

# Sanitation worker safety and livelihoods in India: A blueprint for action

*Phase 3: Solutioning*

29 November, 2017



# Agenda

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Where we are on the project

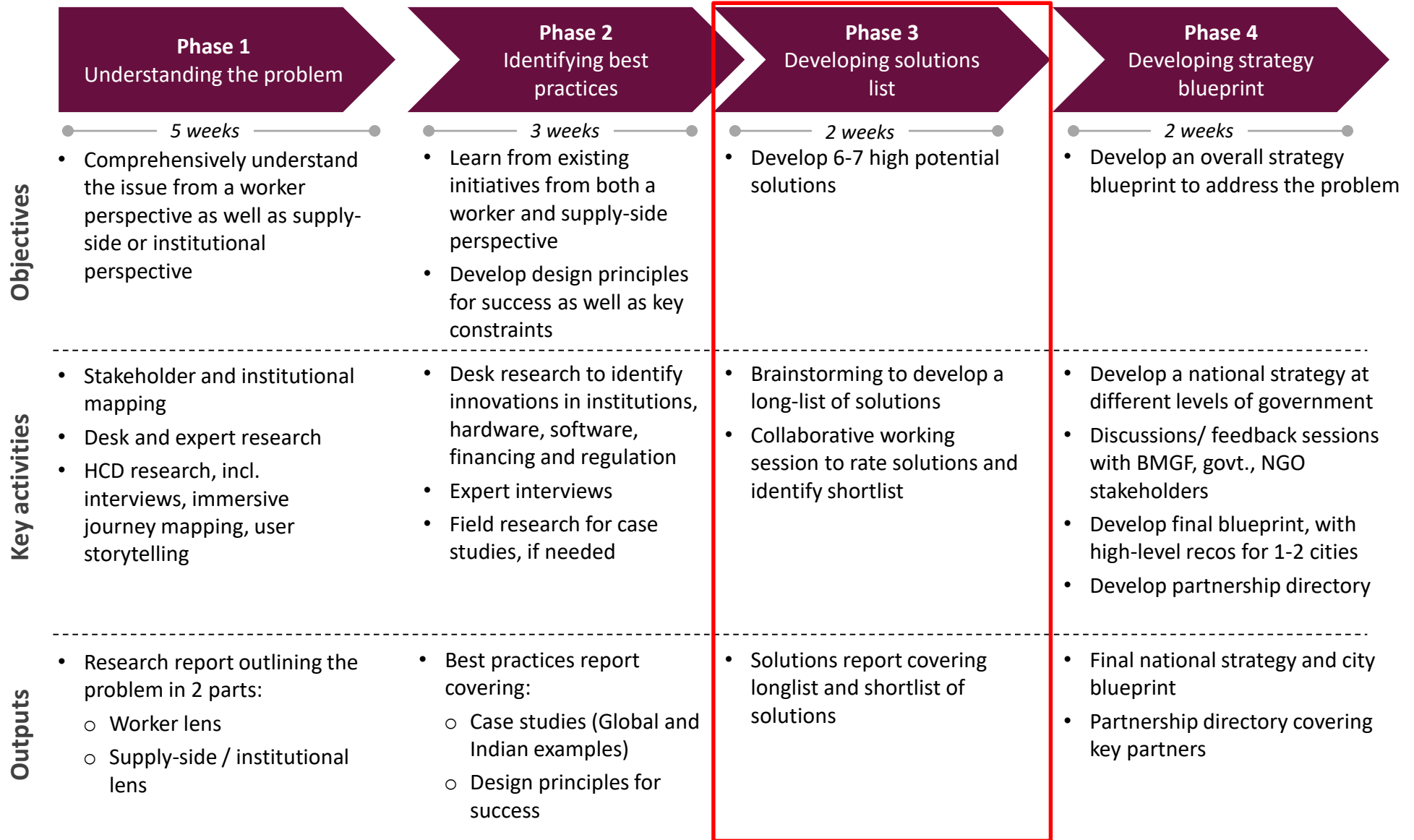
Long-list of opportunity areas

Evaluation and prioritization

Prioritized opportunity areas

Annex

# We are currently at Phase 3 of the project



**We are here**

# In Phase 3, we have developed, evaluated, and prioritised high impact, actionable solutions (1/2)

## Step 1: Long-list of solutions

We generated a long-list of 100+ potential solutions to address the issues identified in phase 1 of the study, leveraging the following methods

Internal brainstorming

Expert interviews

Best practices  
(from other geographies and industries)

Multi-stakeholder solutioning workshop  
(held on 20 Nov)

## Step 2: Bucketing of solutions into opportunity areas

We clubbed the solutions into 26 opportunity areas across the sanitation worker livelihood pathway (entry, on-the-job, progression) and cross-cutting enablers

We have identified 26 thematic interventions across the sanitation worker livelihood pathway and cross-cutting enablers



These solutions have been explained on the subsequent slides

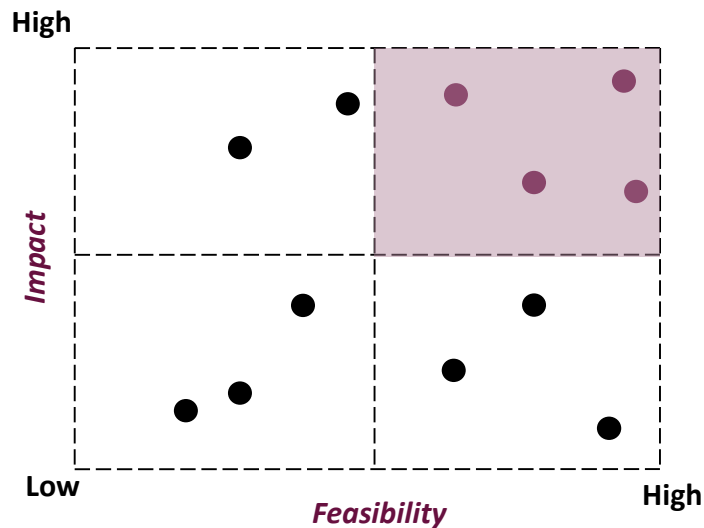
Note: Solutions do not include interventions such as education, mental health counselling, access to healthcare (unless directly related to the job) to avoid duplication of efforts since these schemes already exist

Dalberg 7

# In Phase 3, we have developed, evaluated, and prioritised high impact, actionable solutions (2/2)

## Step 3: Evaluation of opportunity areas

We evaluated the 26 opportunity areas based on their relative impact and feasibility\*



\*Framework described in detail later in the deck

## Step 4: Detailing of prioritized opportunity areas

We prioritized 16 opportunity areas. For each, we have given their description, number of workers impacted, similar initiatives, success enablers, and implementation timeframe

**[On-the-job] Sanitation Worker Sandbox**  
Will lead to contextually relevant innovations

DESCRIPTION	WORKERS IMPACTED (100%)
<p>Platform for conceptualizing, prototyping, and commercializing innovations for sanitation hardware design, cleaning equipment, safety gear, monitoring equipment (sensors, GPS, etc.) and personal health devices</p> <p><b>Solution generation</b></p> <ul style="list-style-type: none"> <li>Innovation prizes and challenges that lead to the design of relevant solutions, where even governments can ask innovators to develop solutions for specific problems (suction machines for narrow lanes, etc.)</li> </ul> <p><b>Solution testing and commercialisation</b></p> <ul style="list-style-type: none"> <li>Start-ups, entrepreneurs, academic institutes and even international manufacturers can test their ideas in real-world settings and get feedback from workers, supervisors, etc.</li> <li>Pitch competitions or exhibitions where ULBs can place orders and manufacturers can purchase innovations</li> <li>Innovation fund to support funding for promising ideas, competitions, and behaviour change programs for adoption of ideas</li> </ul>	<ol style="list-style-type: none"> <li>Types of work: All</li> <li>Gender: Male and Female</li> <li>Employment nature: Contractual and Permanent</li> <li>Personas: All persons</li> </ol> <p><b>SIMILAR INITIATIVES<sup>1,2,3</sup></b></p> <ul style="list-style-type: none"> <li>Swachh Bharat Hackathon was organized by the Ministry of Drinking Water and Sanitation to crowdsource solutions for sanitation and hygiene challenges (Sep, 2017)</li> <li>HAL is developing a signal system to identify open manholes, geotag them and check for breakages; also developing a sewerage safety suit relevant for Indian context</li> <li>Some innovations are being developed at small scale and can be given an impetus through the sandbox. E.g., Genrobotics, founded by eight engineers, has designed a robot named Bandidoat for eliminating sewer deaths in Kerala!</li> </ul> <p><b>SUCCESS ENABLERS</b></p> <ul style="list-style-type: none"> <li>Host institution with state-of-the-art tech facilities (E.g., IIT)</li> <li>Buy-in from ULBs to test innovations</li> <li>Strategy to crowd-in innovators, which are currently limited</li> </ul>

**Level of ownership:** City, State, National  
**Timeframe for implementation:** <1 year, 1-3 years, 3-5 years  
**Funding required:** Low, Medium, High

Source: (1) Swachhathon 1.0 receives massive response from young innovators of the country, 2017; (2) HAL to help Water Board in manhole maintenance, 2017; (3) Kerala start-up has tech solution to sewer deaths, 2017; Dalberg analysis

Step 2 onwards is included in this deck

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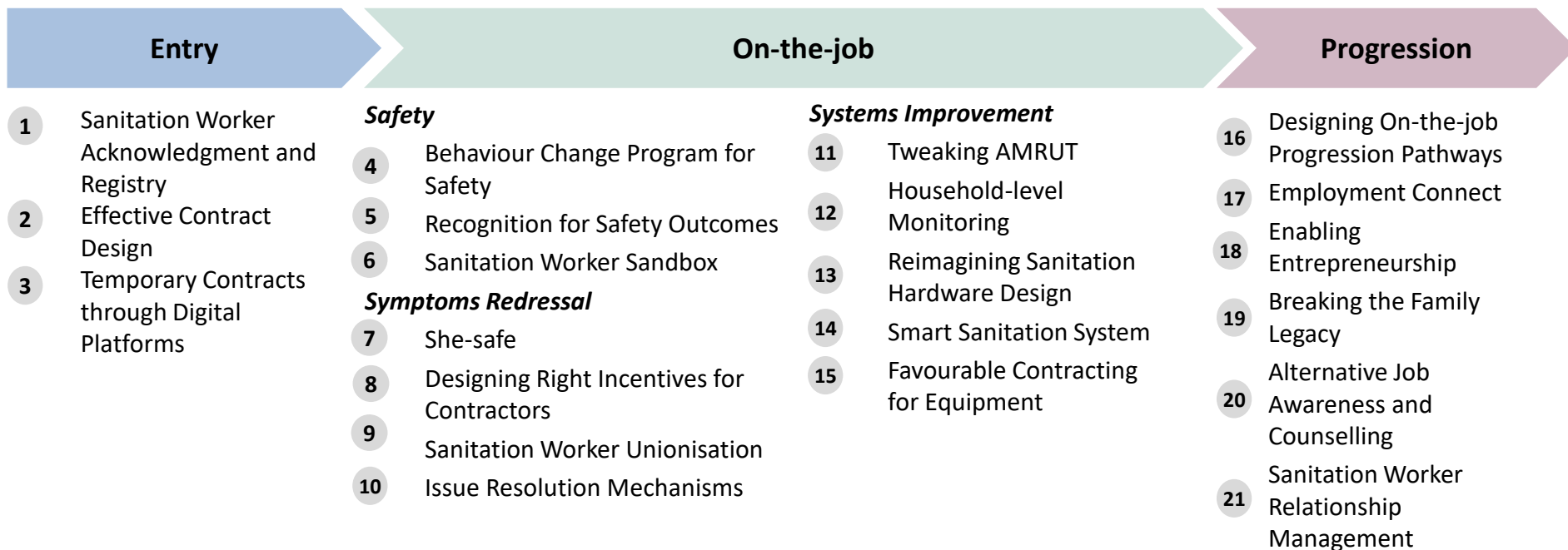
**Long-list of opportunity areas**

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# We have identified 26 opportunity areas across the sanitation worker livelihood pathway and cross-cutting enablers



## Cross-cutting enablers

- 22 Improving Access to SC Benefits and Schemes
- 25 Institutional Strengthening
- 23 Safe Sanitation Public Awareness Campaign
- 26 More and Better Budgeting
- 24 Regulatory Revisions

**These solutions have been explained on the subsequent slides**

## [Entry] Potential opportunity areas

#	Opportunity area	Components
1	<b>Sanitation Worker Acknowledgement and Registry</b>	<p><i>One-time activities</i></p> <ol style="list-style-type: none"> <li>1. Well-funded comprehensive third party survey or a census across India to measure the problem in different states, cities, and districts</li> <li>2. Single-window for state and city governments to declare number of sanitation workers without any fear of repercussions</li> </ol> <p><i>Continuous activities</i></p> <ol style="list-style-type: none"> <li>1. Aadhar-linked ID for sanitation workers</li> <li>2. National database of sanitation workers with demographic and contact information, type of work, employer details, etc.</li> <li>3. SMS alerts to workers at time of registration, payment of salary, reminders about training program, etc</li> </ol>
2	<b>Effective Contract Design</b>	<ol style="list-style-type: none"> <li>1. Worker friendly contracts for all workers. Provisions to include: <ul style="list-style-type: none"> <li>○ Fair wages</li> <li>○ Escalation clause</li> <li>○ P.F.</li> <li>○ Mandatory sick leaves, health check-ups and allowance for medicines</li> <li>○ Health, accident and life insurance</li> <li>○ Safety gear &amp; equipment (info and use)</li> <li>○ Worker rights</li> <li>○ Issue resolution and escalation mechanisms</li> </ul> </li> <li>2. Contracts designed to optimise for user experience (regional language, visuals, etc.)</li> </ol>
3	<b>Temporary Contracts through Digital Platforms</b>	<ol style="list-style-type: none"> <li>1. Independent sanitation workers and private operators given work through a platform which immediately enforces a temp contract between the employer (household) and the worker/ contractor</li> </ol>



