perceptions that BREGS projects have increased employment and led to a decline in migration. These all rose appreciably and significantly as a result of the movie for both genders. For example, the belief that one can get work if one asks doubled incidence from 9% for the control group. Similarly, the perception that knowledge about BREGS increased for the household was appreciably and significantly raised by the movie. It increased from 52% for men in the control villages to close to 69% for those living in villages where the movie was shown, and from 35% to 51% for women. There was also a doubling in the perception among both men and women that BREGS work opportunities increased between the two rounds.

In general, perceptions of improvements in village infrastructure, greater work opportunities, and lower migration became significantly more positive as a result of watching the movie, although not always for both genders. When asked whether migration had decreased in their village, 13% more men and 9% more women believed that it had in the treatment than in the control villages. Similarly, perceptions that village infrastructure has improved were significantly higher among women, though not men, in the villages where the movie was shown. While these aspects of perceptions were not linked directly to BREGS in the survey, an indirect linkage to BREGS can be expected. (For example, village infrastructure may improve or migration may reduce due to BREGS; indeed, these points were made in the movie.)

While the bulk of the impacts on perceptions are positive, there are two exceptions, both related to women. The movie has a strong and significant negative effect on the perception of men and women that the assets created have been useful to women and (for men only) that women participate in BREGS work. No other perceptions concerning women were affected by the movie. We admit we are puzzled by these findings. These negative effects for women might reflect the fact that the movie had a male lead, and the benefits of the scheme to him were central to the plot, and that only one third of those who actually viewed the movie were women. A male perspective may have dominated in the bandwagon effect of how the movie's messages were conveyed to others in the village.

However, there are no significant effects on actual, or desired, participation, wage rates or days worked (Table 5). While we find significant impacts on both awareness and perceptions of work opportunities (and infrastructure), we find no impacts on actual work or wages. Perceptions appear to have been distorted by the movie; having watched the movie, enough people came to think that the scheme is working better for the village as a whole than their own objective experiences would suggest.

We can exploit the panel data to further test for impacts of the movie on the various transitions in BREGS participation status. First, consider the group of excess demanders in R1. The movie did not enable them to take up work on the scheme in R2. We found that the regression coefficient of the probability of participation among the R1 excess demanders on the dummy variable for whether the movie was shown

is very close to (and not significantly different from) zero for both men and women.

Nor was there any impact on those who were neither actual participants nor excess demanders in R1. Among this group, the regression coefficient of the probability of either taking up work or becoming an excess demander on the dummy variable for whether the movie was shown was not significantly different from zero at the 10% level. We also tested whether the movie had any effect on the number of worksites that opened in the GP. There was no effect on either the level in R2 or the change from R1 to R2.¹⁷

3.2. Learning and forgetting about the scheme

It is of interest to isolate the learning process by testing impacts of the movie on transitions from not knowing to knowing about BREGS. For this we need to bring in the baseline and panel. Table 6 looks at impacts for the subset of people who answered questions about BREGS correctly in R1 to see whether the movie reduced the incidence of "forgetting." This is followed in the lower panel by impact estimates for the subset of those who answered incorrectly in R1 and are "learning" about the scheme.¹⁸

The movie had significant, mostly positive, effects on retaining information about some of the scheme's stipulated rules over the two rounds. For example, the intervention significantly helped both men and women remember that BREGS offers 100 days of employment per household and at what wage rate. It enabled men to recall that an unemployment allowance is mandated when work is not provided and that contractors are not allowed. It reinforced the existence of the scheme for women who had heard about BREGS in R1.

The lower panel of Table 6 turns to the movie's impacts on learning about aspects of the scheme that people had been ignorant of in R1. The movie helped increase the incidence of correct answers for a majority of the knowledge questions for both men and women. For example, 12% more individuals who are from movie villages than those from control villages learned about the allowed number of work days, 12% more women that participation does not require a BPL card, 13% more people about the wage rate, 8% more people about the prescribed time for wage payments, and 15% more men that contractors are not permitted.

3.3. Impact heterogeneity

The movie could well have heterogeneous effects according to people's characteristics, including both those attributes that help one retain and digest information and those attributes that make that information more relevant to some individuals than to others. We postulate that more marginalized groups—illiterate, with an underprivileged caste identity, and being less politically connected—would learn more from the movie. Illiteracy is an especially plausible constraint on access to all services in this setting, including BREGS. We also expect greater impacts for women, given their larger knowledge gaps in the baseline. We hypothesize that there might be an interaction effect with self-efficacy (as captured by the Pearlin scores), although we were less sure what one might expect (as one can make arguments either way about how self-efficacy would influence the gains from an information intervention).

Table 7 reports the results. The main finding to note is that the movie resulted in an extra 5.1 days of employment for illiterates as compared to the better educated. This generated an extra Rs. 487 in wages for illiterate participants relative to that for the more educated, or about Rs. 95

¹⁷ Details available on request.

