

# Jati Inequality in Rural Bihar

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## Abstract

Caste is a persistent driver of inequality in India, and it is generally analyzed with government-defined broad categories, such as Scheduled Caste and Scheduled Tribe. In everyday life, however, caste is lived and experienced as *jati*, which is a local system of stratification. Little is known about economic inequality at the *jati* level. This paper uses data from poor rural districts in Bihar to explore expenditure inequality at the *jati* level. Inequality decompositions show much more variation between *jatis* than between

broad caste categories. The analysis finds that even within generally disadvantaged Scheduled Castes and Scheduled Tribes, some *jatis* are significantly worse off than others. Consistent with previous work, the paper also finds that inequality is largely driven by inequality within *jatis*. This finding has implications for the implementation of large-scale poverty alleviation programs: the benefits of programs intended for disadvantaged castes are concentrated among specific *jatis*.

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# **Jati Inequality in Rural Bihar**

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## 1. Introduction

Most of the academic literature on caste and inequality in India is based on surveys that use caste categories that are used by the government of India, such as Scheduled Caste (SC) and Scheduled Tribe (ST).<sup>i</sup> In everyday life however, caste identity is experienced and practiced as *jāti* (henceforth, jati) (Srinivas 1976; Beteille 1996; Kumar and Somanathan 2017). Jatis are hereditarily formed endogamous groups whose identities are manifested in a variety of ways: occupational status, property ownership, diet, gender norms, social practices, and religious practices emphasizing purity and pollution. Each region of India has several hundred jatis. There is no pan-Indian system of ranking them, and the local rankings of jatis routinely change (Srinivas 1976; Bayly 2001; Rao and Ban 2007). Placement of jatis in broad government “caste” categories is complicated, and affected by politics and the level of mobilization achieved by the group (Rao and Ban 2007; Jaffrelet 2011; Cassan 2015).

This paper contributes to the literature on caste and inequality in rural India by analyzing inequality between and within jatis in rural areas of Bihar, one of India’s poorest states. The data were collected in 2011 with the intention of conducting an impact evaluation of a state-run rural livelihoods projects called JEEViKA.<sup>ii</sup> Though our sample is not representative of the population of the entire state, it is representative of poor populations in rural areas who are currently eligible for a variety of poverty-alleviation programs. Rich information on caste, jati, consumption expenditure and vulnerability makes the data suitable to understand the relationship between caste, jati, socio-economic status, and access to poverty alleviation programs.

Caste inequality is a form of an “inequality trap”(World Development Report 2006), driven by social structures that persist over generations. We know that it is a strong predictor of inequality and poverty. Household surveys confirm that the lowest castes continue to be disadvantaged relative to the broader population (Dreze and Sen 2002; Government of India 2014, 2017; Deshpande 2001, 2004; Thorat 2009; Desai and Dubey 2012). Though there is a declining gap in educational attainment at the primary-school level, there are persistent disparities by caste at higher levels of education and in labor markets (Desai and Kulkarni 2008; Thorat 2009; Thorat, Vanneman, Desai and Dubey 2017).

This raises the important question of the extent to which total inequality is driven by jati. Several papers decompose overall inequality into two components: the sum attributable to differences in mean outcomes across caste-groups, and to differences within those groups.<sup>iii</sup> Using a taxonomy of religious and caste groups in the India Human Development Survey, Boorah, Diwakar, Naik and Sabharwal (2014) for example find that inequality *between* government defined caste groups contributes 11 percent of total inequality in monthly consumption expenditure. Similar estimates are seen in Mutatkar (2005) and Subramanian and Jayaraj (2006). Lanjouw and Rao (2011) use a decomposition method adapted from Elbers, Lanjouw, Mistiaen and Ozler (2008) (known as the ELMO measure) to show that between-jati inequality in income in a North Indian

village of Palanpur decreased from 39 percent in 1974/75 to 29 percent in 1983/84. More recent estimates from Palanpur show that this declined even further to 17 percent by 2008/9. (Himanshu, Lanjouw, Murgai and Stern 2013).<sup>iv</sup>

Beyond this literature, very little is known about inequality at the jati level. We know that most marriages occur within jatis (Desai and Dubey 2010; Banerjee, Duflo, Ghatak and Lafortune 2013), and they tend to cluster spatially, showing differing levels of political mobilization and access to basic public services (Banerjee and Somanathan 2007). Jati-based networks provide an extensive insurance network for credit, transfers and insurance during periods of vulnerability (Munshi and Rosenzweig 2006; Mazzocco 2012). Jati-based disparities in educational attainment have been remarkably persistent within states over the several decades of India's post-independence period (Kumar and Somanathan 2017). Similarly, jati-affiliation also shapes opportunities for employment and out-migration (Munshi and Rosenzweig 2006; Munshi 2016). Jati-identity also affects women's opportunities to work outside the household, make decisions within the household, and participate in the community (Joshi, Kochhar and Rao 2018).

Jati-level information, thus, may be key to a deeper understanding of the determinants of inequality in India. Data on jati however, are lacking in most national surveys. We know of no decomposition of inequality at the jati-level using large samples that are representative at the state level. This could have significant implications for the design and impact of poverty-alleviation programs. If some jatis can capture more benefits than others (Kumar and Somnathan 2017), jati can become an important source of "exclusion error" in the implementation of these programs. (Government of India 2017: 177).

Our data confirm the persistence of caste-based inequality, with SC and ST populations generally poorer on average than households from higher-ranked castes. Using the ELMO measure of inequality decomposition, which permits comparisons when the number of groups varies, we find that decompositions using government caste categories show that the contribution of between broad-caste inequality to total inequality stands at less than 1 percent. Decompositions using between-jati inequality are, however, nearly three times higher. We also estimate the share of between-jati inequality to total inequality *within* a broad caste group and find that all the estimates are below 7 percent. We plot distributions of monthly per-capita expenditure to illustrate that there is substantial overlap in the distributions of the different jatis and caste-groups, but that some jatis are - to use the sociologist William Julius Wilson's term - "truly disadvantaged" (Wilson 1987) - systematically worse off even within groups that suffer disadvantage. We also examine the role of caste in accessing large poverty alleviation programs; we examine the state-run rural livelihoods program that was the reason behind the efforts to collect these data, as well as the Mahatma Gandhi National Rural Employment Gaurantee Scheme (MNREGS). We find that some jatis, even within targetted SC and ST groups, participate more than others.

This paper is organized as follows. Section 2 provides an overview of the survey. Section 3 presents results on inequality within jatis. Section 4 illustrates how jati-based inequality affects participation in poverty alleviation programs. Section 5 concludes.

## 2. Data

Our data were drawn from a 2011 survey of 9,000 households located in seven districts in Bihar (Table 1). The survey was intended to provide baseline estimates of poverty for an impact evaluation of JEEViKA, a large anti-poverty program that aimed to empower poor rural women through investments in community institutions, technical assistance and new sources of finance. The survey was conducted in 180 randomly selected panchayats, within the 16 blocks of the seven Jeevika districts. Households were randomly selected from majority SC/ST hamlets (tolas) within these panchayats. As a result of this design, the survey oversamples SC and ST households. For our purposes however, this design provides an opportunity to understand the heterogeneity among these broad groups along the lines of caste and jati.