# [On-the-job] Potential opportunity areas

## Safety



#	Opportunity area	Components
4	<b>Behaviour Change Program for Safety</b>	<p><i>Building a safety culture</i></p> <ol style="list-style-type: none"> <li>1. Townhall and demo days between ULBs and sanitation workers to showcase proper use and secure buy-in on gear and equipment</li> <li>2. Formal training program for new workers with simulation-based training for risky jobs</li> <li>3. Master trainers (potentially informal leaders from groups) to train workers on safety and use of gear</li> <li>4. Safety orientation for supervisors and govt. officials</li> </ol> <p><i>Sustaining a safety culture</i></p> <ol style="list-style-type: none"> <li>1. Video-based refresher trainings, SMS alerts for using gear</li> <li>2. Worksite visuals for reinforcement</li> <li>3. Role models who use safety gear and equipment</li> <li>4. Incentives for workers who use gear regularly and influence others to use gear</li> <li>5. Family counselling to make families aware of health risks and importance of using gear</li> </ol>
5	<b>Recognition for Safety Outcomes</b>	<ol style="list-style-type: none"> <li>1. In addition to sanitation infrastructure and OD status, assess cities on sanitation worker safety and cleaning process parameters; criteria in Swachh Sarvekshsan survey</li> <li>2. Recognize states and organisations doing innovative and impactful work in the space (“create pull for safety”)</li> <li>3. Document and disseminate best practices amongst states and ULBs</li> <li>4. Appraise supervisors based on compliance with norms and worker satisfaction</li> </ol>
6	<b>Sanitation Worker Sandbox</b>	Platform for conceptualizing, testing, and commercializing innovations for sanitation hardware design, cleaning equipment, safety gear, monitoring equipment (sensors, GPS, etc.) and personal health devices

# [On-the-job] Potential opportunity areas

## Symptoms redressal

#	Opportunity area	Components
7	<b>She-safe</b>	<p><i>Tech and infra initiatives</i></p> <ol style="list-style-type: none"> <li>1. Panic buttons and whistles for women to raise alarms</li> <li>2. Anonymous helpline for women to raise complaints with fast-track redressal</li> <li>3. Information and access to washroom facilities</li> </ol> <p><i>Trainings</i></p> <ol style="list-style-type: none"> <li>1. Self-defence classes for women workers</li> <li>2. Gender sensitisation trainings for male supervisors</li> </ol> <p><i>Processes</i></p> <ol style="list-style-type: none"> <li>1. Work schedules that are conducive for women</li> <li>2. Appointment of female supervisors from within the worker group</li> <li>3. Work-site safety audits and modifications</li> <li>4. Half-yearly anonymous surveys by third parties to get feedback on workplace safety</li> </ol>
8	<b>Designing Right Incentives for Contractors</b>	<ol style="list-style-type: none"> <li>1. Contracts awarded to those contractors who provide on-the-job progression opportunities for workers and commit to not hiring for supervisory positions from outside</li> <li>2. Contracts to be renewed basis workers' feedback and health status of workers</li> <li>3. Performance-based pay: extra amount paid per healthy worker</li> </ol>
9	<b>Sanitation Worker Unionisation</b>	<ol style="list-style-type: none"> <li>1. Organisation of workers into a union by contractors</li> <li>2. Unionisation of workers through collectives; hiring through SHGs rather than labour suppliers</li> <li>3. CSOs to bring together fragmented workers (such as school toilet cleaners, community toilet cleaners) and bargain on their behalf with employers</li> <li>4. National platform for unions and workers, publicized through pamphlets, SMS, radio, etc.</li> <li>5. Special bench for hearing worker union disputes</li> </ol>
10	<b>Issue Resolution Mechanisms</b>	<ol style="list-style-type: none"> <li>1. Anonymised helpline for workers to report on contraventions – e.g., missing gear, lack of healthcare assistance, lack of equipment</li> <li>2. CSO-led initiative where CSOs call workers on a periodic basis to check on them</li> <li>3. Traffic police to issue fines to contractors based on worker complaints</li> </ol>

# [On-the-job] Potential opportunity areas

## Systems improvement



#	Opportunity area	Components
11	<b>Tweaking AMRUT</b>	<ol style="list-style-type: none"> <li>1. Change in AMRUT guidelines and planning documents to allow for sanitation systems and sewer systems that are a) attuned to Indian realities and b) reduce risk to sanitation workers</li> </ol>
12	<b>Household-level Monitoring</b>	<ol style="list-style-type: none"> <li>1. Stringent waste disposal rules and penalties that reduce harmful waste disposal behaviour by individuals</li> <li>2. Low-cost devices to monitor if households and institutions are putting waste in manholes</li> </ol>
13	<b>Reimagining Sanitation Hardware Design</b>	<ol style="list-style-type: none"> <li>1. Upstream hardware innovation that breaks down waste into less risky components</li> <li>2. Installation of inspection or diaphragm chambers at household and institution connections to the sewer network</li> <li>3. Improvement of sewer and septic tank specifications (materials, dimensions, gradients, etc.) to reduce blockage</li> <li>4. Innovation in sewer network design (such as connecting manholes to households for accountability)</li> </ol>
14	<b>Smart Sanitation System</b>	<p><b>Identification and resolution</b></p> <ul style="list-style-type: none"> <li>• Mobile app for citizens and staff to log complaints about blockages in sewer systems</li> <li>• Use of sensors, laser, infra-red or U.V. rays in sewer networks to detect blockages</li> <li>• Tagging of septic tanks to monitor frequency of de-sludging</li> <li>• GPS-fitted vehicles, trucks fitted with CCTV cameras for real-time monitoring of cleaning</li> </ul> <p><b>Tracking</b></p> <ul style="list-style-type: none"> <li>• Control room at city-level to view the entire sewer network</li> <li>• Incident reporting system where all cleaning jobs are assigned Job IDs; resolution status, next steps recorded</li> <li>• Strong analytics backend to identify hotspots in a city (i.e. those parts of the sewer network and drain network that give the most problem) for proactive upgradation and maintenance</li> </ul>
15	<b>Favourable Contracting for Equipment</b>	<ol style="list-style-type: none"> <li>1. Standardised contracting template designed at MoHUA level, defining eligibility criteria for equipment providers</li> <li>2. Empanelment of operators that meet a specific mechanization and gear standard so that they are not undercut by cheap contractors</li> <li>3. Minimum assured rates to incentivize entrepreneurship and innovation in the space</li> <li>4. Placement of large purchase orders for equipment and gear to incentivise manufacturers</li> </ol>

## [Progression] Potential opportunity areas

#	Opportunity area	Components
16	<b>Designing On-the-job Progression Pathways</b>	<ol style="list-style-type: none"> <li>1. Clear trajectory, potentially differentiated on the basis of job roles, allocation of worksites, income differences, etc.</li> <li>2. Progression linked to adherence to safety norms, leadership skills, etc.</li> <li>3. Leadership training to workers with high-potential</li> <li>4. Appointment of supervisors from within the sanitation worker group – responsible for safety, health, overall satisfaction of workers, induction of new workers, etc.</li> </ol>
17	<b>Employment Connect</b>	<p><i>Sources of job opportunities</i></p> <ol style="list-style-type: none"> <li>1. Incentives to companies for training and hiring sanitation workers (e.g., through CSR)</li> <li>2. Reservations for jobs in non-WASH sectors (public sector units, manufacturing units, etc.)</li> </ol> <p><i>Interventions to facilitate access and transition</i></p> <ol style="list-style-type: none"> <li>1. Incentive program for intermediaries (e.g., local CSOs) to provide non-WASH work in a family</li> <li>2. Soft skills training by CSOs</li> <li>3. Time-bound monthly stipend for sanitation workers migrating to lower-paying (but safer) jobs</li> <li>4. Recruitment helpline for sanitation workers</li> </ol>
18	<b>Enabling Entrepreneurship</b>	<p><i>Within sanitation</i></p> <ol style="list-style-type: none"> <li>1. First preference given to sanitation workers to become sanitation entrepreneurs when mechanising a process</li> </ol> <p><i>Outside sanitation-collective employment</i></p> <ol style="list-style-type: none"> <li>1. Collective employment groups (SHGs) backed with capacity building support from CSOs; financing (including small ticket size loans) and subsidies for raw materials, land, etc.; guaranteed purchase agreements by corporates and government</li> </ol> <p><i>Outside sanitation-individual businesses</i></p> <ol style="list-style-type: none"> <li>1. Single-window, fast-track clearance based on SW id for small-ticket sized loans</li> <li>2. Varying loan amounts, especially micro loans</li> <li>3. Priority-sector lending by banks or target-based lending (such as 0.1% of total lending, etc.)</li> <li>4. Broader list of income-generating activities that qualify for rehabilitation loans</li> </ol>

## [Progression] Potential opportunity areas

#	Opportunity area	Components
19	<b>Breaking the Family Legacy</b>	<p><i>Sources of job opportunities</i></p> <ol style="list-style-type: none"> <li>1. Incentives to companies for skilling and hiring children of sanitation workers</li> <li>2. Reservations for jobs in non-WASH sectors (public sector units, manufacturing units, etc.) for children of sanitation workers</li> </ol> <p><i>Interventions to facilitate access and transition</i></p> <ol style="list-style-type: none"> <li>1. Incentive program for intermediaries (e.g., local CSOs) to provide non-WASH work in a family</li> <li>2. Soft skills training by CSOs for children of workers</li> <li>3. Recruitment helpline for children of sanitation workers</li> </ol> <p><i>Scholarship program for children of sanitation workers, including for:</i></p> <ol style="list-style-type: none"> <li>1. Materials (books, uniforms, stationery, etc.)</li> <li>2. Tuition fee (secondary school, college including overseas colleges)</li> <li>3. Transport</li> </ol>
20	<b>Alternative Job Awareness and Counselling</b>	<ol style="list-style-type: none"> <li>1. Ambient media campaign (posters, billboards, etc.) at worksites publicizing rehabilitation schemes</li> <li>2. "Flavours of job" media campaign that talks about different job types that are easily doable by sanitation workers</li> <li>3. Job camps to familiarize workers with employment opportunities; SMS alerts on jobs; visual pamphlets describing job options</li> <li>4. Showcase of role models who have successfully exited the profession</li> <li>5. Counselling workshops and aptitude testing for young sanitation workers</li> </ol>
21	<b>Sanitation Worker Relationship Management</b>	<ol style="list-style-type: none"> <li>1. Investment in a post-program tracking and relationship management system that tracks sanitation workers and their children who have been part of vocational programs or NSKFDC programs to minimise the chance of regression</li> <li>2. Second and third-wave surveys for rehabilitated workers and children who have been provided skilling</li> </ol>

## [Cross-cutting enablers] Potential opportunity areas

#	Opportunity area	Components
22	<b>Improving Access to SC Benefits and Schemes</b>	<ol style="list-style-type: none"> <li>1. SC certificate camps to provide sanitation workers with certificates within a day</li> <li>2. Sanitation worker IDs to suffice for availing SC schemes, if sanitation worker doesn't have an SC certificate</li> <li>3. Information dissemination on various SC related schemes for education, livelihoods, financing, etc.</li> </ol>
23	<b>Safe Sanitation Public Awareness Campaign</b>	<ol style="list-style-type: none"> <li>1. Well publicized (national and international), 360-degree campaign that helps build awareness and a common understanding of: <ul style="list-style-type: none"> <li>○ Types of sanitation work and working conditions</li> <li>○ Issues faced by workers (financial, social and health)</li> <li>○ Interventions required to address the above</li> </ul> </li> </ol>
25	<b>Regulatory Revisions</b>	<ol style="list-style-type: none"> <li>1. Thorough multi-stakeholder review of the MS Act to identify and plug loopholes</li> <li>2. Creation of detailed and context-specific SOPs for all kinds of sanitation work</li> <li>3. User-centered design of schemes</li> <li>4. Statutory or constitutional status to National Commission of Safai Karamcharis (NCSK)</li> <li>5. Fast-track processing of pending court cases</li> </ol>
24	<b>Institutional Strengthening</b>	<ol style="list-style-type: none"> <li>1. National sanitation worker unit (NCSK++) responsible for: <ul style="list-style-type: none"> <li>○ Developing SOPs, guidelines, training programs, model worker contracts</li> <li>○ Maintaining a national database of workers</li> <li>○ Initiating awareness campaigns amongst workers and their families</li> <li>○ Monitoring and enforcement of policies and norms</li> <li>○ Coordinating with state-level bodies and safety officers in ULBs</li> <li>○ Ensuring welfare and rehabilitation of workers</li> <li>○ Robust and transparent reporting on state of unsafe sanitation and status of rehabilitation</li> </ul> </li> <li>2. Equivalent bodies at the state level</li> <li>3. Establishment of "Sanitation workers safety cell" in each ULB, which is accountable for workers' safety</li> </ol>
26	<b>More and Better Budgeting</b>	<ol style="list-style-type: none"> <li>1. Scientific budgeting based on preventive maintenance and safety gear required for all workers</li> <li>2. Outcome-based financing: E.g., social impact bonds</li> <li>3. Innovative ways of raising funds: CSR, advertising, etc.</li> </ol>

# Agenda

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Long-list of opportunity areas

**Evaluation and prioritization**

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
# We have evaluated the opportunity areas on two axes: impact and feasibility

	PRIORITISATION CRITERIA	QUESTIONS FOR EVALUATION
 Impact	1 Number of workers impacted	How many urban sanitation workers will the opportunity area impact, factoring in the different types sanitation work, gender, nature of employment (contractual v/s permanent), etc.?
	2 Intensity of impact	To what extent will it impact workers' lives – safety and health, financial and social? Is the solution a pre-requisite for other solutions?
 Feasibility	1 Political buy-in	How easy would it be to secure political and government buy-in?
	2 Economic feasibility	How costly would it be to implement the solution? Will it require special additional funding, which might be difficult to source?
	3 Technical feasibility	Are there existing similar solutions or will they need to be specially designed? How easy is it to set up or change capacities, processes and systems to implement the solution?
	4 User acceptance	What is the likelihood of adoption by users (contractors, workers, etc.) impacted?