¹⁸ These are selected sub-samples, so one should be cautious in drawing inferences for the population. Nonetheless, these tests are of obvious interest with regard to those sub-samples.

Table 6
Effects of the movie on learning about BREGS.

Dependent variable	Full R2 sample			Women			Men		
	Movie in village	Constant	N	Movie in village	Constant	N	Movie in village	Constant	N
<i>PANEL A: "STILL RIGHT"</i>									
1 Has heard of the scheme	0.028***	0.946***	3100	0.052***	0.907***	1589	−0.002	0.990***	1511
2 Entitled to 100 or thinks 90 days	0.256***	0.384***	717	0.285**	0.162***	169	0.246***	0.449***	548
3 Both men & women can demand work	−0.061	0.676***	1583	−0.046	0.663***	745	−0.075	0.689***	838
4 Non-BPL families can demand work	0.032	0.662***	1346	−0.019	0.636***	527	0.071	0.681***	819
5 Work to be provided within 15 days	−0.038	0.313***	149	−0.013	0.102*	43	−0.056	0.389***	106
6 Knows about unemployment allowance	0.132**	0.468***	605	−0.072	0.369***	156	0.205***	0.510***	449
7 Knows wage rate	0.207***	0.407***	937	0.196**	0.309***	317	0.207***	0.460***	620
8 Wages to be paid within 2 weeks	0.109	0.130***	252	0.192	0.078**	95	0.02	0.198***	157
9 Contractors not allowed	0.127	0.274***	459	0.011	0.108***	152	0.181*	0.361***	307
<i>PANEL B: "LEARNING"</i>									
1 Has heard of the scheme	0.022	0.789***	649	0.049	0.764***	574	−0.155	0.941***	75
2 Entitled to 100 or thinks 90 days	0.115***	0.161***	2167	0.120***	0.091***	1252	0.110**	0.264***	915
3 Both men & women can demand work	−0.009	0.644***	1346	−0.044	0.628***	699	0.03	0.662***	647
4 Non-BPL families can demand work	0.069*	0.594***	1577	0.117**	0.525***	913	−0.001	0.692***	664
5 Work to be provided within 15 days	0.068***	0.084**	2770	0.047	0.064**	1397	0.090***	0.105***	1373
6 Knows about unemployment allowance	0.106***	0.263***	2318	0.113**	0.195***	1283	0.100*	0.349***	1035
7 Knows wage rate	0.129***	0.302***	1975	0.140***	0.236***	1119	0.109**	0.398***	856
8 Wages to be paid within 2 weeks	0.082***	0.087***	2650	0.066**	0.068***	1335	0.098***	0.107***	1315
9 Contractors not allowed	0.058*	0.167***	2459	−0.025	0.141***	1287	0.149***	0.198***	1172

Note: "Still right" is defined as being aware in R1 and staying aware in R2. "Learning" is defined as not being aware in R1 but becoming aware in R2. The "Movie in village" rows present the difference in the mean knowledge score between those in villages that were assigned the movie and those in control villages. The constant gives the mean knowledge score for the control group. If an individual has not heard about BREGS, answers to other questions are coded as missing. The number of observations varies between specifications and samples, based on number of responses and R1 levels of awareness. Source: Authors calculations from special-purpose survey data reported in further detail in Dutta et al. (2014).

* $p < 0.1$ based on robust standard errors.

** $p < 0.05$ based on robust standard errors.

*** $p < 0.01$ based on robust standard errors.

per day, which is almost exactly the average wage on BREGS in R2 (Dutta et al., 2014). This did not come with an increase in BREGS participation (Table 7); the movie had an impact on the extensive but not the intensive margin of participation by illiterate individuals. (Note also that the gain is not so evident for wages actually received, reflecting delays in payment.) And 5 days of work is a small proportion of the excess demand for work on this scheme; in the individual survey, we also asked how many days of extra work participants in BREGS would like; the average answer was 44 days in both survey rounds. Given that we find no effect on the number of days worked in the aggregate, there appears to have been a modest redistribution of work from the literate to the illiterate workers as a result of the movie. This is puzzling and has no obvious explanation, although it is still a rather small effect and one might not want to make too much of it. There is also a pattern in the results of Table 7 suggesting that, contrary to our priors, the movie allowed

those with political connections to learn more about the scheme and gain more economically. However, statistical precision is weak.

4. Conclusions

While the majority of people in rural Bihar have heard of the national antipoverty program studied here, there was little public awareness of even its most basic features prior to our trial information campaign. Few people understood that they had the right to request work under the scheme, though participants tended to be better informed. The fundamental legal principle of employment on demand had yet to sink in. Five years after the Act that created the scheme, people still knew very little about its details. And the overall participation rate was far lower than one would expect given the high incidence of poverty in rural Bihar, and associated demand for work on the scheme.

