Mission 20 RCT Pre-Analysis Plan

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Abstract

Constraints to poor, rural youths' labor market entry - including lack of information, skills, and support structures - are particularly strong for young women, who often are subject to gender-biased norms that further constrain their work, mobility, information, and access to networks (Farre and Vella, 2013; Jayachandran, 2015; Croft et al., 2014; Beaman et al., 2018). As a result, there is untapped demand for skilling and subsequent labor market entry among women, particularly in settings with very conservative gender norms. Given recent government commitments to providing job-linked vocational training to poor youth, a key question is how these programs can address underlying barriers to women's participation in vocational training and labor markets. We seek to evaluate vocational training recruitment strategies to alleviate these constraints, specifically examining whether female community leaders and improved information increase young women's vocational training take-up, labor market entrance, and retention outcomes.

1   Introduction

Despite gains in female labor force participation globally (Heath and Tan, 2014), India has seen declines on this metric that raise important questions relevant to women's future well-being (Fletcher et al., 2017). A key question is whether the government's major Skill India initiative can help young women effectively acquire additional skills and transition from vocational training into labor markets, and, if so, what long-term consequences this has on women's lives.

Governments in many countries take on the challenge of skilling youth for the labor market and matching them to jobs. Vocational training and job placement assistance programs have been widely studied in industrialized countries (Card et al., 2010). Yet, while their incidence is fast rising in low and low-middle income countries, we know less about their effectiveness (Honorati and McArdle, 2013), and conclusions thus far temper expectations of training as a silver bullet (McKenzie, 2017). Our work in India to date highlights the complexities of vocational training agendas, particularly for women: we find that women remain significantly underrepresented in vocational training programs, face a leaky pipeline with respect to labor market entry, and across the board only 20% of youth who joined vocational training were employed one year later (Artiz Prillaman

et al., 2017). This evidence, or lack thereof, is particularly concerning given that many governments are largely outsourcing vocational training, and subsequent job placement, to private providers with limited regulatory oversight.

Our research aims to provide evidence on these challenges. We are conducting a study in collaboration with major actors in Skill India, notably the Deen Dayal Upadhyaya Gramin Kaushalya Yojana (DDU-GKY) skills training program and its Odisha state affiliate, the Odisha Rural Marketing and Agricultural Society (ORMAS), aimed at ensuring young women who want training and jobs can access them. We examine how community members âĂŞ both local self-help group leaders and peers - and improved information can help impoverished young women from rural areas access vocational training and labor markets through an at-scale randomized control trial (RCT).

2 Research Questions

First, **can the use of local community members for vocational training recruitment improve targeting of high-potential candidates, especially women?** And, if so, does this improve long-term employment and social outcomes for poor rural youth, particularly women, relative to status quo recruitment (by private agencies)? Local community members already linked to government funding and administrative structures âĂŞ specifically, members of women's credit groups (Self-Help Groups, or SHGs) âĂŞ may have better information and be able to more effectively identify and recruit willing, qualified youth for training and jobs. Since women in SHGs have been shown to be more actively involved in local institutions and to elevate the status of women in the community (Prillaman, 2017), we hypothesize that, relative to recruiters sent by private training agencies, SHG members will better identify women most willing to join training programs. Additionally, women in SHGs have been shown to have a normative influence in the community, and their participation in recruitment may reduce negative reputational costs associated with women's labor force participation (Sanyal, 2009).

Second, **does providing gender-specific information about the costs and returns to vocational training and employment post-migration, and the prevalence of this migration post-training by gender, increase accuracy of youths' expectations, change the pool of trainees, and improve long-term employment outcomes?** Traditional recruitment practices for government-funded job placement-linked training programs focus on training center-specific information, rather than setting appropriate expectations for potential labor force outcomes. Yet research suggests providing information on returns to education can improve education and labor force outcomes, particularly for women (Nguyen, 2008; Jensen, 2010; Hicks et al., 2011). Are individuals similarly responsive to the provision of information on returns to training and economic migration to urban areas? We hy-

pothesize that providing households with information about returns to employment and migration will improve trained youths' labor market outcomes in several ways: it will improve matching of willing youth to training and jobs; it may increase parents' willingness to let youth join training; and it may equip female youth to better bargain with parents to join training, even as reputational costs associated with leaving home for training and jobs remain unchanged. Preliminary results, presented below, suggest that this information is particularly helpful in increasing female take-up of training.