We have prioritized the solutions within their respective buckets, i.e., entry, on-the-job, progression and cross-cutting enablers



# These dimensions have been evaluated on a five point scale

PRIORITISATION CRITERIA		EVALUATION RATIONALE				
						
Impact 	1 <b>Number of workers impacted</b>	<10% workers impacted	10-40% workers impacted	40-60% workers impacted	60-90% workers impacted but not all workers	90-100% workers impacted
	2 <b>Intensity of impact</b>	Negligible impact	Limited impact on workers' lives given indirect or retrospective nature of solution	Solution likely to have moderate impact	Solution likely to have high impact, but may not be sufficient stand-alone	Stand-alone, the solution can solve for a critical problem
Feasibility 	1 <b>Political buy-in</b>	No-go with government	Likely to face significant resistance from government	Might be open to the idea, but will need significant convincing	Relatively easy; headwinds in place	Easy to secure buy-in
	2 <b>Economic feasibility</b>	Extremely cost-intensive; no-go on funding	Relatively cost-intensive and will be challenging to source funding	Relatively cost-intensive but funding can be sourced in innovative ways	Low-cost solution OR funds likely to be available for execution	Low-cost solution, with funds likely to be available for execution
	3 <b>Technical feasibility</b>	Very challenging to design and implement	Solutions will have to be designed from scratch; relatively difficult to implement	Solutions might exist but difficult to implement in the given context	Solutions exist that can be tailored to need; easy to implement	Existing solutions in place; easy to implement
	4 <b>User acceptance</b>	Negligible likelihood of user adoption	Significant resistance to adoption	At least one type of user will accept the solution	Majority likely to accept the solution	Willing acceptance by all end users

The subsequent slides provide detailed evaluation of the 26 solutions

# Solutions evaluation

[Entry]

Solution	Impact			Feasibility				
	# of workers	Intensity of impact	Overall	Political buy-in	Economic feasibility	Technical feasibility	User acceptance	Overall
<b>1. Sanitation Worker Acknowledgement and Registry</b>			<b>H</b>					<b>M</b>
<b>Our assessment</b>	<ul style="list-style-type: none"> <li>All workers</li> <li>Will provide workers with a sense of identity and acknowledgment, and is a prerequisite for availing benefits and schemes; not impactful standalone</li> </ul>			<ul style="list-style-type: none"> <li>Govt. buy-in should be easy to secure, building on the recent push for elimination of manual scavenging and announcement to carry out a third party survey</li> <li>Challenge to carry out rigorous nationwide survey, given fragmented industry</li> <li>User acceptance likely to be high but workers might be wary of social stigma attached to recognition of their job</li> </ul>				
<b>2. Effective Contract Design</b>			<b>H</b>					<b>M</b>
<b>Our assessment</b>	<ul style="list-style-type: none"> <li>All workers except latrine cleaners</li> <li>An easy to comprehend contract will ensure workers are aware of their rights and can be used to hold the employers accountable</li> </ul>			<ul style="list-style-type: none"> <li>Easier to secure govt. buy-in for contractual workers since responsibility will still remain with the contractor, but government may be hesitant to formalise the system</li> <li>Inclusions in contract (such as fair wages, insurance, etc.) will significantly increase contractors' economic burden and consequently the govt.'s burden as contracting costs will increase</li> <li>While workers should gladly accept the solution, there is likely to be resistance from contractors due to increased accountability and costs per worker</li> </ul>				
<b>3. Temporary Contracts through Digital Platforms</b>			<b>L</b>					<b>H</b>
<b>Our assessment</b>	<ul style="list-style-type: none"> <li>Only septic tank cleaners (&lt;1%)</li> <li>Increases transparency in the system; however, difficult to monitor impact on workers as contract will be between operators and households</li> </ul>			<ul style="list-style-type: none"> <li>Low smartphone penetration among workers and contractors</li> <li>Household usage of app for employing de-sludging operators is likely to be low given infrequent requirement (once in 3-5 years)</li> <li>Households not incentivised to report any contraventions given infrequency of engagement and potential liability if accident happens on the worksite</li> </ul>				

# Solutions evaluation

[On-the-job – Safety]



Solution	Impact			Feasibility				
	# of workers	Intensity of impact	Overall	Political buy-in	Economic feasibility	Technical feasibility	User acceptance	Overall
<b>4. Behaviour Change Program for Safety</b>			<b>H</b>					<b>M</b>
<b>Our assessment</b>	<ul style="list-style-type: none"> <li>All workers except latrine cleaners</li> <li>Mix of well-designed “push” and “pull” based safety programs will not only build, but also reinforce a formal culture of safety across levels – workers, supervisors, and government officials</li> </ul>			<ul style="list-style-type: none"> <li>Govt. buy-in may be a challenge given additional burden of designing and implementing training programs</li> <li>Most solutions are relatively low-cost</li> <li>Challenge to coordinate and organize trainings given fragmented workforce</li> <li>Supervisors likely to resist undergoing training or may not take it seriously unless there’s a penalty attached to poor performance</li> </ul>				
<b>5. Recognition for Safe Sanitation</b>			<b>L</b>					<b>H</b>
<b>Our assessment</b>	<ul style="list-style-type: none"> <li>All workers</li> <li>Recognition alone is not enough to incentivise safe sanitation</li> <li>Retrospective solution since recognition happens ex-post</li> </ul>			<ul style="list-style-type: none"> <li>Does not require substantial funding and easy to implement</li> <li>Stakeholders will not object since it is a recognition program and does not penalise them or impede their regular operations</li> </ul>				
<b>6. SW Sandbox</b>			<b>H</b>					<b>H</b>
<b>Our assessment</b>	<ul style="list-style-type: none"> <li>All workers</li> <li>Could potentially lead to significant more user-centred and effective safety gear and cleaning equipment, and innovations for sanitation systems, making sanitation work much safer; however, adoption and behaviour change need to accompany this</li> </ul>			<ul style="list-style-type: none"> <li>ULBs will benefit significantly from the innovations</li> <li>The “sandbox” can be funded through various models (consortium-led, fee or commission based, etc.) – financing unlikely to be a bottleneck</li> <li>Lack of innovators in the space currently – will need to crowd-in participation</li> <li>High user acceptance since the sandbox will give an opportunity to small start-ups and academic institutes to test their innovations and even allow manufacturers to purchase and scale innovations</li> </ul>				

# Solutions evaluation

[On-the-job – Symptoms redressal]

Solution	Impact			Feasibility				
	# of workers	Intensity of impact	Overall	Political buy-in	Economic feasibility	Technical feasibility	User acceptance	Overall
<b>7. She-safe</b>			<b>H</b>					<b>M</b>
<b>Our assessment</b>	<ul style="list-style-type: none"> <li>• Women drain cleaners, railways cleaners and CT cleaners (~50% of workers)</li> <li>• Will make the worksite safer for women, create an amicable work environment and provide an avenue for redressal</li> </ul>			<ul style="list-style-type: none"> <li>• For govt., women sanitation worker safety may be low on priority; there might even be resistance to acknowledge harassment at work or unsafe work environments</li> <li>• Appointment of women supervisors, gender sensitisation trainings and work-site safety audits will likely be difficult to execute, given fundamental process changes</li> <li>• Rigid behaviour patterns of supervisors and workers may be difficult to change in the short term and will require sustained efforts</li> </ul>				
<b>8. SW Unionisation</b>			<b>H</b>					<b>L</b>
<b>Our assessment</b>	<ul style="list-style-type: none"> <li>• All workers except govt. employees (who already have unions) and latrine cleaners</li> <li>• Unionisation will give contract workers greater collective bargaining power and a unified voice to demand their rights without threat of losing their jobs; however, certain pre-requisites need to be in place (worker contracts to hold employers accountable, etc.)</li> </ul>			<ul style="list-style-type: none"> <li>• Collectivising fragmented workers (school toilet cleaners, CT cleaners, etc.) may be difficult if strong local CSOs don't exist</li> <li>• Private operators and contractors likely to oppose the move since it increases the chances of disruption to work and increase in demands by workers</li> </ul>				
<b>9. Designing Right Incentives for Contractors</b>			<b>M</b>					<b>L</b>
<b>Our assessment</b>	<ul style="list-style-type: none"> <li>• All workers except govt. employees and latrine cleaners</li> <li>• Will align contractors' interests with those of workers but will only bring incremental improvement to workers' lives</li> </ul>			<ul style="list-style-type: none"> <li>• Added administrative burden for the government to monitor contractors</li> <li>• Difficult to monitor results authentically; contractor might coerce workers to achieve favourable results</li> <li>• Contractors unlikely to accept performance-based pay due to potential of reduced pay-outs due to under-performance</li> </ul>				

# Solutions evaluation

[On-the-job – Symptoms redressal and systems improvement]

Solution	Impact			Feasibility				
	# of workers	Intensity of impact	Overall	Political buy-in	Economic feasibility	Technical feasibility	User acceptance	Overall
<b>10. Issue Resolution Mechanisms</b>			<b>H</b>					<b>M</b>
<b>Our assessment</b>	<ul style="list-style-type: none"> <li>All workers</li> <li>Workers will get access to anonymous avenues to voice their issues</li> </ul>			<ul style="list-style-type: none"> <li>Setting up an effective helpline that can cater to different types of workers fragmented across the country will be challenging as it will require a strong IT back-end, multiple call centres, and trained staff to handle calls in local languages</li> <li>Political buy-in, cost, and acceptance by workers not likely to be an issue</li> </ul>				
<b>11. Tweaking AMRUT</b>			<b>L</b>					<b>M</b>
<b>Our assessment</b>	<ul style="list-style-type: none"> <li>Sewer and drain cleaners (~50%)</li> <li>Stand-alone tweaking of guidelines will not improve worker conditions unless backed by effective implementation</li> </ul>			<ul style="list-style-type: none"> <li>AMRUT State Action Plans are already in place till 2020; may be difficult to change guidelines in the interim</li> <li>Time taken to get buy-in from stakeholders to revise guidelines will likely be another bottleneck</li> </ul>				
<b>12. Household-level Monitoring</b>			<b>M</b>					<b>L</b>
<b>Our assessment</b>	<ul style="list-style-type: none"> <li>Sewer and septic tank cleaners (~10%)</li> <li>By nipping the problem in the bud, blockages will be reduced, reducing the need for manual intervention</li> </ul>			<ul style="list-style-type: none"> <li>Added burden on government of monitoring households and institutions</li> <li>Difficult to track all households; requires a database of all households and a dynamic monitoring system to ensure traceability, which is currently absent</li> <li>Difficult to change behaviours w.r.t. responsible waste disposal</li> </ul>				

# Solutions evaluation

[On-the-job – Systems improvement]

Solution	Impact			Feasibility				
	# of workers	Intensity of impact	Overall	Political buy-in	Economic feasibility	Technical feasibility	User acceptance	Overall
<b>13. Reimagining Sanitation Hardware Design</b>			<b>M</b>					<b>M</b>
<b>Our assessment</b>	<ul style="list-style-type: none"> <li>Sewer, drain and septic tank cleaners (~50%)</li> <li>Will reduce the need for manual intervention in the riskiest jobs</li> </ul>			<ul style="list-style-type: none"> <li>Can be implemented through urban infrastructure schemes such as Smart Cities and AMRUT, but will require extensive govt. buy-in, especially for untested solutions</li> <li>While it is relatively difficult to execute for legacy infrastructure given local infra constraints and potential disruptions, it will be easier for cities and towns in the process of setting up their sanitation systems or cities expanding their sewer and drain networks</li> </ul>				
<b>14. Smart Sanitation System</b>			<b>H</b>					<b>M</b>
<b>Our assessment</b>	<ul style="list-style-type: none"> <li>Sewer, drain and septic tank cleaners (~50%)</li> <li>Potential for high impact since better monitoring of sanitation assets and jobs will increase accountability of users and supervisors, and enable preventive maintenance (and therefore, safer work)</li> </ul>			<ul style="list-style-type: none"> <li>Likely resistance from ULBs as they will be monitored and tracked closely, and authorities will demand greater accountability</li> <li>While solutions are easy to adopt (E.g., apps, GPS), many will need to be designed afresh; new systems and processes will need to be established to enable preventive maintenance and traceability</li> <li>No perceived resistance from workers although contractors might resist; viable business opportunity for tech players</li> </ul>				
<b>15. Favourable Contracting for Equipment</b>			<b>M</b>					<b>L</b>
<b>Our assessment</b>	<ul style="list-style-type: none"> <li>Sewer and drain cleaners (~50%)</li> <li>While quality of cleaning equipment might improve, on-ground usage might still be low</li> </ul>			<ul style="list-style-type: none"> <li>ULB adoption of standard templates may be a challenge, given unique operating contexts, budgets, etc.</li> <li>Similar initiatives have suffered from time lags and corrupt practices; empanelment might also lead to complacency among contractors</li> <li>Equipment providers that don't meet stringent eligibility criteria will resist</li> </ul>				

# Solutions evaluation

[Progression]



Solution	Impact			Feasibility				
	# of workers	Intensity of impact	Overall	Political buy-in	Economic feasibility	Technical feasibility	User acceptance	Overall
<b>16. Designing On-the-job Progression Pathways</b>			<b>M</b>					<b>L</b>
<b>Our assessment</b>	<ul style="list-style-type: none"> <li>Workers who want to continue in the current job</li> <li>Formal progression opportunities will inculcate a sense of aspiration among workers and motivate them</li> </ul>			<ul style="list-style-type: none"> <li>Difficult to implement as most sanitation work is standardised, with limited scope of differentiation among job roles (e.g., worker – supervisor – driver)</li> <li>Will lead to significant economic costs for the government and contractors as incremental pay scales will need to be introduced linked to job progression, while ensuring a fair baseline wage for all</li> </ul>				
<b>17. Employment Connect</b>			<b>M</b>					<b>M</b>
<b>Our assessment</b>	<ul style="list-style-type: none"> <li>All types of workers, typically younger (say &lt;35 years)</li> <li>Training linked with assured or high likelihood of placement will ensure successful rehabilitation</li> </ul>			<ul style="list-style-type: none"> <li>Govt. buy-in might be a challenge as devising such programs for sanitation workers might put pressure on them to do so for other risky jobs as well</li> <li>Effective cost per rehabilitated worker could be quite high as workers tend to drop-out and conversion rates are low</li> <li>Identifying jobs that workers are likely to take up and are suited for may be difficult since those jobs might not match or better SW pay scales, might have longer or inflexible work hours or might need them to relocate</li> </ul>				
<b>18. Enabling Entrepreneurship</b>			<b>M</b>					<b>M</b>
<b>Our assessment</b>	<ul style="list-style-type: none"> <li>Workers who are less risk-averse and want to exit current job</li> <li>Workers can be successful entrepreneurs with the right capacity building support and guaranteed purchase orders; these models have proven to be successful</li> </ul>			<ul style="list-style-type: none"> <li>Entrepreneurship schemes already in place for SWs – need to be designed better</li> <li>Guaranteed purchase orders or assured revenue ensures economic viability</li> <li>Workers don't have exposure to entrepreneurship; will require significant hand-holding</li> <li>For customer-facing business models, there is a high probability of workers being exposed to caste-based discrimination, with customers refusing to purchase from these workers</li> </ul>				

# Solutions evaluation

[Progression]