Our analysis relies entirely on self-reported caste identity, as reported by the head, or chief decision-maker, of the household.<sup>v</sup> We identify a jati as a distinct group in our sample if it has at least 0.5 percent of the households in the sample.<sup>vi</sup> We classify self-reported jatis into broad caste groups according to government categories: Scheduled Caste (SC), Extremely Backward Classes (EBC), Other Backward Classes (OBC), Forward Castes (FC) and Muslims.<sup>vii</sup> Table 1, panel (b) provides basic descriptive statistics on jatis, as well as the broad caste groups. Note that SCs, which include seven main jati groups, account for almost 70 percent of the sample. The next largest group is OBCs, which consists of five jatis. The EBC group is smaller, including mainly three jatis. We also include two separate muslim groups, and two jatis under Forward Castes (FCs). Scheduled Tribes (ST) are less than 1 percent of our sample. These results are likely not representative of the jati-structure of the state, but are representative of the population that is typically targeted for state-run poverty alleviation programs. It is also important to know that little is known about the precise caste-structure of the state since there has been no rigorous caste census in the post-independence era.<sup>viii</sup>

## 3. Results: Jati-Based Inequality

### 3.1 Descriptive statistics

We begin our analysis by presenting some measures of well-being by government defined broad-caste categories as well as by jati categories. We include a household's monthly per capita consumption expenditure (MPCE), a measure of land holdings (measured in acres), schooling (as measured by the fraction of household heads who have had any schooling), and the Gini coefficient of MPCE.

Summary statistics for caste groups are presented in Table 2. Panel (a) presents summary statistics for the broad groups. Interestingly, the MPCE does not vary considerably across broad caste groups, with Forward Castes (FC) at 664 rupees and Scheduled Castes at 600 rupees – this is likely driven by how our sample was structured – it focussed on the poorest areas of the state. The overall Gini coefficient is quite low, at just 0.2, with little variation within broad caste groups. There is however, considerable inequality between groups in land ownership. As a whole, SCs

own less than 0.2 acres of land. This is just 11 percent of the landholdings of OBCs and 8 percent of the landholdings of FCs. Schooling attainment also shows considerable inequality, at 85 percent of Forward Caste household heads with some schooling and only 37 percent of SCs.

Table 2, panel (b) presents summary statistics at the jati-level. Here, we find even more variation than we saw at the broad caste-level. Again this is most apparent in measures of landholding and education. The Musahars, for example, appear to be considerably disadvantaged even relative to other SC counterparts. They are almost entirely landless (0.07 acres of land versus the SC average of 0.17 acres of land); have low levels of education (23 percent of household heads have completed schooling versus the SC average of 36 percent) and their monthly per-capita expenditure is also approximately 10 percent lower. This is consistent with anthropological studies that have noted that this jati, geographically concentrated in Bihar and Eastern Uttar Pradesh, is one of the most politically, economically and socially marginalized groups in India and quite distinct from other SC jatis (Mukul 1999).<sup>ix</sup> Similarly, among OBCs, Dhanuks and Kurmis appear significantly disadvantaged relative to Yadavs on landholding (but not on other indicators). They own an average of just 1.23 and 1.18 acres of land, respectively, while the Yadavs own an average of 2.27 acres.<sup>x</sup>

### 3.2 Inequality Decompositions

The next step of our analysis is to decompose inequality into between-group and within-group components. We first visualize the data with kernel density graphs of expenditure distributions by group, and plots showing the median MPCE for each group with bootstrapped 95 percent confidence intervals. Figure 1.1 shows the kernel density plot of MPCE among broad castes. Note that the plots for different broad caste groups overlap closely. This is consistent with the descriptive statistics of this variable and suggests considerable similarity between many of these groups.

Next, we explore the variations in MPCE at the jati-level. Figure 1.2 presents median MPCE for each jati with bootstrapped confidence intervals.<sup>xi</sup> We note considerable variations within broad groups. Within the SC group, for example, Musahars and Dushads are clearly disadvantaged relative to other jatis. On the other hand, Sardars are clearly better off than other SC jatis with the confidence interval of the MPCE overlapping with upper-caste Brahmins. More generally, differences at the jati-level are more pronounced than at the level of broad caste groups.

The interpretation of these patterns is complicated by the structure of our sample. Recall that each jati identified by name in our analysis has a representation of at least 0.5 percent in the total sample. Some groups, such as the Chamars, Musahars and Yadavs, are quite well represented, at 20 percent, 26 percent and 7 percent, respectively (Table 1). Many other groups are quite small. To better understand whether the differences between the groups are significantly different from zero, we perform an exhaustive pair-wise comparison of the MPCE of each jati with that of every other jati in the sample. Specifically, we use a series of quantile regressions, with bootstrapped standard errors, to test the null hypothesis of equality of the coefficient of MPCE for each pair of jatis. The results are presented in Table 3. Note that for the many groups in our sample – Chamars,

Dobhas, Dushads, STs, Musahars, Sardars, and Yadavs -- we reject the null hypothesis of equality of coefficients at least at the 10 percent level of significance. We interpret this as evidence that these groups are distinct from others in our sample. This is consistent with what we see in Figures 1.1 and 1.2.

Next, we decompose inequality into within- and between-group components. We use two measures. The first decomposes Theil's L or GE(0) which belongs to the additively decomposable General Entropy class of inequality measures (Bourguignon 1979; Cowell 1980; Shorrocks 1980).<sup>xii</sup> Our second measure, the 'ELMO' statistic (Elbers, et al. 2008), normalizes between-group inequality with the maximum possible between-group inequality given the current income distribution, relative sub-group size, and their rank order. A key advantage of this measure over conventional decomposition techniques is that it allows for comparisons between populations with different numbers of groups and different population sizes. For these reasons, the discussion that follows focuses on the results from the ELMO measure.<sup>xiii</sup>

Results on between-group inequality in MPCE are presented in Table 3. Note that in panel (a), which features broad caste groups, the contribution of *between* caste inequality to total inequality is just 0.6 percent using the conventional measure (column b) and 0.8 percent using the ELMO measure (column c). When we use jati-level groupings however, these go up more than 300 percent to 2.9 and 3.1 percent, respectively. Thus, considerably more inequality is explained by variations between jatis than variations across government caste categories.<sup>xiv</sup>

Finally, we examine how much inequality *between* jatis drives inequality within broad caste groups. Panel (b) of Table 3 presents decompositions of inequality by jati for each broad caste group separately. Here we see that the contribution of between-jati inequality to within broad caste inequality is relatively low, varying from 0.03 percent for Muslims to 6.5 percent for Forward Castes. Taken together, these estimates suggest that in the poorest communities of rural Bihar, inequality appears to emerge from variations *within* caste and jati groups, rather than *between* them, which is consistent with other literature on the subject (Lanjouw and Rao 2011; Lanjouw, Murgai and Stern 2013).

This observation is critical for an informed debate about targeting poverty alleviation in India. As discussed earlier, affiliation to a broad caste group determines eligibility for a wide range of government programs and services. Our results suggest that some SC groups, for example, are truly vulnerable on a range of indicators, and they are a small sub-group of the broader SC category. Conversely, many non-SC/ST groups are also equally vulnerable.

#### **4. Results: How effective is targeting based on caste?**

The results shown above raise the question of whether aggregate caste groupings are an effective strategy for targeting poverty-alleviation programs, and whether benefits disproportionately accrue to specific jatis within these caste groupings. We now address this question directly by examining

targeting in two anti-poverty programs: (1) the Bihar State Rural Livelihoods Program (BSRLP), and (2) the MNREGS.

The two programs use two very different approaches to reach the poor. The BSRLP requires project implementers to identify possible beneficiaries and offer the program services to them. This approach, which we call “programmatically targeting”, assumes that it is up to the policy maker to induce participation among the population of beneficiaries. MGNREGS, on the other hand, is a “self-targeting” program. It assumes that vulnerable individuals who lack better options will choose to participate on their own.