Third, **does holding meetings targeted to women's household members, particularly adult males, prior to skilling recruitment, change gender attitudes and increase women's take-up of training and employment?** Our work to date has highlighted the critical role of women's households in their training and employment decisions. While past research suggests that providing information to potential employees may shift education and employment decisions, the impact of providing information directly to parents and other household decision makers âĂŞ notably adult males, such as women's adult brothers, who we see play a large role in their employment decisions - remains unidentified, particularly given the recent focus on the topic of involving men and boys in programs focused on women's outcomes. We hypothesize that providing accurate information around training programs, work conditions, and the returns to employment, along with gender sensitization around women's work to key male family decision makers, will reduce family-imposed constraints on women, ultimately increasing women's participation in training and jobs. In addition to improving household members' understanding of skilling, we expect these meetings will shift attitudes of family members towards women's work and increase appreciation of women's potential economic value to the household. Holding community-based meetings to discuss women's work opportunities also may help households address coordination challenges, wherein women would like to enroll in training do not have approval to go without others from their community. Our scoping work has highlighted that both females and male relatives frequently report that if women could enroll in training in groups, they would be more comfortable with women participating. Our analysis of data from Odisha suggest that half of women who enroll in training go as the only woman from their GP in that particular batch, so encouraging better within-community coordination is a high potential area.

3   Background: DDU-GKY and Mission20

This study is in partnership with the Odisha Rural Marketing and Agricultural Society (ORMAS), the Odisha state branch of the Indian Ministry of Rural Development's Deen Dayal Upadhyaya Gramin Kaushalya Yojana (DDU-GKY) program, a large government training program, which funds approved private training agencies to train rural poor youth. This program has been in place since 2014, and anyone from age 15 âĂŞ 35 with

proof of their poverty status can freely enroll in this job placement-linked vocational training. Entrants are overwhelmingly youth who have just finished school or dropped out of school; those with very low levels of education are permitted to sign up for a limited number of fields for training. Local "mobilizers" recruit youth by visiting their communities to tell them about training and associated job opportunities.

Those who enter the program receive three to 12 months of free training in a particular trade, including mandatory soft skills, technological, and on-the-job training. The DDU-GKY program covered 408 trades in 2017, but the main sectors for training include retail, hospitality, garment manufacturing, machine operation, IT/BPO, electrical wiring, and healthcare. Following the completion of training, trainees are provided job placement support - meaning the government-funded trainers are required to link trainees to potential employers, and trainees are provided with entry-level job offers at the end of their training. For implementing agencies to receive funds, they are required to place at least 75% of their trainees in full-time, formal sector employment earning at least the national minimum wage. One third of these must be women. To satisfy these requirements, most job opportunities require urban migration. For example, data from ORMAS shows that 67% of female trainees placed in jobs are sent outside the state to locations like Delhi or Bangalore. Importantly, all living and transport costs are covered during the training and youth are provided financial and other support to transition from training to their new job and locality: trainees who join jobs out of state receive a monthly stipend from the government to cover living expenses for six months, while those joining closer to their homes receive more limited support. Funding for implementing agencies is tied to job placements and placement tenure, giving the private training agencies incentives to place all trainees in jobs after their training concludes. Given the state's high poverty levels, Odisha is an important case to generate insights into the mechanisms driving female labor force participation in low-income settings.

In July 2017, ORMAS rolled out a scheme known as Mission20, aimed at utilizing community members, referred to as "mobilizers", as recruiters for the DDU-GKY skills training program. Through Mission20, existing SHGs[1] identified SHG employees who could undertake mobilization for the skills training program. More than 99% of these SHG mobilizers are women, and they are relatively well-educated and respected in their communities. The RCT upon which this study builds took advantage of a unique opportunity to work closely with ORMAS as they rolled out Mission20.

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[1]SHGs are village-based credit collectives of women. Under the Indian National Rural Livelihoods Mission program, since 2009 more than 26,800,000 households have been mobilized into SHGs in over 59,000 GPs (NRLM, 2015).