Solution	Impact			Feasibility				
	# of workers	Intensity of impact	Overall	Political buy-in	Economic feasibility	Technical feasibility	User acceptance	Overall
<b>19. Breaking the Family Legacy</b>			<b>H</b>					<b>M</b>
<b>Our assessment</b>	<ul style="list-style-type: none"> <li>Children of all workers</li> <li>By providing better opportunities to children of sanitation workers, the systemic issue of the work being carried on across generations can be reduced; many workers expressed this issue as a top priority</li> </ul>			<ul style="list-style-type: none"> <li>Education scholarships already in place for children of workers – but not very effective so far</li> <li>Difficult to track whether children are truly benefiting from the scheme</li> <li>Some children already have collegiate-level education but find it challenging to secure placements that meet their expectations</li> </ul>				
<b>20. Alternative Job Awareness and Counselling</b>			<b>L</b>					<b>H</b>
<b>Our assessment</b>	<ul style="list-style-type: none"> <li>All types of workers, typically younger (say &lt;35 years)</li> <li>Awareness and inspiration unlikely to spur change “at scale”, unless backed by skilling and placements</li> </ul>			<ul style="list-style-type: none"> <li>Low-cost solutions to spread awareness; many CSOs have led awareness drives earlier which have been able to motivate workers to exit their sanitation jobs</li> <li>Relatively easy to execute given limited govt. support is required, no changes to existing systems and processes; however will need support of multiple CSOs to execute a nation-wide initiative</li> </ul>				
<b>21. Sanitation Worker Relationship Management</b>			<b>H</b>					<b>L</b>
<b>Our assessment</b>	<ul style="list-style-type: none"> <li>All workers who exit the profession</li> <li>Relapse into old profession can be minimised through tracking and support</li> <li>Will provide useful data for refining schemes in the future</li> </ul>			<ul style="list-style-type: none"> <li>Will require additional government capacity to track and support ex-workers; perhaps low on priority</li> <li>Difficult to track workers given their fragmentation, the informal nature of jobs they’re likely to pursue, lack of IDs, lack of monitoring bandwidth, etc.</li> </ul>				



# Solutions evaluation

## [Cross-cutting enablers]

Solution	Impact			Feasibility					
	# of workers	Intensity of impact	Overall	Political buy-in	Economic feasibility	Technical feasibility	User acceptance	Overall	
<b>22. Improving Access to SC Benefits and Schemes</b>			<b>H</b>						<b>M</b>
<b>Our assessment</b>	<ul style="list-style-type: none"> <li>All workers</li> <li>Will help workers avail social schemes and benefits, leading to improved social welfare and integration</li> </ul>			<ul style="list-style-type: none"> <li>Government buy-in is highly influenced by vote banks and these workers are often at the lowest-level of their caste group and ignored even in the SC debate</li> <li>Can be implemented with worker ID but access to schemes might be hindered by procedural delays and corrupt practices</li> </ul>					
<b>23. Safe Sanitation Public Awareness Campaign</b>			<b>H</b>					<b>H</b>	
<b>Our assessment</b>	<ul style="list-style-type: none"> <li>All workers</li> <li>Media will be instrumental in creating awareness amongst the public and relevant stakeholders, national and international, and putting pressure on govt. agencies to take action</li> </ul>			<ul style="list-style-type: none"> <li>Govt. might be hesitant to support due to increased focus on their efforts and progress regarding this issue</li> <li>Relatively easy to execute given limited govt. support required, no changes to existing systems and processes; however will need to build a common understanding of issues among journalists and secure media houses' sustained commitment to this issue</li> </ul>					
<b>24. Regulatory Revisions</b>			<b>H</b>					<b>M</b>	
<b>Our assessment</b>	<ul style="list-style-type: none"> <li>All workers</li> <li>Airtight legal conditions will ensure unsafe sanitation work is well understood, and guidelines are put in place, potentially leading to a reduction in unsafe sanitation; however, legal amendments are not sufficient and need strict enforcement</li> </ul>			<ul style="list-style-type: none"> <li>Latest MS Act released in 2013; government might be reluctant to revise within 4-5 years as it might signal inefficacy of the Act</li> <li>Legal amendments are typically time-taking, needs buy-in from multiple diverse stakeholders, etc.</li> <li>Private operators and contractors will likely resist stricter laws than can increase their potential liability</li> </ul>					

# Solutions evaluation

## [Cross-cutting enablers]

Solution	Impact			Feasibility				
	# of workers	Intensity of impact	Overall	Political buy-in	Economic feasibility	Technical feasibility	User acceptance	Overall
<b>25. Institutional Strengthening</b>			<b>H</b>					<b>H</b>
<b>Our assessment</b>	<ul style="list-style-type: none"> <li>All workers</li> <li>Empowered body at all levels (Centre, State, and ULB) will act as a guardian for worker safety and livelihoods, immune to conflicts of interest or perverse incentives</li> </ul>			<ul style="list-style-type: none"> <li>Relevant bodies already exist at the Central (NCSK) and State level (SCSK) – these will need to be made functional and empowered; however, increasing power of these bodies will be a time consuming process given required legal amendments</li> <li>New capacity will need to be created at the ULB level (“safety cell”) but will be at reasonable cost</li> </ul>				
<b>26. More and Better Budgeting</b>			<b>H</b>					<b>M</b>
<b>Our assessment</b>	<ul style="list-style-type: none"> <li>All workers</li> <li>Increased budgeting will ensure workers have access to gear and equipment, and schemes</li> </ul>			<ul style="list-style-type: none"> <li>Will require change in mindset and processes for budgeting to allow for preventive maintenance of systems</li> <li>Increased budgets may not be feasible for amounts that have already been sanctioned to ULBs; will be difficult to justify significant increases</li> <li>New innovative financing mechanisms will need to be tested and may not be feasible in all contexts</li> </ul>				

# Basis our impact-feasibility assessment, 16 opportunity areas emerge as most promising



Legend: **Entry, on-the-job, progression, cross-cutting enablers**; Note: SW stands for sanitation workers

Source: Dalberg analysis

# Agenda

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Where we are on the project

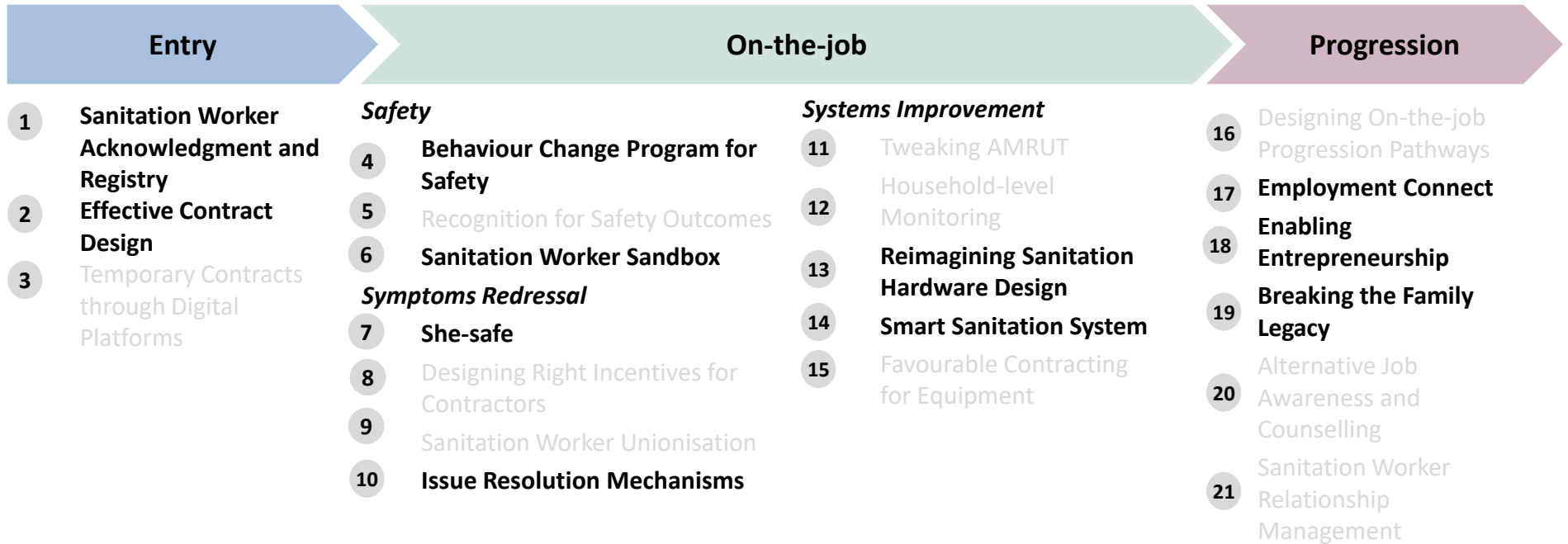
Long-list of opportunity areas

Evaluation and prioritization

**Prioritized opportunity areas**

Annex

# We have prioritised 16 opportunity areas to improve sanitation workers' safety and livelihoods



## Cross-cutting enablers

- 22 Improving Access to SC Benefits and Schemes
- 25 Institutional Strengthening
- 23 Safe Sanitation Public Awareness Campaign
- 26 More and Better Budgeting
- 24 Regulatory Revisions

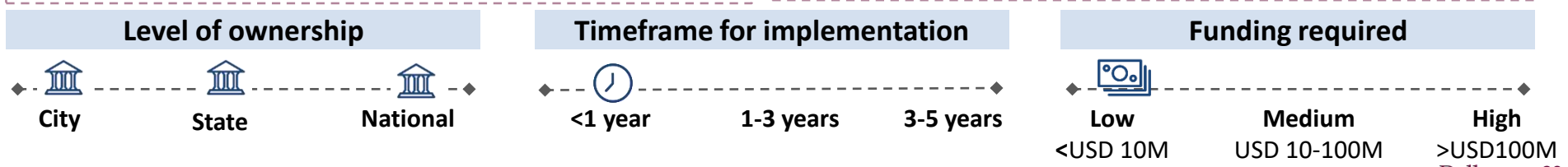
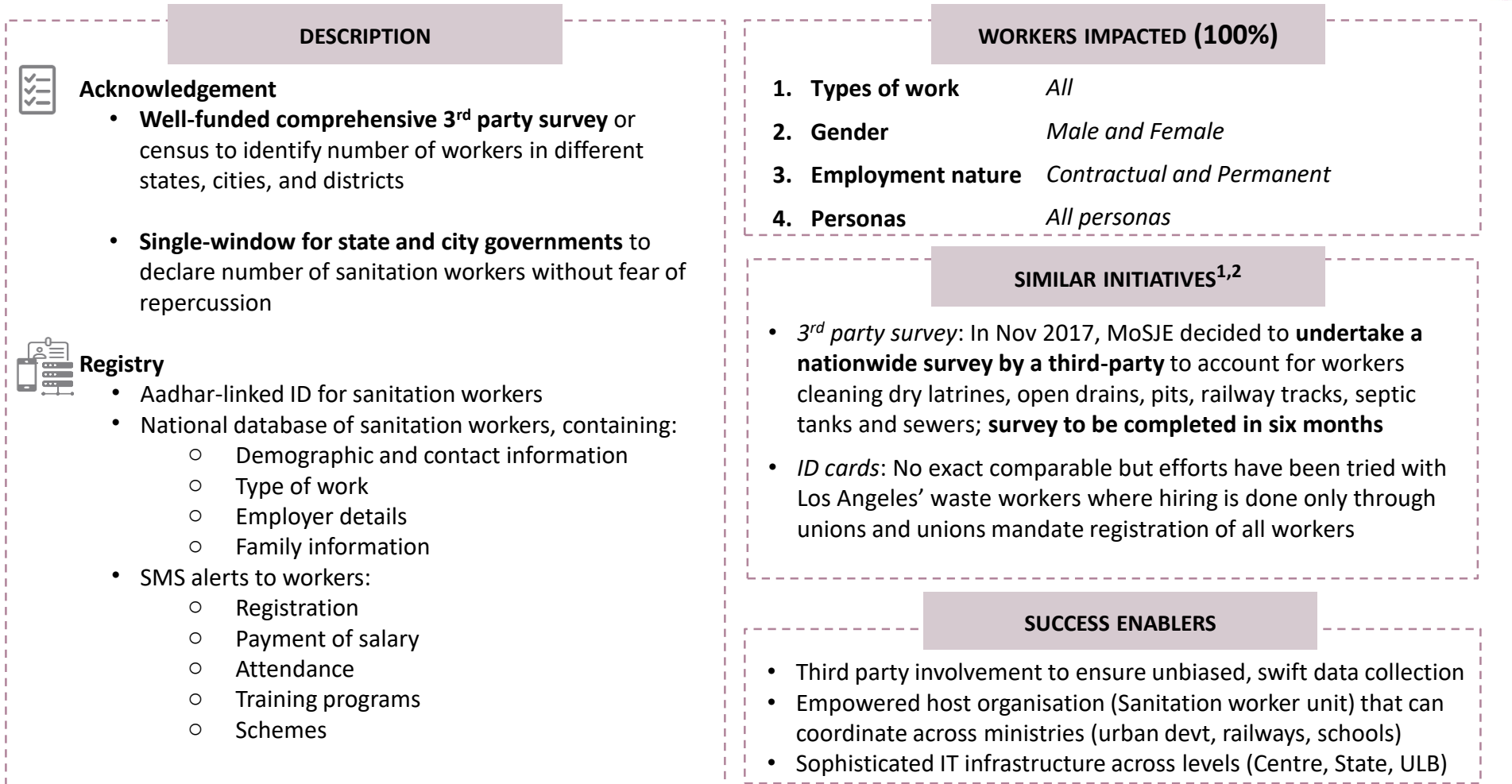
These opportunity areas have been detailed on subsequent slides