#### 4.1 Program 1: Livelihoods Programs

We first analyze the State Rural Livelihoods Program. These programs are community-driven development (CDD) projects that organize women into self-help groups (SHGs) that enable them to save and access credit. They are now one of the most important anti-poverty programs run by the Government of India under the umbrella of the National Rural Livelihoods Mission (NRLM). Programs such as these have generally shown to be reasonably effective in mobilizing women, increasing savings and building new institutional platforms in villages (Desai and Joshi, 2014; Khanna, Kochhar and Palaniswamy 2015, Sanyal, Rao and Majumdar 2015, Hoffmann et al 2017).

We obtained information on SHG membership using the endline survey for the evaluation, conducted in 2013.<sup>xv</sup> The SHG membership variable is an indicator for participation in the JEEViKA program. Since the programs treated all the villages in treatment areas, with varying levels of take-up at the individual level, we restrict our analysis to households in treatment villages. Of women in the treatment areas of our sample, 43 percent reported participating in an SHG.<sup>xvi</sup>

We use a simple linear probability model to regress a dummy variable for participation in JEEViKA on a set of controls. These include age, age squared, marital status of the woman, age at marriage, a dummy variable for some schooling of the female respondent, a dummy variable for female household-headship, per-capita expenditure and its square, landholdings, education of the household head, and household size. We also include panchayat level fixed-effects. We do this analysis first by adding government defined broad caste categories, with SCs as the omitted category, as additional right-hand side variables. Then we do a separate analysis for groups of jatis – first for SC/ST jatis, with non-SC/ST as the omitted group, and then for non-SC/ST jatis with SC/STs as the omitted group. Regression results are reported in Table 5.1.<sup>xvii</sup> Key regression coefficients are depicted graphically in the three panels of Figure 2.1.

Panel (a) of Figure 2.1 shows that all broad-castes have a lower probability of participating in SHGs than SCs. This result matches the overall program design – the program was actively promoted among the lowest caste groups. Figures 2.1 (b) and (c) however, show that uptake within these groups was far from uniform. We see that while most SC and ST groups in Bihar are more likely to participate in an SHG than non-SC/ST groups, Doms, Adivasis, “Other SCs” and “Other

STs” are less likely to participate, indicating a degree of jati-level variation in participation in these programs. In panel (c), which presents estimates for non-SC/ST jatis relative to excluded SC groups, we see that participation is much lower for the Shershabedi. This group has a 70 percentage point lower probability of participating than SC respondents. Brahmins are 19 percentage points less likely to participate than SCs, and Rajputs are 40 percentage points less likely. There is even heterogeneity among Muslims: Ansaris are 38 percentage points less likely to participate in these programs, but other Muslims are only 16 percentage points less likely than their SC counterparts.

The key finding here is that even though the program aimed to offer the program to the entire groups, the actual take-up shows considerable variation by jati. There are many possible drivers of this outcome. Geographic clustering, unequal demand for the program due to occupational patterns or variations in the status of women, the bias of program implementation teams, etc. can all make a difference to program participation rates. We do not examine those possible drivers here – we simply highlight that a program that was intended to be for all vulnerable women within a group was in fact more likely to be utilized by women from specific jatis.

#### 4.2 Program 2: Participation in MGNREGS

Next, we examine the caste and jati-level variations in participation in the MGNREGS. Our surveys asked households about their possession of a “job card” – a basic pre-requisite to access guaranteed employment under this program.<sup>xviii</sup> As before, we use a linear probability model to regress a dummy variable for possession of a job-card using the same set of baseline controls as in the previous specifications. We use both broad caste categories, and then jati-level regressions that first exclude non-SC/ST jatis and then exclude SC/ST jatis.

Results are presented in Table 5.2 and Figure 2.2. When we use broad caste categories, we see the expected pattern of lower participation in non-SC/ST groups. However, when we treat these groups as the omitted category and examine participation within the SC/ST group, we see considerable heterogeneity. We see in panel (b) for example, that Musahars show the strongest participation, followed by Chamars and Dushads, when compared to non-SC/ST jatis. They are four times more likely to possess a job-card than Dobha households and almost twice as likely to possess a job-card as Sardar households. In figure 2.2(c), we observe heterogeneity in take-up among OBCs who are less likely to participate in MGNREGS, presumably because of their higher socio-economic status. Shershabedias are significantly less likely to participate even in comparison to other OBC jatis.

In summary, the results from household participation in both these anti-poverty programs suggest that beneficiaries seem to be concentrated in specific jatis. The contrast between programmatic targeting and self-targeting is also interesting. The two leading sets of beneficiaries are quite different, suggesting that self-targeting has different effects by jati than programmatic targeting. Moreover, inequality within jatis seems to matter less for self-targeting than programmatic targeting. We emphasize that the differences in the jati-level variations in take-up

of these two types of programs could be driven by a variety of factors – incentives, program participation requirements, geographic rollout strategies, etc. The participation of specific jatis in each program is however, quite striking and an important topic for further investigation.

These findings on the significance of jati in the participation of two very different poverty alleviation programs may have important policy implications for the design of policies in contemporary India. The recently released Economic Survey of India for example, highlights the existence of 950 poverty alleviation programs at the national level, and hundreds more at the state-level. The report acknowledges targeting inefficiencies in the form “exclusion error” and argues that “leakages” are largely due to the presence of loopholes, the lack of transparency and failures of accountability (Government of India 2017: 177). Our results suggest that the program benefits may be affected by social identity (Kumar and Somanathan 2017). Our findings also corroborate the findings of past studies that highlight the difficulty of targeting more generally (Galasso and Ravallion 2005).

## 5. Conclusion

This paper has examined the relationship between caste and inequality in Bihar. We use data from a large sample survey collected in rural and relatively poor districts of the state in 2011 to compare patterns of inequality that emerge from two definitions of caste. The first is the conventional broad categorization that is used by the government (“Scheduled Caste”, “Scheduled Tribe”, etc.); and the second is the narrower categorization of jati identity through which caste is practiced in everyday life. Keeping in mind that the data only tell us about the poorest rural areas of the state, we find some caste-based differences in average monthly per capita expenditures. SC and ST populations are on average poorer than households from higher ranked castes, but there is considerable variation by jati.

We find that jati has a great influence on inequality. When we use broad caste groups, the contribution of between-caste inequality to total inequality is relatively low, just 0.8 percent. Consistent with the previous studies, we find most inequality occurs within rather than between castes. When we use jati-level groupings however, this number goes up to 3.2 percent. Even within some broad-caste categories, we find that a great deal of inequality is driven by jati-level variation. Of Forward Caste inequality for example, 6.5 percent is explained by between-jati inequality. Some jatis, such as the Musahars, appear to be “truly disadvantaged” within the disadvantaged groups.

All this has implications for targeting anti-poverty programs. We examine jati-level variation in participation in the MGNREGS and the State Livelihoods Programs, two of rural India’s most important efforts to alleviate poverty. We find that after controlling for a variety of socio-economic variables, there remains a lot of variation at the jati level. Doms and Adivasis are less likely to participate in the livelihoods program, while Dobhas and Sardars are less likely to have an MGNREGS card.

In summary, our analysis calls for a more nuanced approach to understanding the relationship between caste and inequality in India. Jati matters not just in understanding group-based inequality, but in thinking about how to address it with anti-poverty programs.