4 Experimental Design

In partnership with ORMAS, in July 2017, we undertook an experimental study designed to test a series of information-based hypotheses. First, our fieldwork suggests both significant inter-household and intra-household variation in the adherence to gender norms. Information around which households are most strongly bound by these norms is generally unobservable and therefore program recruiters often imperfectly target based on more observable characteristics. This disproportionately affects women who are most constrained by these norms. The use of local information, via local recruiters in recruitment, can facilitate targeting households with the lowest adherence to these gender norms.

Second, we posit that persistence of gender norms that restrict young women's access to skills training and job-placement programs reflect, in part, individual perceptions regarding labor market returns and the costs of migration for women. Rural women and households have access to information about rural labor and marriage markets, but lack information about urban jobs and work experiences. This lack of information often perpetuates gender norms based in assumptions of a low return to women's work. Accurate information about these returns can weaken the influence of gender norms in restricting women's access to active labor market programs, in turn increasing young women's program take-up. Access to improved information is expected to disproportionately affect women as they presently have poorer information, generating greater misperceptions that drive gender norms. Finally, this information may further shift the composition of youth enrolling in such programs by being able to better match willing youth to opportunities.

Third, with respect to intra-household variation, while young women are interested in working, adult family members âĂŞ parents and brothers, in particular âĂŞ play an important role in restricting their access to skills training programs and work and limiting their ability to migrate. We hypothesize that providing these household members with gender sensitive information on program and job prospects will influence their beliefs about the normative costs of women working and improve young womenâĂŹs ability to negotiate access to work.

To these hypotheses, we randomized all 255 Gram Panchayats (GPs) with functional SHGs in the districts of Ganjam and Nayagarh[2] into one of three treatment arms:

1. **Control - (85 GPs):** Youth are recruited via status quo methods, meaning that most recruitment for skills training programs is done by recruiters from private training

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[2]Ganjam and Nayagarh are two of Odisha's most populous districts, they make up just over 10% of the state's population. These two districts encapsulate much of Odisha's demographic heterogeneity: Nayagarh is classified as a tribal district whereas Ganjam is a coastal district with a smaller tribal population designed as Scheduled Tribe. Yet Ganjam and Nayagarh share a border and have several similar economic and socio-demographic characteristics.

agencies.

2. **T1 - Community-based recruitment (85 GPs):** Youth are recruited by local SHG leaders who have been provided information about the DDU-GKY skills training program and trained on how to recruit, track, and support candidates. Community recruiters also receive financial incentives for every youth mobilized, trained, and placed in a job.

3. **T2 - Community-based recruitment + information on migration costs/returns (85 GPs):** Youth are recruited by local SHG leaders, similarly trained about DDU-GKY and provided incentives for mobilization, training, and job placement of youth from their community. In this arm, recruiters receive additional training on the economic costs and returns to women's skills training and labor force participation, focusing on the costs and returns to migration to various job locations for employment, and the proportion of youth placed in jobs in major locations, by gender. SHG recruiters are also provided a flier with this information for use in recruitment. This information emphasized both the potential wages and costs of living in popular post-placement locations (Bangalore, Delhi, etc.), as well as the relative frequency with which males and females were sent to these locations.

As noted, we first identified all GPs in these two districts that had functioning NRLM (National Rural Livelihoods Mission) SHGs, yielding a sample of 255 GPs. From this sample, we block randomized each GP into the three treatment arms, blocking on past female take-up by women in the GP and the functionality of the SHG in that GP. To measure past female take-up, we utilized ORMAS administrative data and created a factor variable equal to 0 if no women from the GP had ever taken up DDU-GKY training, 1 if only 1 woman from the GP had ever taken up DDU-GKY training, and 2 if more than 1 woman from the GP had ever taken up DDU-GKY training. To measure SHG functionality, we utilized NRLM administrative data and created an indicator variable where 0 indicates that the NRLM began initiating SHGs in the GP prior to 2016 and a 1 indicates that the NRLM began initiating SHGs in 2016 or later. We blocked on this variable to capture the a baseline measure of the integration of SHGs and community mobilizers in the local community. This firsts stage of implementation began in July 2017.