# [Entry] Sanitation Worker Acknowledgement and Registry



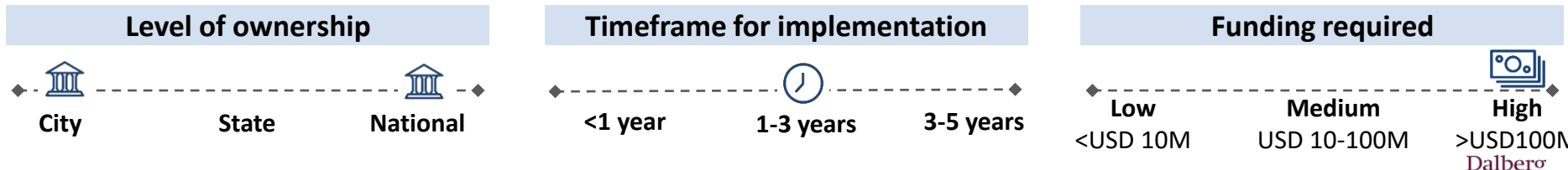
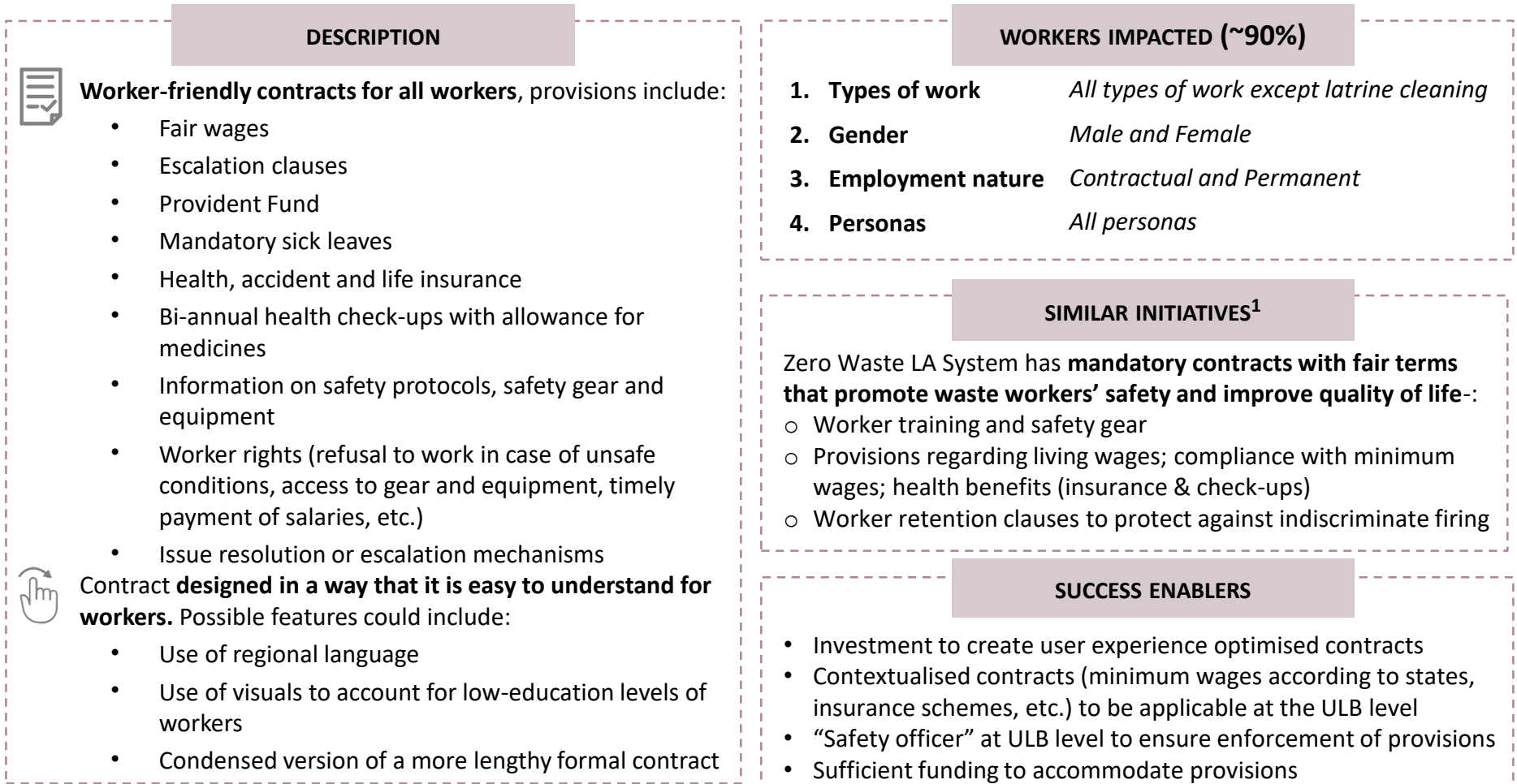
Will provide a sense of identity and serve as a springboard for other interventions



Funding figure is a high level estimate to indicate scale of funding; MoSJE: Ministry of Social Justice and Empowerment; Source:(1): [Manual scavenging law to be amended to hike compensation for deaths; Indian Express, 2017](#) (2)-Cleaning Up Waste” LAANE 2015; Dalberg analysis Dalberg 30

# [Entry] Effective Contract Design

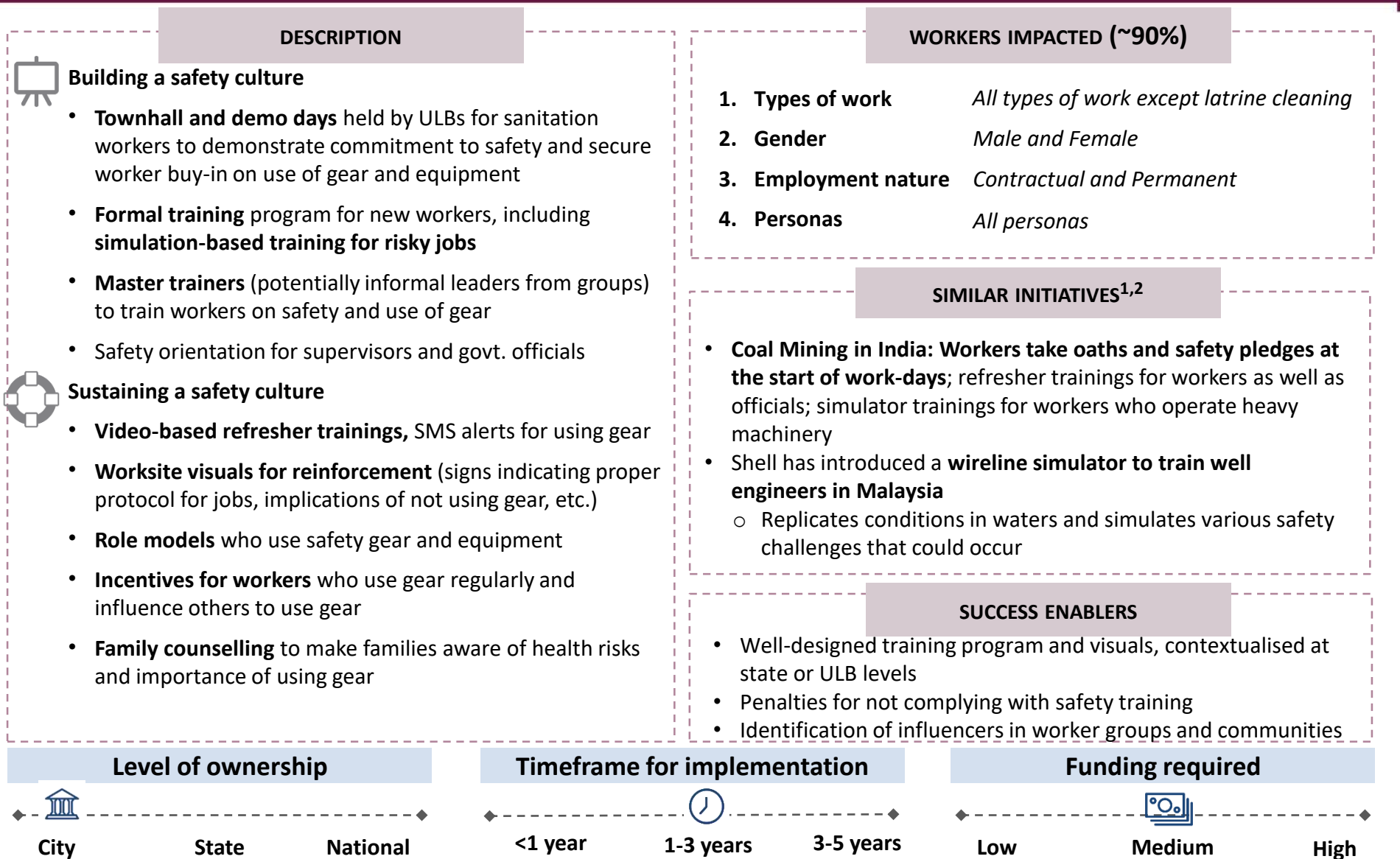
Will formalise employer-worker relationship and hold employers accountable



Funding figure is a high level estimate to indicate scale of funding; Source: (1)-Cleaning Up Waste" LAANE 2015; Dalberg analysis

# [On-the-job] Behaviour Change Program for Safety

Will build and sustain a formal culture of safety



Funding figure is a high level estimate to indicate scale of funding; Source: (1): [Learning to drill deeper and more safely, Shell](#); (2): Coal India SMP 2014; Dalberg analysis Dalberg 32



# [On-the-job] Sanitation Worker Sandbox

Will lead to contextually relevant innovations

## DESCRIPTION

Platform for conceptualising, prototyping, and commercialising **innovations for sanitation hardware design, cleaning equipment, safety gear, monitoring equipment (sensors, GPS, etc.) and personal health devices**



### Solution generation

- **Innovation prizes and challenges** that lead to the design of relevant solutions, where even governments can ask innovators to develop solutions for specific problems (suction machines for narrow lanes, etc.)



### Solution testing and commercialisation

- Start-ups, entrepreneurs, academic institutes and even international manufacturers can **test their ideas in real-word settings** and get feedback from workers, supervisors, etc.
- **Pitch competitions or exhibitions** where ULBs can place orders and manufacturers can purchase innovations
- **Innovation fund** to support funding for promising ideas, competitions, and behaviour change programs for adoption of ideas

## WORKERS IMPACTED (100%)

1. **Types of work** All
2. **Gender** Male and Female
3. **Employment nature** Contractual and Permanent
4. **Personas** All personas

## SIMILAR INITIATIVES<sup>1,2,3</sup>

- **Swachh Bharat Hackathon** was organised by the Ministry of Drinking Water and Sanitation to crowdsource solutions for sanitation and hygiene challenges (Sep, 2017)
- HAL is developing a **signal system to identify open manholes, geotag them and check for breakages; also developing a sewerage safety suit** relevant for Indian context
- Some innovations are being developed at small scale and can be given an impetus through the sandbox. *E.g., Genrobotics, founded by eight engineers, has designed a **robot named Bandicoot for eliminating sewer deaths in Kerala**<sup>1</sup>*

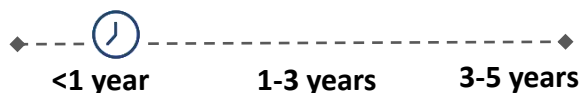
## SUCCESS ENABLERS

- Host institution with state-of-the-art tech facilities (E.g., IIT)
- Buy-in from ULBs to test innovations
- Strategy to crowd-in innovators, which are currently limited

## Level of ownership



## Timeframe for implementation



## Funding required

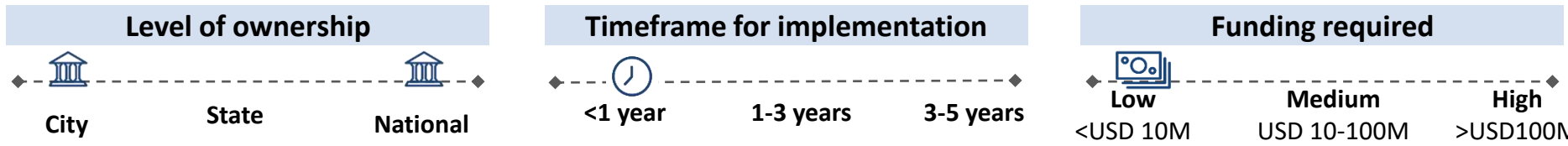
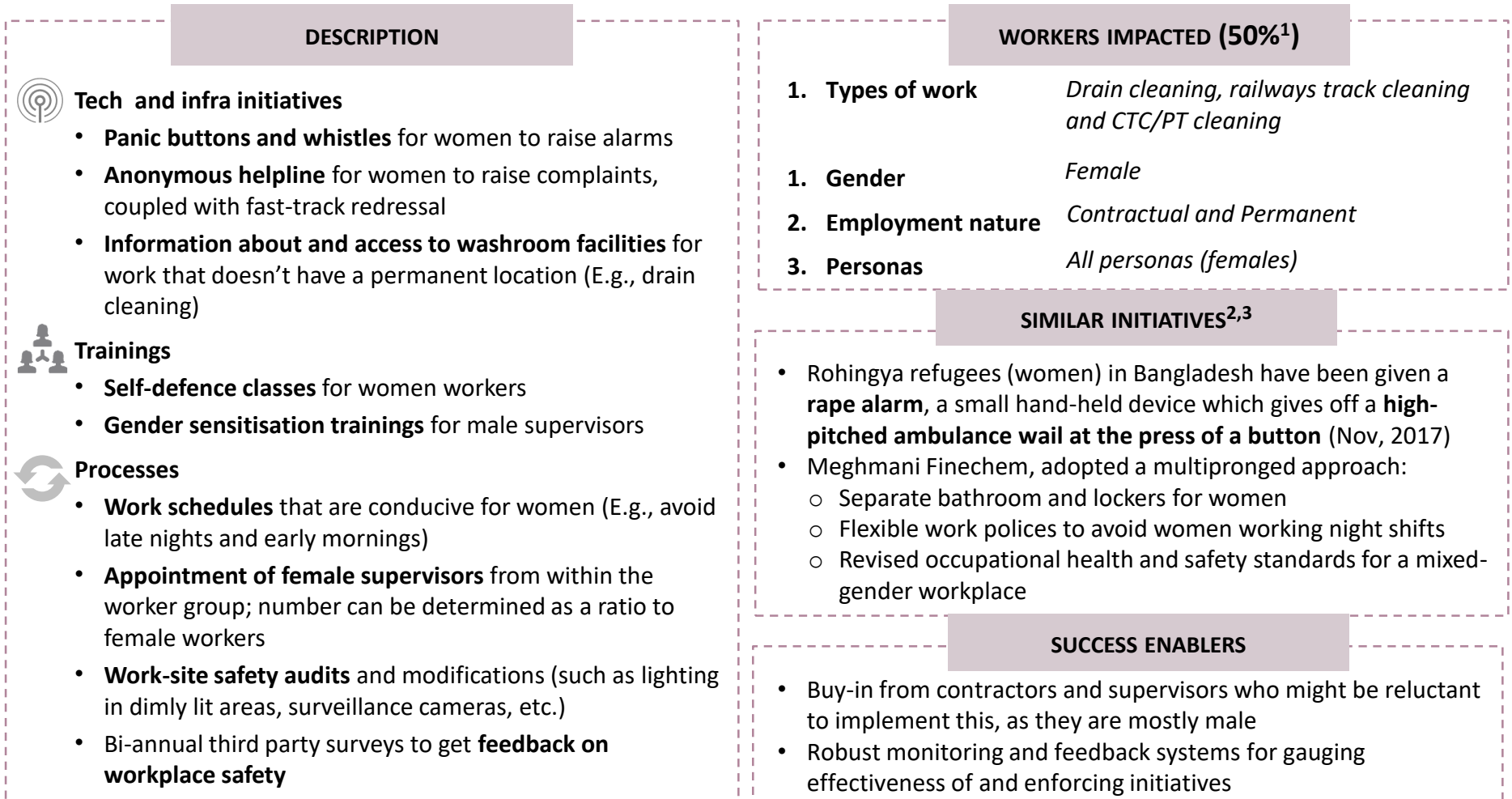


Funding figure is a high level estimate to indicate scale of funding; Source: (1): [Swachhathon 1.0 receives massive response from young innovators of the country, 2017](#); (2): [HAL to help Water Board in manhole maintenance, 2017](#); (3): [Kerala start-up has tech solution to sewer deaths, 2017](#); Dalberg analysis