## References

- Banerjee, A., Duflo, E., Ghatak, M., and J. Lafortune (2013): "Marry for what? Caste and mate selection in modern India," *American Economic Journal: Microeconomics*, 5(2): 33-72.
- Banerjee, A., and Somanathan, R. (2007): "The political economy of public goods: Some evidence from India," *Journal of development Economics*, 82(2): 287-314.
- Bayly, S. (2001): *Caste, Society and Politics in India from the Eighteenth Century to the Modern Age*, Cambridge University Press.
- Béteille, A. (1996): "Varna and jati," *Sociological Bulletin* 45 (1): 15-27.
- Borooah, V. K. (2005): "Caste, inequality, and poverty in India," *Review of Development Economics*, 9(3): 399-414.
- Borooah, V. K., Diwakar, D., Mishra, V. K., Naik, A. K., and Sabharwal, N. S. (2014): "Caste, inequality, and poverty in India: a re-assessment," *Development Studies Research. An Open Access Journal*, 1(1), 279-294.
- Bourguignon, F. (1979): "Decomposable income inequality measures," *Econometrica*, 47(4), 901-920.
- Cassan, G. (2015): "Identity-Based Policies and Identity Manipulation: Evidence from Colonial Punjab," *American Economic Journal: Economic Policy*, 7(4): 103-131.
- Cowell, F. (1980): "On the structure of additive inequality measures," *Review of Economic Studies*, 47(3): 521-531.
- Deininger, K., Jin, S., and Nagarajan, H. (2013): "Wage discrimination in India's informal labor markets: Exploring the impact of caste and gender," *Review of Development Economics*, 17(1), 130-147.
- Dirks, Nicholas B. (2001): *Castes of Mind: Colonialism and the Making of Modern India*, Princeton University Press.
- Desai, S. and Dubey, A. (2012): "Caste in 21st century India: competing narratives," *Economic and Political Weekly*, 46 (11): 40.
- Desai, R. M., and Joshi, S. (2014): "Collective Action and Community Development: Evidence from Self-Help Groups in Rural India," *World Bank Economic Review*, 28(3): 492-524.
- Desai S., and Kulkarni, V. (2008): "Changing Educational Inequalities in India in the Context of Affirmative Action," *Demography* 45(2): 245-270.
- Deshpande, A. (2001): "Caste at birth? Redefining disparity in India," *Review of Development Economics*, 5(1): 130-144.
- Deshpande, A. (2004): "Decomposing Inequality: Significance of Caste," In *The Dalit Question: Reforms and Social Justice*, B. Debroy and D. Shyam Babu (eds), 33-52. Globus Books.
- Dreze, J. and Sen, A.K. (2002): *India: Development and participation*. Oxford University Press, USA.
- Datt, G., and Ravallion, M. (1998): "Why Have Some Indian States Done Better Than Others at Reducing Rural Poverty?" *Economica* 65(257): 17-38.

- Dubey, A., Gangopadhyay, S. and Wadhwa, W. (2001): "Occupational Structure and Incidence of Poverty in Indian Towns of Different Sizes," *Review of Development Economics*, 5(1): 49-59.
- Elbers, C., Lanjouw, P., Mistiaen, J., and Ozler, B. (2008): "Re-interpreting sub-group inequality decompositions," *The Journal of Economic Inequality*, 6(3): 1569-1721.
- Galasso, E., and Ravallion, M. (2005): "Decentralized targeting of an antipoverty program," *Journal of Public Economics*, 89(4): 705-727.
- Gang, I., Sen, K. and Yun, M.S. (2008); "Poverty in Rural India: Caste and Tribe," *Review of Income and Wealth*, 54(1): 50-70.
- Government of India (2014): "Scheduled Communities: A social Development profile of SC/ST's (Bihar, Jharkhand and W.B)," Planning Commission Research Paper. Available at: [http://planningcommission.nic.in/reports/sereport/ser/stdy\\_scmnty.pdf](http://planningcommission.nic.in/reports/sereport/ser/stdy_scmnty.pdf). accessed on 7/24/2016.
- Government of India (2017): *Economic Survey of India*. Ministry of Finance, Department of Economic Affairs, Economic Division.
- Hasan, A., Rizvi B.R. and J.C. Das (eds.) (2005): *People of India: Uttar Pradesh, Vol. XLII, Part I, II and III*, Anthropological Survey of India.
- Himanshu, Lanjouw, P., Murgai, R. and Stern, N. (2013): "Nonfarm diversification, poverty, economic mobility, and income inequality: a case study in village India," *Agricultural Economics*, 44: 461-473. doi: 10.1111/agec.12029
- Hoffmann, V., Rao, V., Surendra, V., Datta, U. (2017): "Relief from Usury: Impact of a Community-Based Microcredit Program in Rural India," *World Bank Policy Research Working Paper* 8021, Washington DC: World Bank.
- Hutton, J. H. (1946): *Caste in India: Its Nature, Function and Origin*. Bombay: Indian Branch.
- Jaffrelot, C. (2003): *India's silent revolution: the rise of the lower castes in North India*. Columbia University Press, 210-211.
- Joshi, S., N. Kochhar, and V. Rao. (2018): "Are Caste Categories Misleading? The Relationship Between Gender and Jati in Three Indian States," In *Towards Gender Equity In Development*. S. Anderson, L. Beaman and J. Philippe-Platteau (eds). Forthcoming. Oxford University Press.
- Khanna, M., Kochhar, N., and Palaniswamy N. (2015): "A retrospective impact evaluation of the Tamil Nadu Empowerment and Poverty Alleviation (Pudhu Vaazhvu) Project," *The Journal of Development Studies*, 51(9): 1-14.
- Kijima, Y. (2006): "Caste and Tribe Inequality, Evidence from India, 1883-1999," *Economic Development and Cultural Change*, 54(2): 369-404.
- Kumar, H., and Somanathan, R. (2017): "Caste connections and government transfers: The Mahadalits of Bihar," Working Paper 270. Delhi: Centre for Development Economics.
- Lanjouw, P. and Rao, V. (2011): "Revisiting Between-Group Inequality Measurement: An Application to the Dynamics of Caste Inequality in Two Indian Villages," *World Development*, Elsevier, 39(2): 174-187.
- Mazzocco, M. (2012): "Testing efficient risk sharing with heterogeneous risk preferences," *The American Economic Review*, 102(1): 428-468.
- Mukul, (1999): "The Untouchable Present: Everyday Life of Musahars in North Bihar," *Economic and Political Weekly*, 3465-3470.
- Munshi, K. (2016): "Caste Networks in the Modern Indian Economy," In *Development in India*. Springer India, 13-37.

- Munshi, K., and Rosenzweig, M. R. (2006): "Traditional Institutions Meet the Modern World: Caste, Gender and Schooling Choice in a Globalizing Economy," *The American Economic Review*, 96(4): 1225–1252.
- Mutatkar, R. (2005): "Social Group Disparities and Poverty in India," Working Paper Series No. WP-2005-004, Mumbai: Indira Gandhi Institute of Development Research.
- Rao, V., and Ban, R. (2007): "The political construction of caste in South India," *Mimeo*. Washington DC: World Bank.
- Sanyal, P., Rao, V., and Majumdar, S. (2015): "Recasting culture to undo gender: A sociological analysis of Jeevika in Rural Bihar, India," Working Paper 7411. Washington DC: World Bank.
- Shorrocks, A. (1980): "The class of additively decomposable inequality measures," *Econometrica*, 48(3): 613–625.
- Srinivas, M.N. (1976): *The remembered village* (No. 26). University of California Press.
- Subramanian, S., and Jayaraj, D. (2006): "The distribution of household wealth in India," Research Paper 2016/116. Helsinki: UNU-WIDER.
- Teltumbde, A. (2007): "Reverting to the Original Vision of Reservations," *Economic and Political Weekly*, 2383-2385.
- Thorat, S. (2009): *Dalits in India: search for a common destiny*. SAGE Publications India.
- Thorat, A., Vanneman, R., Desai, S., and Dubey, A. (2017) "Escaping and Falling into Poverty in India Today," *World Development*, 93: 413-426.
- Wilson, W. J. (1987): *The truly disadvantaged: The inner city, the underclass, and public policy*. University of Chicago Press.
- Zacharias, A., and Vakulabharanam, V. (2011): "Caste stratification and wealth inequality in India," *World Development*, 39(10): 1820-1833.