In addition to these three GP-level treatment arms, a fourth GP-level treatment arm will be cross-randomized across all 255 GPs. We expect implementation of this treatment arm to begin in Fall 2019.

1. **T3 - Community information sessions and gender sensitization for family members (127 GPs, cross randomized across above three treatment arms):** Parents and other key family members, notably brothers, of eligible youth will be invited to attend an information session in the GP, where they will be provided information about the DDU-GKY skills training program and the economic opportunity af-

forded through job placement-linked skills training. In addition, information around gender equality and the economic value of women and women’s work will be discussed.

4.1   Power Calculations

Treatments T1 and T2 are cluster-randomized at the GP-level and we have calibrated the sample size to allow us to detect an effect size of .42 standard deviations between any two treatment arms (at 5 percent significance level) for GPs with a power of .80. Our calculations assume a conservative .15 intra-GP correlation. Randomization was block randomized on district, pre-treatment female DDU-GKY program take-up, and duration of SHGs in the GP.

The additional treatment T3 will be cross-randomized at the GP-level across the 255 GPs in the control, T1, and T2 groups, and 127 GPs will receive this treatment. Using the same assumptions as above, this will allow us to detect an effect size of .35 standard deviations between GPs treated with T3 and those in control.

5   Data Collection

To evaluate these treatment arms, we will collect data from three different sources, including at both the GP and individual level:

1. ORMAS administrative data (GP-level) to measure effects on training take-up and employment outcomes.

2. Endline survey of youth and parents (Individual-level) to measure effects on perceptions of women’s work and local labor markets.

3. Endline survey of trainees (Individual-level) to measure effects on trainee characteristics, experiences, and attitudes as well as long-run economic, social, and political outcomes.

Each of these data sources, including the method of data collection and anticipated outcome measures, is discussed in turn below.

5.1 Outcome Data

5.1.1 ORMAS Administrative Data

To identify the effects of treatment on training-takeup, we will collect monthly administrative data from ORMAS. Training agencies are mandated to report data on enrollment, placement, and job retention through 12 months. Where possible, we will validate the ORMAS administrative data with administrative data from three additional sources: (1) registration at local recruitment fairs, (2) training agency records from local recruitment fairs, and (3) training agency records of enrollment.

Specific outcome measures will include:

- training take-up (count, asinh, changes)
- trainee characteristics including gender, age, and education-level (count, proportion, asinh, changes)
- training retention/drop-out
- job offer rates
- job acceptance rates
- job retention rates
- employment outcomes including company, salary, benefits, field of employment, and location of employment

5.1.2 Endline Survey of Youth and Parents

We will survey a random sample of eligible youth and their parents from the 255 study GPs in Control, T1, and T2 to measure general shifts in human capital, employment conditions, and attitudes and norms. We will sample 10 youth per study GP for a total sample size of 2,550 youth.

We will utilize the SECC as the sampling frame for this survey given that the SECC was a complete census conducted in 2011. Given the time lapse between this census and the start of the intervention in 2017, we have validated the SECC data for our sample population in two GPs[3] and demonstrated its accuracy in accounting for over 95% of unmarried, resident youth. The SECC data is therefore a plausible pre-treatment baseline

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[3]We randomly selected two GPs for validation from one study district and validated the SECC data in two ways. We first compared the SECC data to other administrative census data collected and locally stored by Anganwadi workers, which included data on village out-migrants. We then conducted a household listing for further validation. We found the SECC to have 95% validity using both of these comparison samples.

listing of all eligible youth that can be used as a sampling frame for endline surveys. When possible, we will supplement the SECC data with census data from Anganwadi workers collected in April 2017.

Using the SECC data, we will randomly sample from the subset of below-the-poverty-line youth aged 18-25 at the start of the intervention, as these are conditions for training take-up. Using the SECC data, we will not be able to perfectly identify those youth eligible for the program because we lack indicators of residency, marital status, and education/employment status at the time of the intervention. Given this and low program take-up rates in general, we do not expect to capture a sufficiently large sample of trainees, so this data will be used to identify effects of treatment on GP characteristics and general attitudes towards women's work. We will stratify the sample on gender and a set of covariates linked to program take-up, oversampling women. This survey will be conducted at least 24 months after the introduction of the intervention in 2017.