# [On-the-job] She-safe



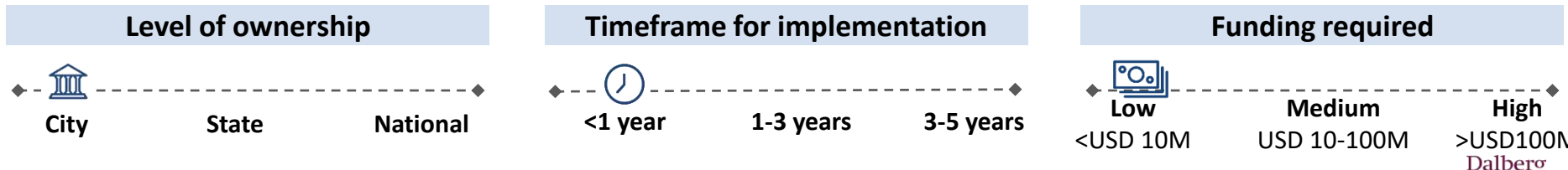
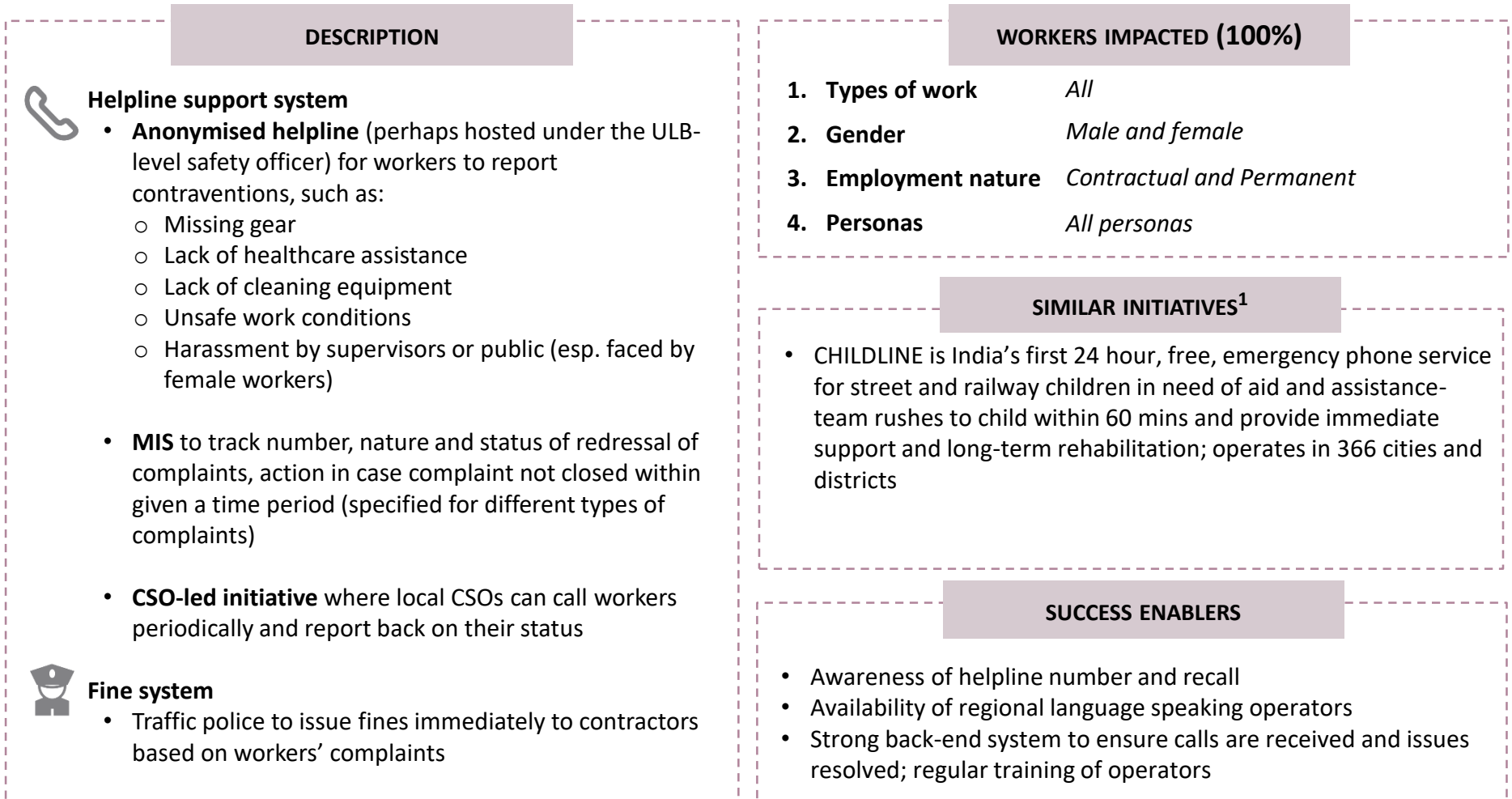
Will lead to a safer workplace and amicable work environment for women



Funding figure is a high level estimate to indicate scale of funding; Source: (1): 50% drain cleaners and 20% railways cleaners and CT cleaners have been assumed to be women based on our field research findings; (2): Employing women catalyzes change at a chemical plant in India; IFC; (3): [‘Rape alarm’ for Rohingya women, Daily Star, 2017](#); Dalberg analysis Dalberg 34

# [On-the-job] Issue Resolution Mechanisms

Will ensure speedy redressal of worker grievances



Funding figure is a high level estimate to indicate scale of funding; Source: (1): CHILDLINE website; Dalberg analysis

# [On-the-job] Reimagining Sanitation Hardware Design

Will improve sanitation infrastructure, reducing the need for manual intervention

## DESCRIPTION

*Design of infrastructure can be improved to reduce instances of blockages and need for manual intervention*

*Illustrative hardware design improvements for sewer networks:*



- **Installation of inspection or diaphragm chambers** at household and institution connections to the sewer network to filter out unwanted material

- Connection of manholes directly to households for increased accountability



### Innovation in sewer network design

- Materials for sewer construction that reduce friction and upstream hardware innovation that breaks down waste, both allowing for easier movement
- Dimensions and gradients based on expected volume and speed of water to reduce blockage

*Illustrative hardware design improvements for septic tanks:*



- Septic tank improvements to account for inconsistency of sludge due to unwanted waste materials (e.g., kitchen waste, etc.)

## WORKERS IMPACTED (~50%)

1. **Types of work** Sewer, drain and septic tank
2. **Gender** Male and Female
3. **Employment nature** Contractual and Permanent
4. **Personas** All except complacent part-timer

## SIMILAR INITIATIVES<sup>1</sup>

- **Malaysia: National research and development centre** for sewer network design, materials, etc. Innovations in sewer design is one of the factors that led to a 7% annual reduction in complaints

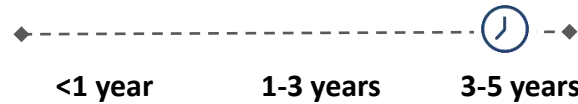
## SUCCESS ENABLERS

- Rigorous testing in the Indian context (high density urban areas) before “scaling up” interventions
- Building case for households to invest in the infra

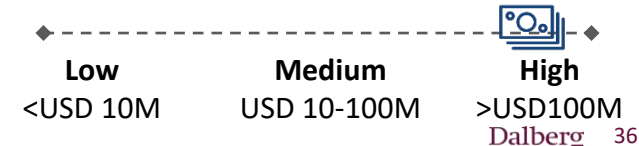
### Level of ownership



### Timeframe for implementation



### Funding required



# [On-the-job] Smart Sanitation System

Will reduce the need for manual intervention in sewers, septic tanks and drains

## DESCRIPTION



### Identification of issues and blockages in the sanitation system

- **Mobile app for citizens and staff** to log complaints about blockages in sewer systems, drain overflow, etc.
- Use of **sensors, lasers, infra-red or U.V. rays** in sewer networks to detect blockages
- **Tagging of septic tanks** to monitor frequency of de-sludging

### Resolution of issues

- Vehicle tracking via **GPS**
- Real-time monitoring of sewer cleaning via **CCTVs fitted on vehicles**
- Sewer monitoring equipment and screens fitted to vehicle



### Tracking

- **“Control room”** at city-level to view the entire sewer network
- **Robust MIS** where all cleaning jobs are assigned “Job IDs”; resolution status and time, comments, and next steps logged in
- **Strong analytics backend** to identify “hotspots” (i.e. those parts of the sewer and drain networks that give the most problem) for proactive upgradation and maintenance

## WORKERS IMPACTED (~50%)

1. **Types of work** *Sewer, drain and septic tank*
2. **Gender** *Male and Female*
3. **Employment nature** *Contractual and Permanent*
4. **Personas** *All except complacent part-timer*

## SIMILAR INITIATIVES<sup>1,2</sup>

- **HMWSSB has introduced multiple such initiatives**
  - Citizens can report overflows and blockages using an app called JAL (Jaldi Action Le)
  - App-based navigation and monitoring of assignments; pictures taken before and after each unblocking
- **Malaysia:** 1) CCTVs for sewer inspections; 2) data-based monitoring of desludging based on database of septic tanks in households and centralised system for desludging requests; 3) GPS-fitted vehicles

## SUCCESS ENABLERS

- Adoption by users, who are not necessarily tech savvy
- Strong business case for making these investments

## Level of ownership



## Timeframe for implementation



## Funding required



Funding figure is a high level estimate to indicate scale of funding; HMWSSB: Hyderabad Metropolitan Water Supply and Sewerage Board Source: (1): Expert interviews; (2): Indah Water Konsortium Reports 2010 and 2016; Dalberg analysis

# [Progression] Employment Connect

Will provide workers with access to lucrative, safer job opportunities

## DESCRIPTION



### Sources of job opportunities

- **Incentives to companies for skilling and hiring** sanitation workers; provisions such as tax rebates or qualification of spend as CSR can be provided as incentives
- **Reservations for jobs** for sanitation workers in non-WASH sectors (public sector units, mid-day meal cooks, Anganwadi helpers, manufacturing units, etc.)



### Interventions to facilitate access and transition

- **Incentive program** for intermediaries (e.g., local CSOs) to provide non-WASH work in a family
- **Soft skills training** by CSOs
- **Time-bound monthly stipend** for sanitation workers migrating to lower-paying (but safer) jobs
- **Recruitment helpline** for sanitation workers for information on:
  - Available employment opportunities or networks which provide employment opportunities
  - Livelihood schemes
  - Processes for application

## WORKERS IMPACTED (~25%)

1. **Types of work** *All*
2. **Gender** *Male and Female*
3. **Employment nature** *Contractual (permanent unlikely to move out)*
4. **Personas** *Caged bird and transient hustler*

## SIMILAR INITIATIVES<sup>1</sup>

- Accenture, ICICI Bank,, Costa Coffee, JW Marriott train and hire people with disabilities (PWDs) – could be done similarly for sanitation workers
- CSOs such as Enable India provide employability training to PWDs
- Babajobs provides blue-collar jobs through telephony and apps for various multilingual job seekers

## SUCCESS ENABLERS

- Identifying target segments within sanitation workers who are better placed for jobs
- Identifying local employment opportunities and being able to match them with worker skills and aptitudes
- Building the case for corporates to hire from the pool

## Level of ownership



## Timeframe for implementation

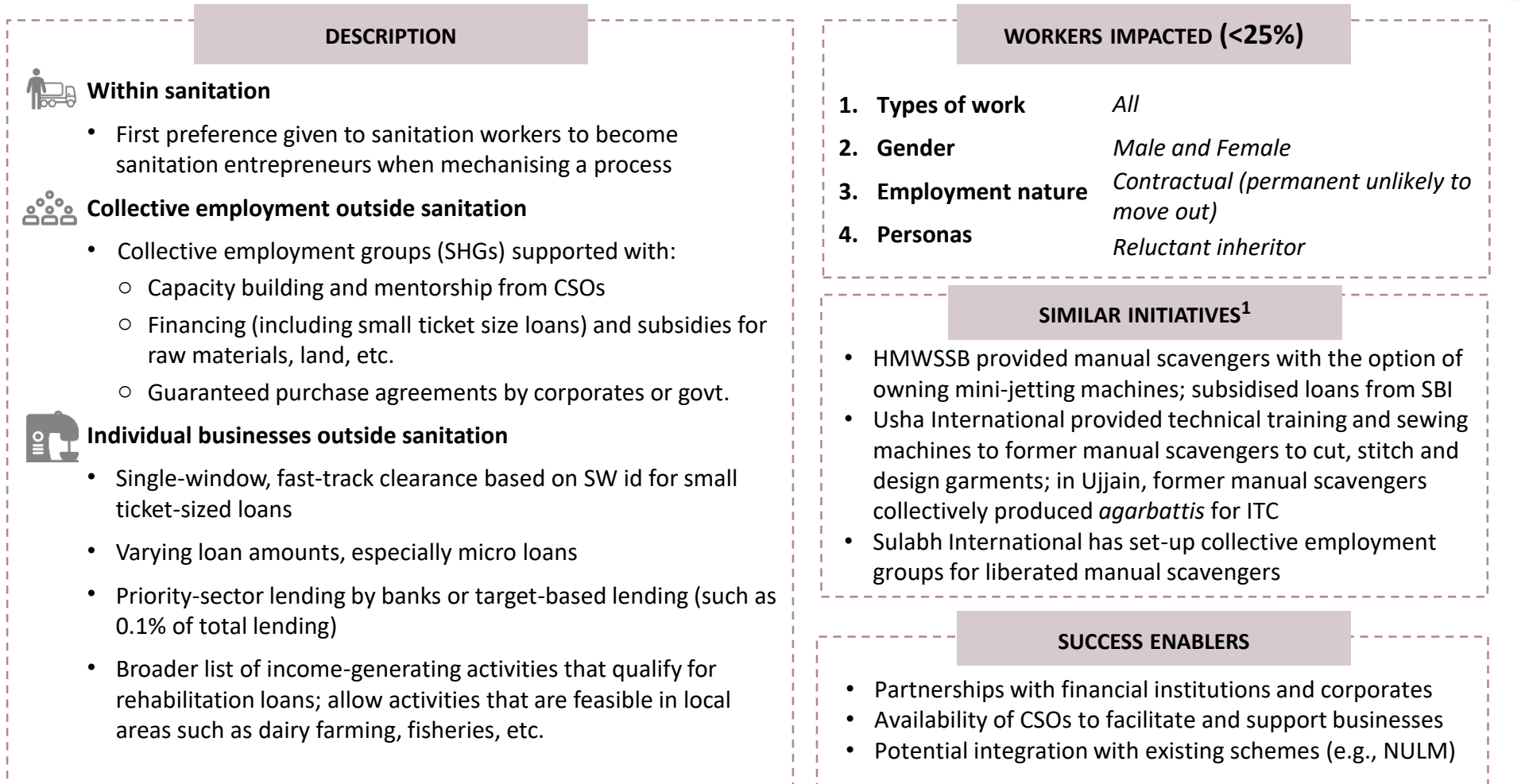


## Funding required



# [Progression] Enabling Entrepreneurship

Will provide workers with the tools and support needed to realise business opportunities



Funding figure is a high level estimate to indicate scale of funding; HMWSSB: Hyderabad Metropolitan Water Supply and Sewerage Board; Source: (1) Expert interviews; Dalberg analysis Dalberg 39

# [Progression] Breaking the Family Legacy

Will provide children of workers with lucrative livelihood opportunities

## DESCRIPTION



### Sources of non-WASH job opportunities

- **Incentives to companies for skilling and hiring children of sanitation workers;** provisions such as tax rebates or qualification of spend as CSR can be provided as incentives
- **Reservations for jobs** for sanitation workers in non-WASH sectors (public sector units, mid-day meal cooks, Anganwadi helpers, manufacturing units, etc.)