## Tables and figures

**Table 1: Sample Descriptive Statistics, N=8973**

<b>(a): Districts</b>	<b>Percent of Sample</b>	<b>(b): Caste</b>	<b>Percent of Sample</b>	<b>(c): Jati (sub-caste)</b>	<b>Percent of Sample</b>
Gaya	3.38	SC	69.93	SC: Chamar	20.44
Madhepura	31.06	ST	1.13	SC: Dobha/Dobh	2.51
Madhubani	5.07	OBC	16.9	SC: Dom	0.67
Muzzafarpur	18.51	EBC	4.65	SC: Dushad	16.72
Nalanda	5.58	Muslim	3.82	SC: Musahar	25.93
Saharsa	19.06	FC	3.58	SC: Pasi	0.89
Supaul	17.34			SC: Sardar	2.08
				Other SCs	0.69
				ST: Adivasi	0.86
				Other STs	0.27
				OBC: Dhanuk	1.19
				OBC: Koeri	0.91
				OBC: Kurmi	1.27
				OBC: Shershabadia	0.78
				OBC: Yadav	6.56
				Other OBCs	6.17
				EBC: Keuta	0.53
				EBC: Mallah	0.76
				EBC: Nat	0.99
				Other EBCs	2.36
				Muslim: Ansari	0.68
				Other Muslims	3.14
				FC: Brahmin	1.34
				FC: Rajput	1.46
				Other FCs	0.78

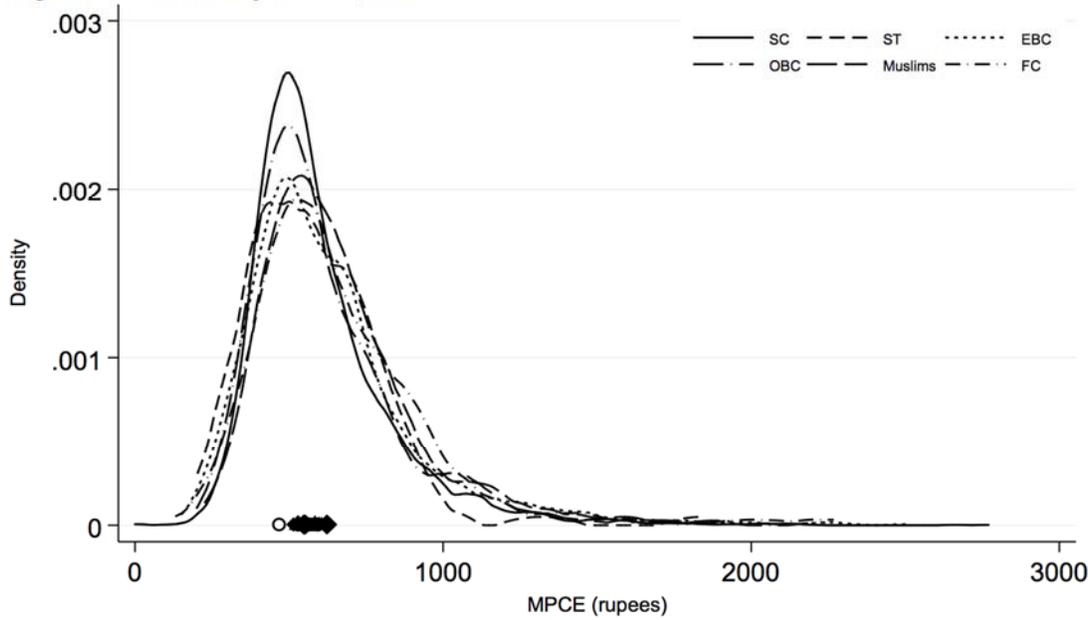
*Source:* Authors' calculations based on data collected by Social Observatory, World Bank and Government of Bihar, Odisha and Tamil Nadu, respectively.

**Table 2: Sample Characteristics by broad caste category**

	Average monthly per capita expenditure (in rupees)	Average land ownership (in acres)	Proportion of household heads who completed some schooling	Gini coefficient
<b>Panel (a): Caste</b>	<b>610.04</b>	<b>0.505</b>	<b>0.434</b>	<b>0.203</b>
SC	600.29	0.174	0.368	0.194
ST	580.00	1.306	0.474	0.199
OBC	629.36	1.469	0.594	0.227
EBC	612.84	0.652	0.496	0.207
Muslim	657.88	0.424	0.452	0.200
FC	664.01	2.050	0.849	0.224
<b>Panel (b): Jatis</b>	<b>610.04</b>	<b>0.505</b>	<b>0.434</b>	<b>0.203</b>
SC: Chamar	634.55	0.146	0.463	0.199
SC: Dobha/Dobh	625.22	0.463	0.505	0.198
SC: Dom	662.51	0.015	0.237	0.175
SC: Dushad	601.80	0.270	0.449	0.198
SC: Musahar	560.91	0.075	0.226	0.180
SC: Pasi	639.55	0.534	0.563	0.209
SC: Sardar	668.98	0.501	0.333	0.214
Other SCs	619.74	0.109	0.387	0.174
ST: Adivasi	588.96	1.283	0.459	0.177
Other STs	551.26	1.378	0.522	0.257
OBC: Dhanuk	592.43	1.232	0.452	0.190
OBC: Koeri	575.14	1.437	0.728	0.209
OBC: Kurmi	639.90	1.180	0.609	0.222
OBC: Shershabadi	648.99	0.425	0.388	0.243
OBC: Yadav	603.00	2.266	0.639	0.238
Other OBCs	667.91	0.863	0.577	0.218
EBC: Keuta	576.51	1.020	0.404	0.224
EBC: Mallah	615.59	0.251	0.258	0.204
EBC: Nat	653.77	0.617	0.616	0.224
Other EBCs	603.00	0.712	0.544	0.193
Muslim: Ansari	641.32	0.526	0.424	0.200
Other Muslims	661.46	0.402	0.459	0.200
FC: Brahmin	701.39	1.533	0.847	0.213
FC: Rajput	687.27	2.439	0.892	0.231
Other FCs	556.43	2.206	0.768	0.200

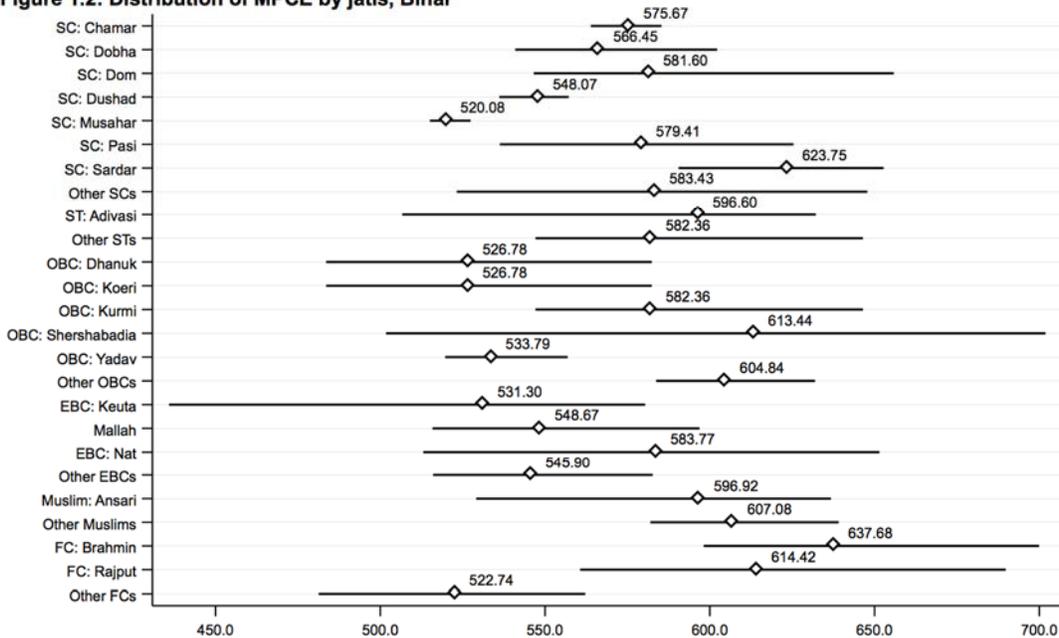
Source: Authors' calculations based on data collected by Social Observatory, World Bank and Government of Bihar.