Specific outcome measures will include:

- employment outcomes, including employment status, company, position, salary, benefits, field of employment, and location of employment
- recent employment histories
- migration histories
- local labor market job opportunities and perceptions of unemployment
- expected costs/returns to work/migration
- social networks and social capital
- engagement in community institutions, including political participation and frequency of interaction with community leaders and institutions
- general measures of well-being
- general gender attitudes and specific attitudes towards women's work
- community norms around women's work and general social standing

5.1.3 Endline Survey of Trainees

We will conduct a second endline survey with a sample of 1,600 youth that selected into training take-up, along with their parents, to understand the correlates of increased urban job take-up. Trainees will be randomly sampled from the total list of trainees having taken up the program *from the 255 study GPs*.

Specific outcome measures will include:

- training experiences, including trade, performance, and placement outcomes

- employment outcomes, including employment status, company, position, salary, benefits, field of employment, and location of employment

- recent employment histories

- migration histories

- marital status and marriage/partner characteristics

- expected costs/returns to work/migration

- intra-household bargaining

- social networks and social capital

- engagement in community institutions, including political participation and frequency of interaction with community leaders and institutions

- general measures of well-being

- general gender attitudes and specific attitudes towards women's work

- community norms around women's work and general social standing

5.2 Heterogeneous Effects

Heterogeneous effects at the GP-level will be considered along the following dimensions:

- Social category breakdown (% SC, ST, OBC)

- Female literacy and education rates

- Pre-treatment take-up rates

- SHG duration and penetration in village

- Female labor force participation rates

- Gender of elected leaders

Heterogeneous effects at the individual-level will be considered along the following dimensions:

- Gender

- Social category

- Pre-treatment education level

- Pre-treatment take-up rates

- Household SHG membership

- Household income level

5.3 Evaluating Mechanisms

Additionally, we will descriptively evaluate key mechanisms by looking at heterogeneity and mediation by:

- Networks - we will utilize ORMAS data to create measures of co-joining (take-up from the same village/GP) both previously and in the same training batch by gender.

- Information - we will utilize survey measures on perceived expectations of the costs/returns to training and employment as well as knowledge of job opportunities.

- Local Mobilizer - we will utilize registration data from local recruitment fairs to identify the youth who were mobilized by local recruiters.

6 Econometric Specification

Our empirical analyses will be conducted in three parts: (1) evaluation of T1 and T2 on training outcomes from July 2017 until the implementation of T3 (likely fall 2018) and (2) evaluation of T1, T2, and T3 on training outcomes following the implementation of T3 (likely fall 2018).

Evaluation of T1 and T2: July 2017 - Fall 2018
A first set of outcomes of interest, measured at the GP-level, relate to take-up of the skills training program and subsequent job outcomes (placement, job retention). We will estimate intent-to-treat impacts using the administrative data from ORMAS and a difference in differences specification, giving the econometric specification:

$$y_{gp} = \beta_0 + \beta_1 T1_{gp} \times I(PostMission20) + \beta_2 T2_{gp} \times I(PostMission20) + \alpha X_{gp} + \gamma_{Block} + \tau_{triplet} + \epsilon_{gp}$$

Where y_{gp} is the outcome of interest in the given GP, T1 and T2 are the respective GP-level interventions described above, X is a vector of GP-level pre-treatment covariates including blocking variables, γ_{Block} is a vector of block-level fixed effects, and $\tau_{triplet}$ is a vector of matched triplet fixed effects from the randomization.

A second set of outcomes of interest, measured at the individual level, makes use of our two individual-level endline surveys. The econometric specification is therefore:

$$y_{i,gp} = \beta_0 + \beta_1 T1_{gp} + \beta_2 T2_{gp} + \alpha X_{gp} + \gamma Z_{i,gp} + \gamma_{Block} + \tau_{triplet} + \epsilon_{i,gp}$$

Where $y_{i,gp}$ is the outcome of interest for individual i in GP gp and Z is a vector of individual-level pre-treatment covariates.