### Interventions to facilitate access and transition

- **Soft skills training** by CSOs
- **Recruitment helpline** for children of sanitation workers for information on available opportunities, schemes and processes
- **Incentive program** for intermediaries (e.g., local CSOs) to provide non-WASH work in a family
- **Education scholarship program**, including funding for:
  - Tuition fee (secondary school, higher education)
  - Materials (books, uniforms, stationery, etc.)
  - Transport

## WORKERS IMPACTED (~75%)

1. **Types of work** *All*
2. **Gender** *Male and Female*
3. **Employment nature** *Contractual and Permanent*
4. **Personas** *Reluctant inheritor, Complacent part-timer, Trapped traditionalist and First-among equals*

## SIMILAR INITIATIVES<sup>1,2</sup>

- Magic Bus India Foundation has a Childhood to Livelihood program (8-18 years) with a structured curriculum and uses sports and activities to provide soft-skills training
- All Magic Bus children complete school till Class 12 and 80% of youth in the programme get employment

## SUCCESS ENABLERS

- Building the case for corporates to hire from the pool
- Modify existing schemes for children of sanitation workers, to make them more favourable
- Being able to track the children to make sure that they've truly broken the legacy

## Level of ownership



## Timeframe for implementation



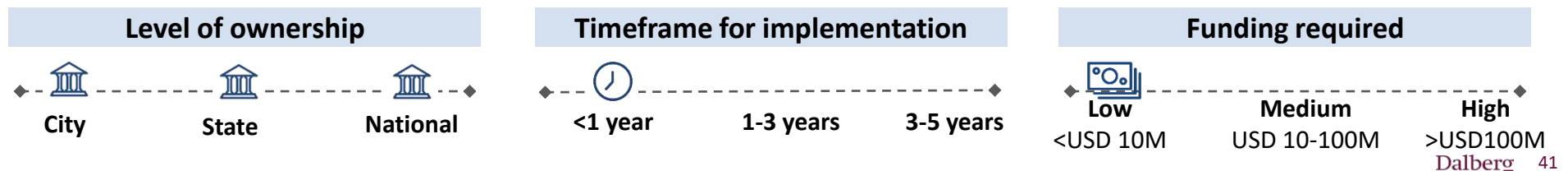
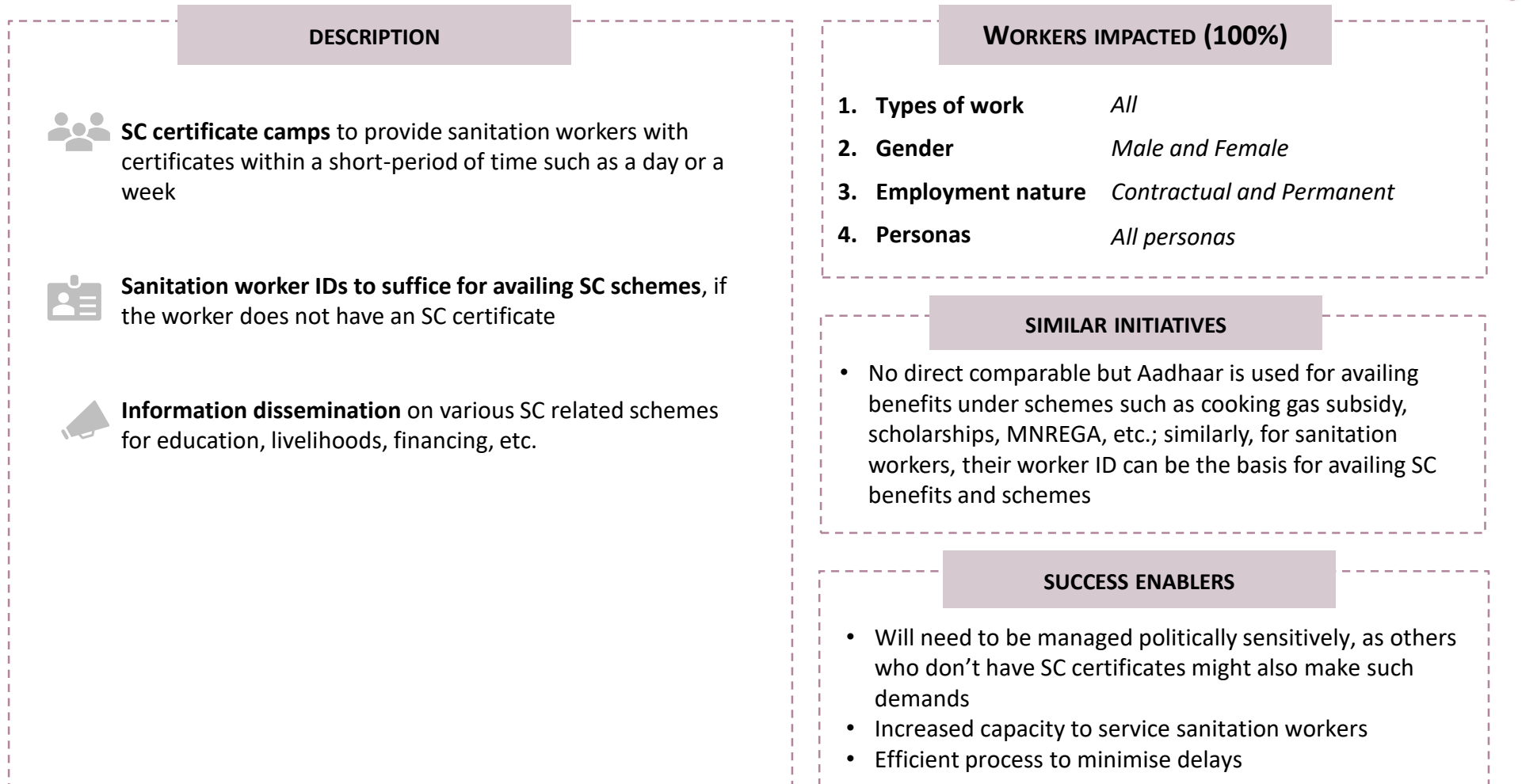
## Funding required





# [Cross-cutting enablers] Improving Access to SC Schemes and Benefits

Will lead to improved social welfare and integration in society



Funding figure is a high level estimate to indicate scale of funding; Source: Dalberg analysis

# [Cross-cutting enablers] Safe Sanitation Public Awareness Campaign

*Will spur government action and mobilise public support for sanitation workers*

## DESCRIPTION



**Well publicised (national and international) campaign on an ongoing basis.** The campaign could cover, among other things:

- Types of sanitation work and working conditions
- Issues faced by workers (financial, social and health)
- Interventions required to address the above
- Interventions and pilots being implemented
- Recognition of impactful work in the space
- Safety and livelihoods status of workers



**360 degree media coverage:**

- News (print and online): Informational reporting on govt. initiatives, innovations, worker deaths
- Television: Focused campaigns on the topic, featuring influencers and personalities (film stars, cricketers, etc.)
- Film: Mini-documentaries
- Social media: Amplifying the buzz created by other mediums

## WORKERS IMPACTED (100%)

1. **Types of work** *All*
2. **Gender** *Male and Female*
3. **Employment nature** *Contractual and Permanent*
4. **Personas** *All personas*

## SIMILAR INITIATIVES<sup>1</sup>

- NDTV (national media house) has focused on manual scavenging in its Swachh Cleanathon and other segments; brought in celebrities to speak about the issue
- U.S. govt. released a 3-months “Tips From Former Smokers” anti-smoking campaign featuring stark images and emotional pleas from ex-smokers led to 200,000 people quitting smoking (2012)
- Media has played a key role in catalyzing adoption and usage of toilets as part of the SBM

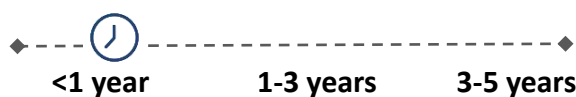
## SUCCESS ENABLERS

- Sustained commitment from media houses
- Training of journalists to ensure they understand the issue correctly, and are able to cover it smartly

## Level of ownership



## Timeframe for implementation



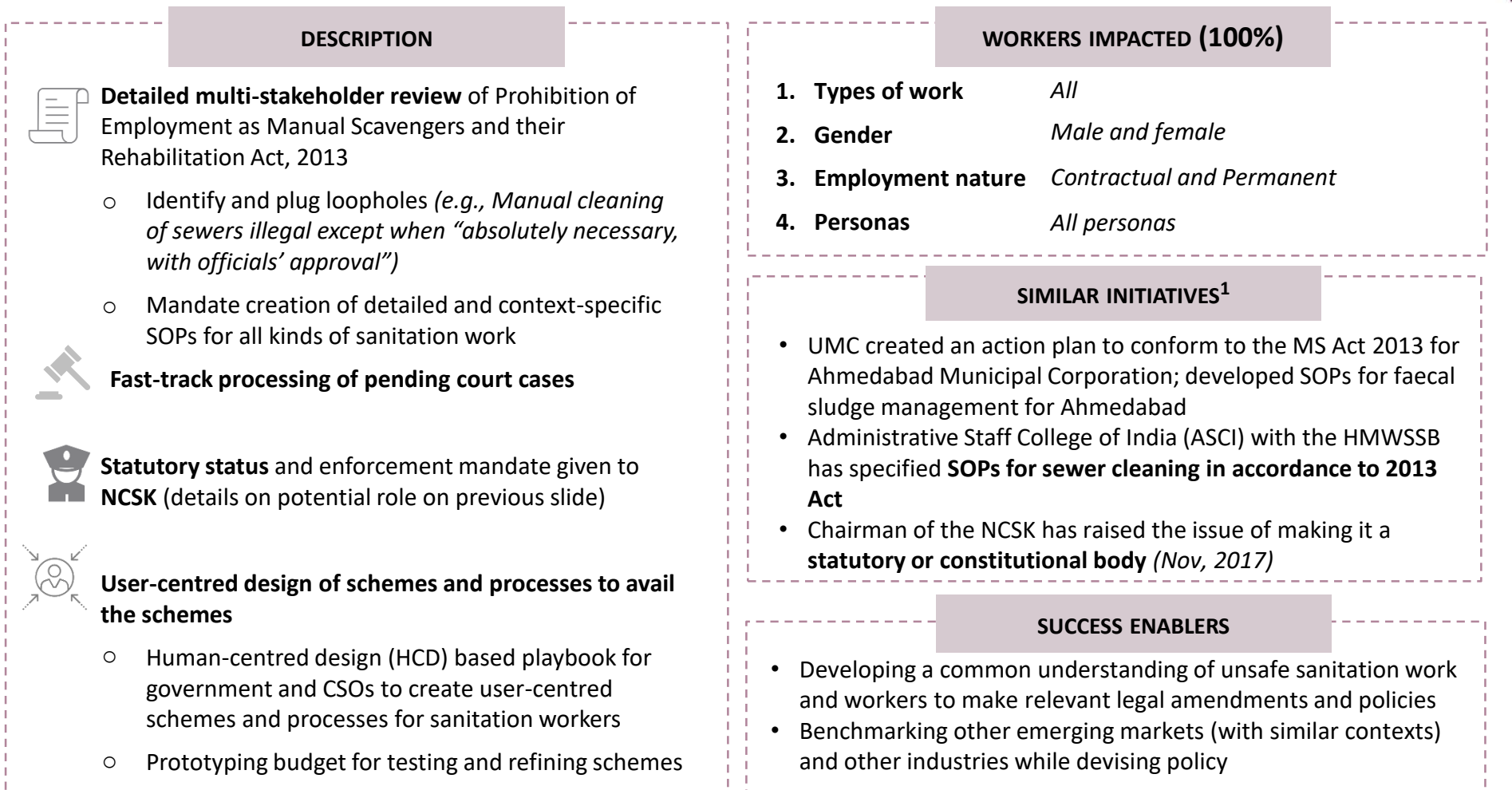
## Funding required



Funding figure is a high level estimate to indicate scale of funding; Source: (1) [CDC: More than 200,000 Americans quit smoking after graphic ad campaign, Washington Post, 2013](#); Dalberg analysis

# [Cross-cutting enablers] Regulatory Revisions

To plug gaps in the current MS Act and create worker-centered schemes



Funding figure is a high level estimate to indicate scale of funding; Source: (1): Expert interviews; (2): [National Commission for Safai Karamcharis Suggests NITI Ayog to Bring Some of The Welfare Schemes for Safai Karamcharis and Manual Scavengers Under Its Purview, Business Standard, 2017](#); Dalberg analysis Dalberg 43

# [Cross-cutting enablers] Institutional Strengthening

Will serve as a impartial guardian for sanitation workers

## DESCRIPTION



**National Sanitation Worker Unit (NCSK++), responsible for:**

- Defining safety standards and benchmarks
- Developing SOPs, guidelines for sanitation work
- Designing training programs
- Designing model worker contracts
- Maintaining a national database of workers
- Initiating awareness campaigns
- Monitoring and enforcing policies and norms
- Grievance redressal and coordinating with NSKFDC for rehabilitation of workers
- Coordinating with state-level bodies and safety officers in ULBs
- Maintaining a robust and transparent monitoring and reporting framework on state of unsafe sanitation



**Equivalent bodies at the state level to support the national sanitation worker unit**



**“Sanitation workers safety cell” in each ULB** accountable for workers’ safety

## WORKERS IMPACTED (100%)

- |                             |                                  |
|-----------------------------|----------------------------------|
| <b>1. Types of work</b>     | <i>All</i>                       |
| <b>2. Gender</b>            | <i>Male and Female</i>           |
| <b>3. Employment nature</b> | <i>Contractual and Permanent</i> |
| <b>4. Personas</b>          | <i>All personas</i>              |

## SIMILAR INITIATIVES<sup>1,2</sup>

- **Coal Mining in India:** Independent safety cell, Directorate General for Mines Safety, housed in Ministry of Labour to enforce worker safety protocols
- Chairman of the NCSK has raised the issue of **empowering the body** by making it a **statutory or constitutional body** and bestow it with the **powers of a civil court so that it can discharge its mandate effectively** (Nov, 2017)