**Figure 1.1: Kernel density of MPCE, Bihar**



Note: We use epanechnikov kernel to estimate these densities.  
 Source: Authors' illustration based on the data collected by Social Observatory, World Bank & Government of Bihar.

**Figure 1.2: Distribution of MPCE by jatis, Bihar**



Note: 95% level bootstrapped confidence intervals included around the median MPCE for every group.  
 Source: Authors' illustration based on the data collected by Social Observatory, World Bank & Government of Bihar.

**Table 3: Tests of the null hypothesis of equality of medians of per-capita expenditure**

Broad caste and Jati group	Number of rejections of the null hypothesis of equality	Broad caste and Jati group	Number of rejections of the null hypothesis of equality
SC: Chamar	8	OBC: Dhanuk	0
SC: Dobha/Dobh	5	OBC: Koeri	4
SC: Dom	1	OBC: Kurmi	0
SC: Dushad	6	OBC: Shershabadia	0
SC: Musahar	11	OBC: Yadav	5
SC: Pasi	1	Other OBCs	3
SC: Sardar	8	EBC: Keuta	1
Other SCs	0	EBC: Mallah	1
ST: Adivasi	2	EBC: Nat	0
Other STs	9	Other EBCs	3
Muslim: Ansari	21	FC: Brahmin	23
Other Muslims	22	FC: Rajput	24
		Other FCs	25

Notes: (1) Source: Authors' calculations based on data collected by Social Observatory, World Bank and Government of Bihar. (2) We test the equality of median per-capita expenditure between all pairwise combinations, i.e. jati  $i$  and jati  $j$  ( $i=1,\dots,24$  and  $j=1,\dots,24$ ), using quantile regression with bootstrapped standard errors, with 1000 replications. The null hypothesis of equality is rejected if the coefficient is significant at least the 10% level. The 24 jati groups in our sample have at least 0.5% representation in our sample.

**Table 4: Inequality in monthly per capita consumption expenditure**

	(a) Overall Inequality (GE(0))	(b) Conventional measure of between group inequality	(c) ELMO measure of between group inequality
<b>Panel (a): Caste</b>			
6 broad caste groupings	0.0666	0.0064	0.0083
16 jati groupings	0.0666	0.0292	0.0305
<b>Panel (b): Jati</b>			
SC (8 groups including others)	0.0610	0.0258	0.0297
ST(2 groups including others)	0.0660	0.0059	0.0118
OBC (6 groups including others)	0.0842	0.0164	0.0207
EBC (4 groups including others)	0.0683	0.0107	0.0114
Muslims (2 groups including others)	0.0641	0.0011	0.0029
FC (3 groups including others)	0.0835	0.0483	0.0652

Notes: (1) Source: Authors' calculations based on data collected by Social Observatory, World Bank and Government of Bihar. (2) In Panel (b), we restrict the sample to each broad caste category and estimate the inequality between jatis within that broad caste group. The number of jatis per broad caste category is indicated in brackets.

**Table 5.1: Program targeting: JEEVIKA**

(a) Government caste categories		(b) SC/ST jatis		(c) Non SC/ST jatis	
ST	-0.160 (0.089)	SC: Chamar	0.140*** (0.024)	OBC: Dhanuk	-0.122 (0.075)
OBC	-0.078*** (0.023)	SC: Dobha/Dobh	0.048 (0.053)	OBC: Koeri	-0.104 (0.073)
EBC	-0.076* (0.037)	SC: Dom	-0.235* (0.102)	OBC: Kurmi	-0.185* (0.074)
Muslim	-0.170*** (0.042)	SC: Dushad	0.179*** (0.024)	OBC: Shershabadia	-0.700*** (0.092)
FC	-0.300*** (0.039)	SC: Musahar	0.061* (0.024)	OBC: Yadav	-0.044 (0.033)
		SC: Pasi	0.077 (0.077)	Other OBCs	-0.023 (0.035)
		SC: Sardar	0.044 (0.072)	EBC: Keuta	-0.041 (0.115)
		Other SCs	-0.352*** (0.091)	EBC: Mallah	-0.194* (0.089)
		ST: Adivasi	-0.028 (0.105)	EBC: Nat	-0.023 (0.091)
		Other STs	-0.175 (0.161)	Other EBCs	-0.057 (0.046)
				FC: Brahmin	-0.195** (0.062)
				FC: Rajput	-0.402*** (0.045)
				Other FCs	-0.266** (0.087)
				Muslims: Ansari	-0.379** (0.123)
Some Schooling	-0.120** (0.043)	Some Schooling	-0.150*** (0.043)	Some Schooling	-0.124** (-0.043)
Female headed household	0.045* (0.022)	Female headed household	0.038 (0.023)	Female headed household	0.043 (0.022)
Per capita expenditure	0.118 (0.103)	Per capita expenditure	0.114 (0.103)	Per capita expenditure	0.108 (0.102)
Per capita expenditure squared	-0.037 (0.053)	Per capita expenditure squared	-0.040 (0.054)	Per capita expenditure squared	-0.030 (0.053)
Land	-0.017*** (0.005)	Land	-0.020*** (0.005)	Land	-0.019*** (0.005)
Observations	4187	Observations	4187	Observations	4187
Adjusted R-squared	0.130	Adjusted R-squared	0.136	Adjusted R-squared	0.136