Table 7
Tests for heterogeneity in the impacts of the movie.

	Education primary school vs. illiterate	s.e.	Pearlin 2–1	s.e.	Pearlin 3–1	s.e.	Caste 2–1	s.e.	Political 2–1	s.e.	Male–female	s.e.
Has heard of scheme	−0.037	0.023	0.028	0.033	0.013	0.039	0.019	0.022	−0.052	0.062	−0.040**	0.021
Work score	0.171	0.248	0.406*	0.232	0.367	0.304	0.298	0.296	−0.589	0.768	0.329*	0.182
Facilities score	0.225	0.185	0.082	0.178	0.13	0.237	0.038	0.18	−0.819*	0.48	0.212	0.135
BREGs participant post-movie	−0.021	0.019	−0.01	0.034	0.023	0.037	−0.025	0.041	0	0.052	0	0.021
BREGs days of work post-movie	−5.098**	2.138	−0.23	2.098	1.293	2.297	−0.546	1.873	−1.529	1.371	−1.118	1.535
BREGs wages earned post-movie	−487.30**	204.172	35.65	207.564	169.881	220.525	−37.958	183.366	−113.54	135.939	−35.462	147.347
BREGs wages actually received post-movie	−106.035	148.744	107.668	192.594	237.912	210.289	168.739	157.837	−106.74	130.428	43.038	133.216
Desired participation in R2	−0.016	0.061	0.027	0.063	−0.085	0.084	0.026	0.059	0.016	0.139	0.023	0.047

Note: Estimated using a single difference on R2 data. The number of observations varies across specifications and outcome measures, ranging approximately between 2500 and 5000 observations depending on the subsample. Reported numbers give the difference in estimates between the specified groups. The stratifications are as follows: caste: 1 = Mahadalit, 2 = all others; Pearlin: 1 = scale < 3, 2 = scale = 3, 4 or 5, 3 = scale > 5; political: 1 = person voted, is close to Mukhiya or close to ward member, 2 = none of these is true.

* $p < 0.1$ based on robust standard errors.

** $p < 0.05$ based on robust standard errors.

To test whether real change is possible in this setting through access to information, we used a high-quality fictional movie to inform people of their rights under the law—to help improve local public knowledge of households' rights and of the scheme's rules, and to point to the scope for local monitoring and addressing grievances. The information campaign changed knowledge and beliefs about the public program in this setting. The movie also significantly enhanced people's performance in tests about their formal rights and entitlements under the law.

We find little discernible impact on seeking and obtaining employment when needed, or on wages. We do find a modest gain for illiterate participating individuals, though still far short of their desired employment. However, perceptions of local conditions and processes related to the scheme became significantly more positive for those who had access to the movie. Rather than change aggregate objective outcomes, the movie distorted beliefs. Collective perceptions of program efficacy became more positive, but this did not translate into actual efficacy on the ground.

We can only speculate here, but to us, this sounds a lot like the movie created some version of a groupthink—a collective belief that things are going better in the village than is actually the case. This can be rationalized by imagining that there is a psychic benefit from conformity within a society—a perceived gain from going with the flow of beliefs in your village—that must be weighed against any costs of believing something that turns out to be false. We can also imagine that there are lags in how collective beliefs influence individual perceptions, and that there is a threshold effect, given that it is implausible that there is any benefit from conformity when just one person believes something new. We can then readily see how multiple “belief equilibria” might exist in the steady-state of a village society. Possibly the movie was sufficient to shift the equilibrium to one with better perceptions of village life and the efficacy of the program in the treatment villages. This may well unravel over time when confronted with reality and communication among village members.

Our results show that knowledge and beliefs can be changed in this setting, but that this is not the key to policy efficacy. Learning one's rights is only one step to successfully exercising those rights by making demands on those to whom one is subordinate. In the setting studied here, the center created new rights but did not control the local supply side, which depended on the cooperation of local leaders and functionaries. As is well recognized, such decentralization has information advantages—that local people are better informed than the center about local needs—but these come with risks of local capture. We would conjecture that, to be effective, the information campaign would need to be combined with credible changes on the supply side, including governance and administration. Whether decentralized implementation can assure that the scheme attains its empowerment goals in this setting remains unclear. However, local implementation would likely need to be constrained more than it is at present, including through more effective implementation of public disclosure and grievance processes. The administrative structures would need to be in place to make these things possible, and they would need to some extent to disempower local elites, who will naturally resist.

Methodologically, our results also provide a warning about using subjective data on perceptions as outcome variables in this context. This can have advantages, such as in allowing the evaluator to get at im-

pacts that would not otherwise be evident without a longer time period of observations. But if the social psychology of information interventions can generate a collective delusion then the claimed impacts may not be real, and even the perception of change will presumably vanish in due course.

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