All model specifications will control for pre-treatment strata as well as other pre-treatment indicators to improve the efficiency of the estimates. Standard errors will be clustered at the GP-level. While the base specification includes block and triplet fixed effects, we will compare specifications that include blocked triplet fixed effects, district fixed effects, and no fixed effects.

Evaluation of T1, T2, and T3: After Fall 2018

We will estimate intent-to-treat impacts at the gp-level using administrative data from ORMAS, giving the econometric specification:

$$y_{gp} = \beta_0 + \beta_1 T1_{gp} + \beta_2 T2_{gp} + \beta_3 T3_{gp} + \beta_4 T1_{gp} \times T3_{gp} + \beta_5 T2_{gp} \times T3_{gp} + \alpha X_{gp} + \gamma_{Block} + \tau_{triplet} + \epsilon_{gp}$$

Where y_{gp} is the outcome of interest in the given GP, T1, T2, and T3 are the respective GP-level interventions described above.

A second set of outcomes of interest, measured at the individual level, makes use of our two individual-level endline surveys. The econometric specification is therefore:

$$y_{i,gp} = \beta_0 + \beta_1 T1_{gp} + \beta_2 T2_{gp} + \beta_3 T3_{gp} + \beta_4 T1_{gp} \times T3_{gp} + \beta_5 T2_{gp} \times T3_{gp} + \alpha X_{gp} + \gamma Z_{i,gp} + \gamma_{Block} + \tau_{triplet} + \epsilon_{i,gp}$$

All model specifications will control for pre-treatment strata as well as other pre-treatment indicators to improve the efficiency of the estimates. Standard errors will be clustered at the GP-level. While the base specification includes block and triplet fixed effects, we will compare specifications that include blocked triplet fixed effects, district fixed effects, and no fixed effects.

7 Timeline

Figure 1: Projected Study Timeline
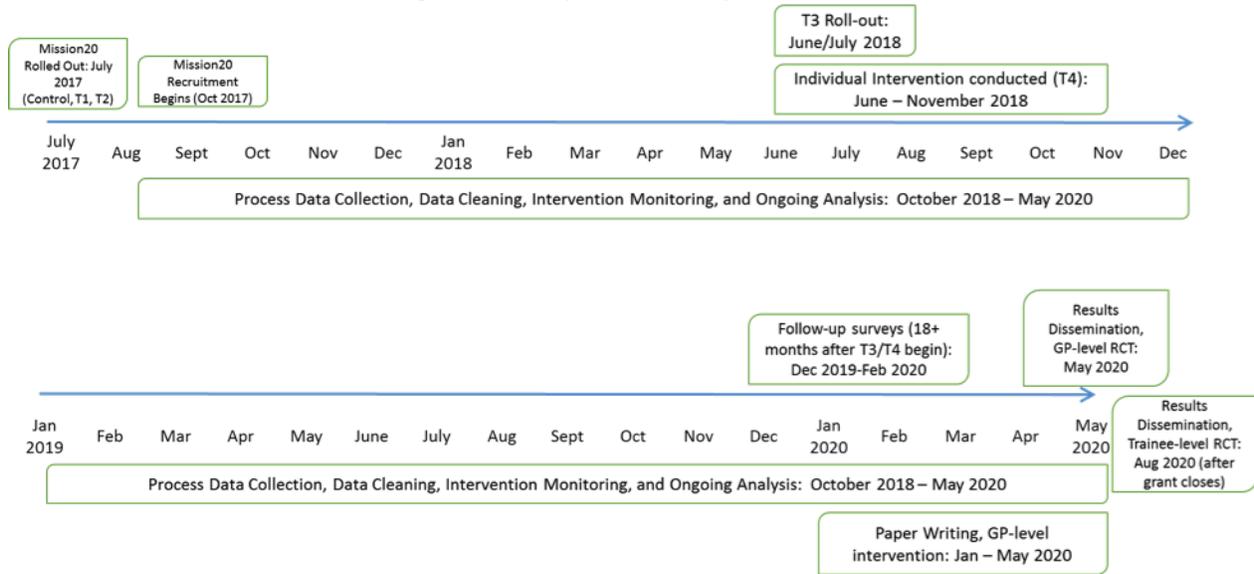
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