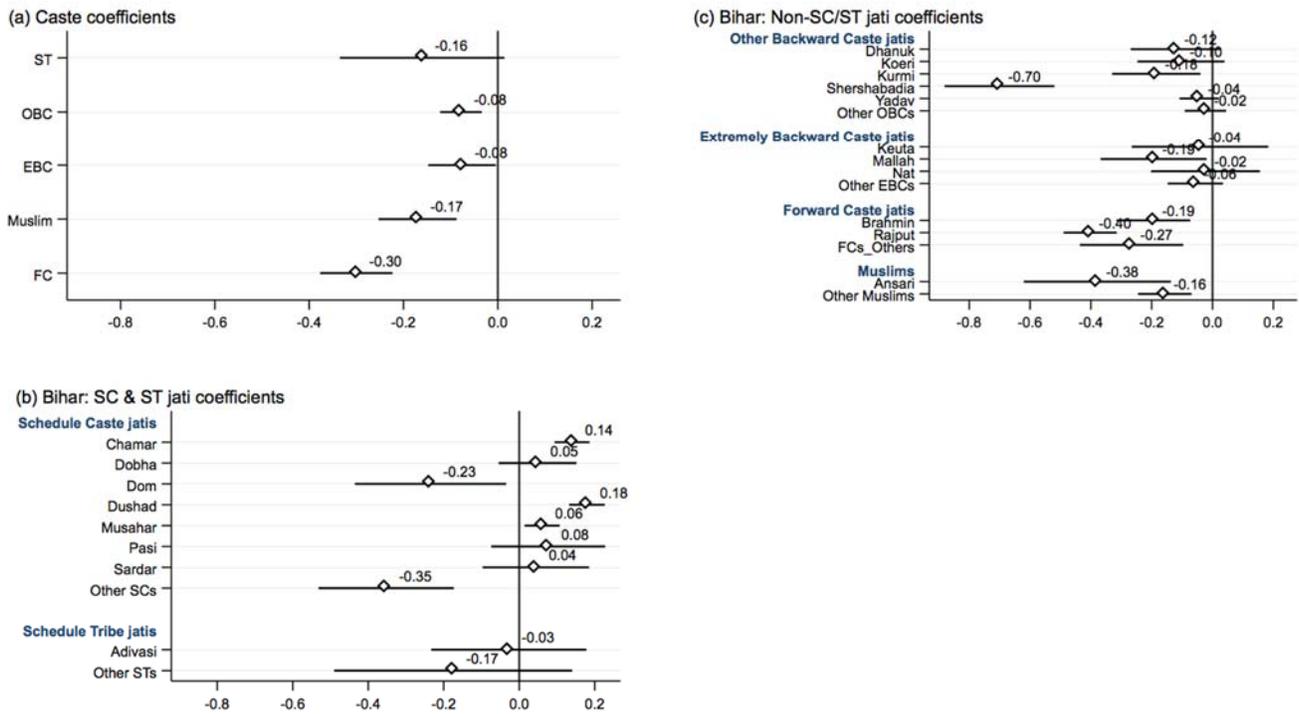
Notes: (1) SC is the omitted caste group in column (a), Non-SC/ST jatis are the omitted group in column (b) and SC/ST jatis are the omitted group in column (c). (2) Each column represents a separate regression wherein household's participation in NREGA is regressed on caste identity variables and a set of controls: age, age squared, marital status, age at marriage, a dummy variable for any schooling; a dummy variable for household female-headship, per-capita expenditure, per-capita expenditure squared, landholdings, education of the household head, number of members in the household and panchayat level fixed-effects; (3) Robust standard errors are in brackets. (4) We report the level of significance: \* p value < .05 , \*\* p value < .01 and \*\*\* p value < .001.

**Table 5.2: Program targeting: MGNREGA**

(a) Government caste categories		(b) SC/ST jatis		(c) Non SC/ST jatis	
ST	-0.099 (0.058)	SC: Chamar	0.239*** (0.016)	OBC: Dhanuk	-0.194*** (0.047)
OBC	-0.223*** (0.015)	SC: Dobha/Dobh	0.063 (0.033)	OBC: Koeri	-0.235*** (0.045)
EBC	-0.187*** (0.024)	SC: Dom	-0.065 (0.055)	OBC: Kurmi	-0.180*** (0.043)
Muslim	-0.315*** (0.027)	SC: Dushad	0.244*** (0.017)	OBC: Shershabadia	-0.660*** (0.098)
FC	-0.327*** (0.024)	SC: Musahar	0.294*** (0.015)	OBC: Yadav	-0.228*** (0.022)
		SC: Pasi	0.022 (0.049)	Other OBCs	-0.212*** (0.022)
		SC: Sardar	0.166** (0.052)	EBC: Keuta	-0.292*** (0.068)
		Other SCs	0.069 (0.065)	EBC: Mallah	-0.135* (0.060)
		ST: Adivasi	0.125 (0.064)	EBC: Nat	-0.060 (0.050)
		Other STs	0.219 (0.124)	Other EBCs	-0.229*** (0.032)
		FC: Brahmin	-0.405*** (0.032)		
FC: Rajput	-0.330*** (0.034)				
Other FCs	-0.166** (0.053)				
Muslims: Ansari	-0.304*** (0.076)				
Other Muslims	-0.320*** (0.028)				
Some Schooling	-0.187*** (0.029)	Some Schooling	-0.183*** (0.029)	Some Schooling	-0.187*** (0.029)
Female headed household	-0.051*** (0.015)	Female headed household	-0.050** (0.015)	Female headed household	-0.053*** (0.015)
Per capita expenditure	-0.134* (0.067)	Per capita expenditure	-0.116 (0.067)	Per capita expenditure	-0.134* (0.067)
Per capita expenditure squared	0.032 (0.034)	Per capita expenditure squared	0.027 (0.035)	Per capita expenditure squared	0.032 (0.035)
Land	-0.021*** (0.003)	Land	-0.021*** (0.003)	Land	-0.022*** (0.003)
Observations	8637	Observations	8637	Observations	8637
Adjusted R-squared	0.180	Adjusted R-squared	0.188	Adjusted R-squared	0.183

Notes: (1) SC is the omitted caste group in column (a), Non-SC/ST jatis are the omitted group in column (b) and SC/ST jatis are the omitted group in column (c). (2) Each column represents a separate regression wherein household's participation in NREGA is regressed on caste identity variables and a set of controls: age, age squared, marital status, age at marriage, a dummy variable for any schooling; a dummy variable for household female-headship, per-capital expenditure, per-capita expenditure squared, landholdings, education of the household head, number of members in the household and panchayat level fixed-effects; (3) Robust standard errors are in brackets. (4) We report the level of significance: \* p value < .05 , \*\* p value < .01 and \*\*\* p value < .001.

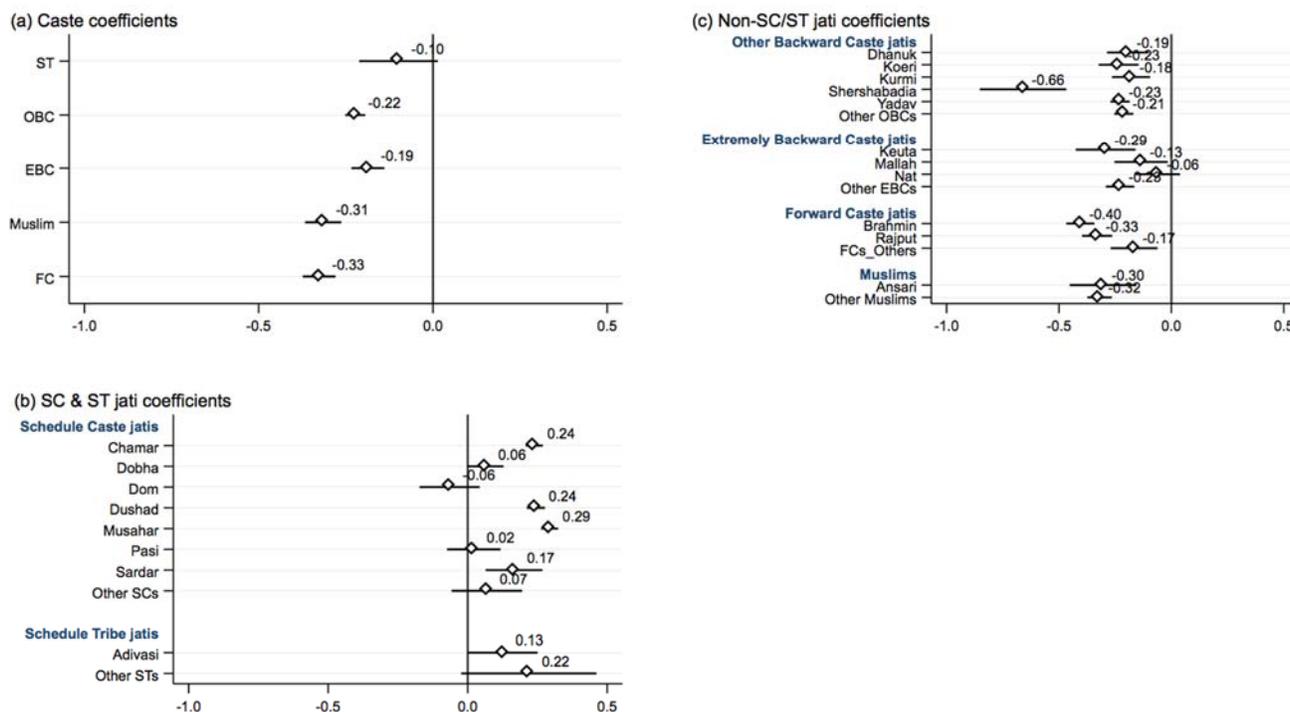
**Figure 2.1: Regression coefficients on caste groups- JEEViKA**



Note: 1) SC is omitted caste group in (i); EBC, OBC, FC and Muslim jatis are the omitted group in (ii); and ST and SC jatis are omitted group in (iii).  
 2) 95% confidence intervals included.