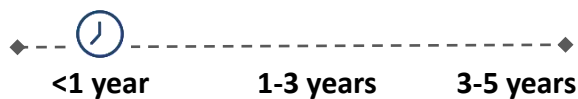
## SUCCESS ENABLERS

- Fully staffed units at all levels, coupled with enforcement powers
- Robust monitoring framework to hold units accountable

## Level of ownership



## Timeframe for implementation

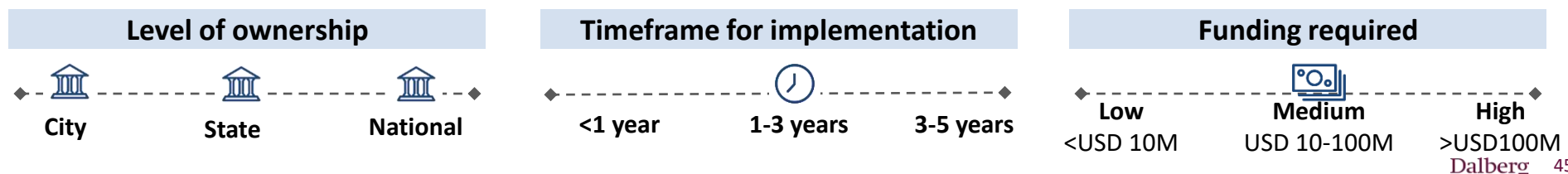
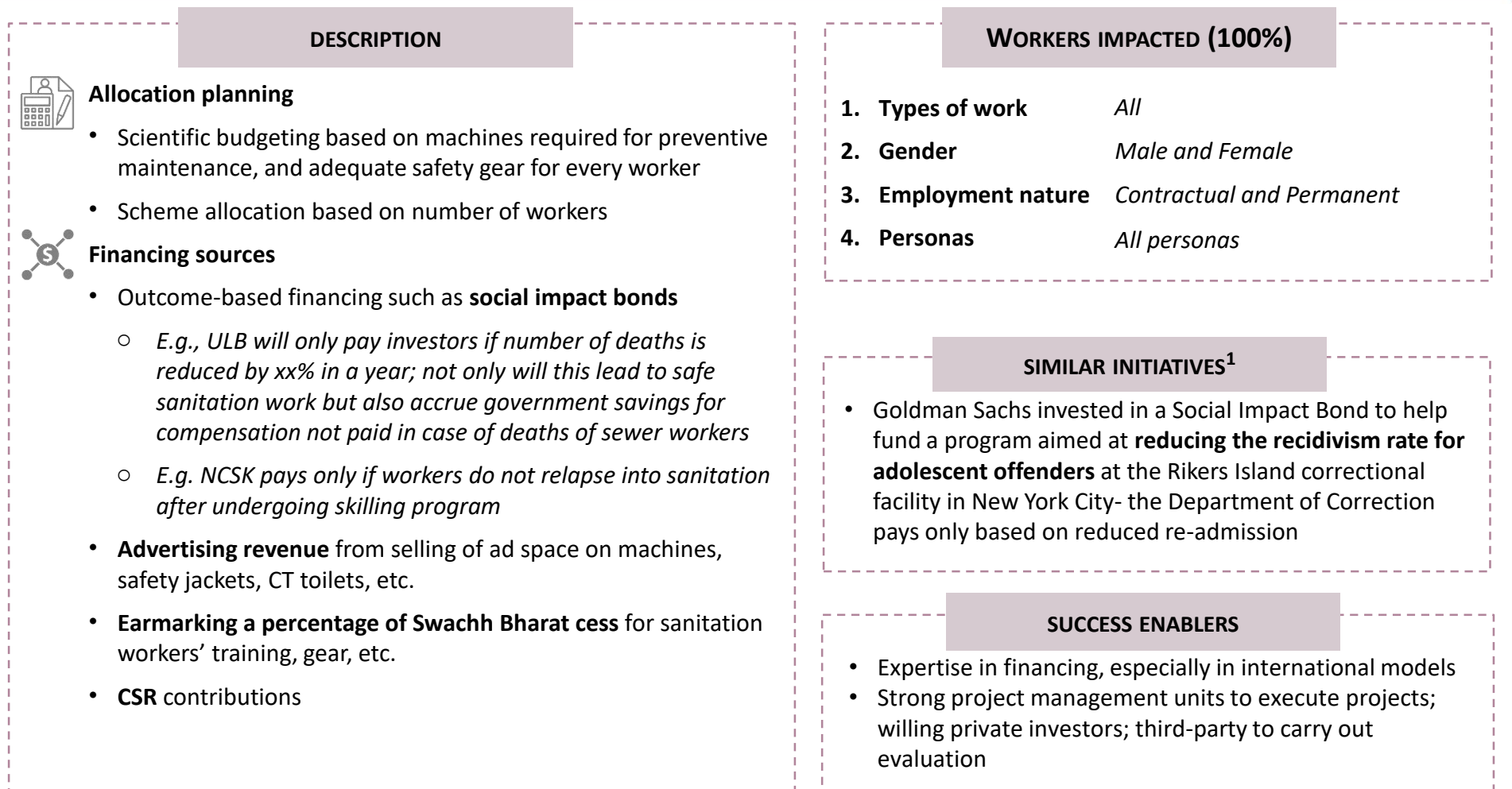


## Funding required



# [Cross-cutting enablers] More and Better Budgeting

Will lead to increased funding for safety and lucrative livelihoods of workers



Funding figure is a high level estimate to indicate scale of funding; Source: (1) [Social impact bond: adolescent behavioral learning experience](#); Dalberg analysis

# Agenda

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Where we are on the project

Long-list of opportunity areas

Evaluation and prioritization

Prioritized opportunity areas

Annex

# We believe there are six personas of sanitation workers basis their motivations, opportunities and ability



*Reluctant inheritor*

*Relatively new workers, both women and young men, who are forced into the profession due to the death of the primary income earner who used to be in this profession*



*Complacent part-timer*

*Workers, both women and men, who face less hazardous environments and are comfortable in the current job, and have no desire to move out*



*Caged bird*

*Workers (men) who have just entered this job and are keen to move on to jobs beyond sanitation but foresee no opportunities for doing that*



*Trapped traditionalist*

*Sewer workers and drain cleaners, typically male, who have been working for several decades and expect to continue doing so*



*Transient hustler*

*Workers who are looking for jobs that provide the best economic pay-out and currently a job in sanitation provides them that*



*First among equals*

*Permanent sewer workers and drain cleaners who have been doing this job for years, and earn significantly more than other workers*

These personas differ in terms of backgrounds, motivations, aspirations, and personalities, and will therefore require customized solutions and pathways

# Reluctant inheritor – forced into the profession due to the death of the primary income earner in the family

## Reluctant inheritor



*“My husband is an alcoholic and is not earning anything. I have been supporting the family for many years now.”*

### Key identifiers

- **Gender:** Female/Male
- **Age:** 25 years and above
- **Education:** Limited
- **Types of work:** Railways cleaning, drain cleaning, sewer cleaning
- **Employer:** Contractor/government

~10%

### Livelihood pathway



#### Background

- Worker who is doing this job due to primary earner's demise/immobility

#### Work environment

- Camaraderie with co-workers; works in large groups, with people from the same community
- Aware of the issues that come with the job but conscious of family responsibilities

#### Motivations/outlook

- Needs assured income to provide for the family
- Risk-averse

#### Aspirations

- Not thought about moving to other jobs because values a stable income
- Wants to educate children to higher levels to break out of the sanitation trap



# Complacent part-timer – content in current work environment and does not want to move out of the current job

## Complacent part-timer



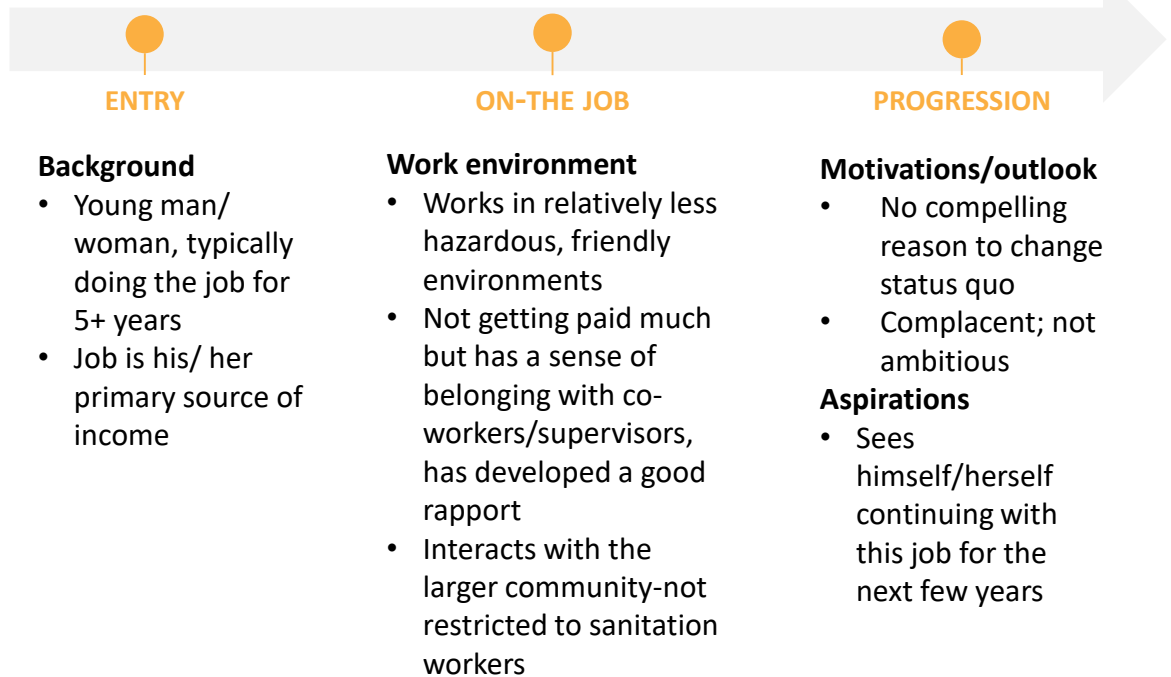
*“I like working here, I feel attached to the children. Even the teachers are very friendly towards me”*

### Key identifiers

- **Gender:** Female and male
- **Age:** 20 – 35 years
- **Education:** Limited (up to class 8)
- **Types of work:** School toilet cleaning, CT cleaning
- **Employer:** School authorities, community toilet operators

~30%

### Livelihood pathway



# Caged bird – started sanitation work because of “family legacy”, but is inclined to move out of sanitation

## Caged bird



*“I want to do a white-collar job. Few people in my community have moved to other jobs such as that of a railways engineer. I want to do that.”*

### Key identifiers

- **Gender:** Male
- **Age:** 18-21 years
- **Education:** Class 8 and above (might be simultaneously pursuing higher education)
- **Types of work:** Sewer, septic tank, PT cleaning
- **Employer:** Private business/Contractor

~5%

### Livelihood pathway

ENTRY

#### Background

- Young male, recently entered the occupation through informal networks; apprentice to experienced workers

ON-THE JOB

#### Work environment

- Dissatisfied with the current job and understands that it is hazardous – but compelled to supplement his family’s income and has easy access to the job because of relatives/family members working in sanitation

PROGRESSION

#### Motivations/outlook

- Wants to be respected in the society; believes a white-collar job will help him achieve that
- Optimistic about his future

#### Aspirations

- Sees himself doing a white collar job (e.g., BPO) in 2-3 years, but unaware of opportunities and pathway to pursue any opportunity

# Trapped traditionalist – has been doing the job for many years and living in the false hope of the job becoming permanent

## Trapped traditionalist



*“I do this job daily thinking my job will become permanent one day. I only want a govt. job and/or increase in my income”*

### Key identifiers

- **Gender:** Female and male
- **Age:** 35 years+
- **Education:** Limited (up to class 8)
- **Types of work:** Sewer cleaning, STP cleaning, railways cleaning and drain cleaning
- **Employer:** Private contractors/operators

~30%

### Livelihood pathway



#### Background

- Experienced worker, been doing this for 10-15+ years
- Entered the profession because either got displaced from agriculture or followed parents' sanitation jobs

#### Work environment

- Works in extremely hazardous environments
- Benchmark of safety is very low-considers missing work due to fever and body aches (on a monthly basis) to be normal
- Incurs significant medical expenses
- Feel helpless as can't raise issues to anyone

#### Motivations/outlook

- Is not open to other jobs because of the **switching cost** (unlearning the existing job and going to an unknown environment)
- Lives in false hope that the job will become permanent one day; optimistic that it will happen

#### Aspirations

- Wants children to move out of sanitation and is ensuring they at least complete their education

# Transient hustler – looking for the “next best thing”, sanitation work is just one of the many jobs for him

## Transient hustler



*“I was a mechanic earlier, then I went to the railways. Now I clean the CT during the day and at night I hold the lights in a wedding procession. Wherever I can get a decent earning, I’ll go there”*

### Key identifiers

- **Gender:** Typically male
- **Age:** 21-30 years
- **Education:** Limited (up to class 8)
- **Types of work:** CT cleaning (typically)
- **Employer:** Private operators

~10%

### Livelihood pathway



#### Background

- Been doing this job for maximum 2-3 years
- Came into sanitation looking for the best livelihood option, given limited skills and education
- Sanitation jobs might be one of the many jobs he is currently pursuing

#### Work environment

- Works in relatively a less hazardous environment
- Keeps to himself, does not interact with others

#### Motivations/outlook

- Has no particular attachment/sense of belonging to the job
- Always looking out for the “next best thing”
- Risk-taking, ready to move out of this job
- Leverages informal networks to source jobs

#### Aspirations

- Wants to do a job that pays well-indifferent to the type of work

# First among equals – sanitation worker on government payroll, whose job is coveted by other workers for its higher and assured income

## First among equals



*“I have been watching my mother do this job since I was a child. That’s how I got into it but my sons are not going to do this job. I am sure of that.”*

### Key identifiers

- **Gender:** Male and female
- **Age:** 40+ years
- **Education:** Limited (up to class 8)
- **Types of work:** Sewer work, drain cleaning
- **Employer:** Government

~15%

### Livelihood pathway

ENTRY

#### Background

- Been doing this job for several years, perhaps a decade or more
- Permanent govt. employee
- Parents were likely sanitation workers

ON-THE JOB

#### Work environment

- Sense of attachment to the workplace, working with supervisors and other workers for many years; part of the worker union
- Heuristics driven mental model of safety
- Earns ~3x of what temporary workers earn and has job security

PROGRESSION

#### Motivations/outlook

- Understands the unsafe/undignified aspect of the job but values the higher and assured income

#### Aspirations

- Does not have aspirations to exit the job
- Wants children to break out of the family’s sanitation legacy