Source: Authors' illustration based on data used in Table 4.1.

**Figure 2.2: Regression coefficients on caste groups- NREGA**



Note: 1) SC is omitted caste group in (i); EBC, OBC, FC and Muslim jatis are the omitted group in (ii); and ST and SC jatis are omitted group in (iii).  
 2) 95% confidence intervals included.  
 Source: Authors' illustration based on data used in Table 4.2.

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<sup>i</sup> After independence, additional groups were added to the SC and ST lists and additional groups were created such as Backward Caste (BC), Extremely Backward Caste (EBC) and Other Backward Caste (OBC). Introduced by colonial administrators in 1935, these broad groups included many different types of sub-groups within them and the grounds for inclusion often appeared to be arbitrary (Bayly 2001; Dirks 2001; Cassan 2015), and the lists have been amended and expanded over time. The Government of India Act of 1935 listed 417 groups in the list of Scheduled castes. The Constitution of India of 1950 increased this to 821. In 1956, this was raised to 1,119. After 1976, additional orders were passed that enlarged the number of castes by adding more castes as equivalent names and synonyms and sub-castes / tribes of existing SCs and STs. In 1990, an amendment was passed by the Indian Parliament to include prior SC groups that had converted to Buddhism. The original list as well as updated lists of SC, ST groups for all states is available through the Ministry of Social Justice and Empowerment, Government of India at the following website (accessed on June 1, 2017): <https://web.archive.org/web/20120913050030/http://socialjustice.nic.in:80/sclist.php>

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<sup>ii</sup> This is also known as the Bihar Rural Livelihoods Project.

<sup>iii</sup> This literature follows Bourguignon (1979), Cowell (1980) and Shorrocks (1980), who decompose total inequality into inequality between subgroups and within subgroups and permit the quantification of the “contribution” of inequality from subgroups to overall inequality.

<sup>iv</sup> Another strand of this literature uses the Oaxaca-Blinder decomposition, and its variants, to identify the structural drivers of inequality (Boorah 2005; Kijima 2006; Gang, Sen and Yun 2008; Zacharias and Vakulabharanam 2011; Deininger, Jin and Nagarajan 2013). A consistent theme of this literature is the persistence of systematic disparities across different caste groups over long periods of time that are not fully explained by differences in human capital investment, labor market returns or location of residence (state or rural/urban residence).

<sup>v</sup> We rely on verbatim responses to the jati and caste-status reported by the respondent to the household module, who is the household head in majority cases. Where self-reported caste status deviates from the rest of the jati group, we preserve the jati response and assign the caste status of the jati’s modal household.

<sup>vi</sup> Jatis with smaller sub-samples are grouped together into a category we call “Others” defined separately for each caste-group.

<sup>vii</sup> The Government of India has categorized disadvantaged castes into three main categories - Scheduled Castes (SC), Scheduled Tribes (ST) and Other Backward Castes (OBC). The Government of Bihar also recognizes an additional group of Extremely Backward Classes (EBC), which were originally included in the broader OBC group.

<sup>viii</sup> A nationwide caste census was conducted as part of the Socio-Economic and Caste Census in 2011, but results have not been released by the Government of India.

<sup>ix</sup> Traditionally “rat-catchers,” the Musahars are now largely agricultural laborers and Musahar men have increasingly migrated out of the state with women joining the labor force (Mukul 1999). The Chamar jati, on the other hand, though also classified as SC, is found throughout India and consists of many different sub-jatis that vary significantly in status. In many states such as Uttar Pradesh and Punjab, they have been successful in mobilizing themselves politically.

<sup>x</sup>Yadavs are traditionally a group of jatis whose main occupations were related to dairy farming and pastoral agriculture in the Bihar and Uttar Pradesh region (Hutton 1946). The group now includes a wide range of pastoral agriculturalists in numerous states of India. Since the late nineteenth and early twentieth centuries, it has mobilized itself to improve its social standing (Jaffrelot 2003).

<sup>xi</sup> The bootstrap is performed for 1,000 iterations.

<sup>xii</sup> For a distribution,  $(y_1, y_2, \dots, y_N)$ , the general formula of the General Entropy class of inequality measures is given by  $GE(\alpha) = \frac{1}{\alpha(\alpha-1)} \left[ \frac{1}{N} \sum_{i=1}^N \left( \frac{y_i}{\bar{y}} \right)^\alpha - 1 \right]$  where  $\bar{y}$  is mean income. An inequality measure,  $I$ , from a partition  $\Pi$  can be decomposed as  $I = I_B(\Pi) + I_W(\Pi)$ , where  $I_B(\Pi)$  is the inequality from between group differences and  $I_W(\Pi)$  is the inequality attributed to within group differences. Given a particular partition  $\Pi$  of the sample and an inequality measure  $I$ , the conventional measure of between group inequality is given by  $R_B(\Pi) = \frac{I_B(\Pi)}{I}$ . For further details, refer to Cowell and Jenkins (1995), Elbers et al (2008).

<sup>xiii</sup> The traditional ELMO measure is given by  $\widehat{R_B(\Pi)} = \frac{I_B(\Pi)}{\max\{I_B|\Pi(j(n),J)\}}$ ; where the denominator is the maximum between group inequality that can be obtained by reassigning individuals across  $J$  subgroups in partition  $\Pi$  of size  $j(n)$ . An illustration of this measure can be found in Lanjouw and Rao (2011). In order to minimize the computational burden in estimating the maximum subgroup inequality, we use an alternative measure proposed in Elbers et al. (2008), which the authors refer to as the ‘alternative’ ELMO statistic. In addition to fixing the number and sizes of subgroups, it requires that subgroups be arrayed according to their observed mean incomes- preserving their rank order.

<sup>xiv</sup> These estimates are lower than previously reported estimates of the contribution of between-caste inequality to inequality in India, but we emphasize that we are examining the poorest areas of one of the poorest states, with low overall levels of inequality (Mutakar 2005; Subramanian and Jayaraj 2006; Boorah et al. 2014).

<sup>xv</sup> Endline surveys were collected at a gap of 1.5 to 2 years from the baseline surveys. We merge the SHG membership from these surveys with the baseline data.

<sup>xvi</sup> In our sample, although membership under PVP SHGs is only 21 percent, SHG membership as a whole is almost 50 percent, which reflects the long history of the SHG movement in Tamil Nadu.

<sup>xvii</sup> We report full regression results only for the broad caste regressions. For the jati regressions we only report the jati coefficients.

<sup>xviii</sup> Households must have a job-card to participate in the program. Each rural household is entitled to a free job card with photographs of all adult members living in the household. These adult members may then apply for employment and the

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government is obliged to provide work within 5 km of the applicant's residence within a period of 15 days. Failure to obtain employment entitles the applicant to unemployment insurance (Dutta, Murgai, Ravallion and de Walle, 2014: 71).