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

Phase 2: Best practices

24th November 2017

We have developed six case studies from different geographies and industries to learn what works (1/2)

Case studies

Case-lets

	Case study	Key characteristics	Dimensions covered			
			B*	S*	I*	G*
1	**Micro-entrepreneurship models for mechanized cleaning in Hyderabad**	• HMWSSB has recently deployed 70 mini-jetting machines for unblocking sewers in narrow lanes in the city, and doing preventive maintenance • It is partnering with former sanitation workers to become owners of these machines through micro-entrepreneurship financing models • **Scale:** Pan-Hyderabad; ~30 micro-entrepreneurs	✓	✓	✓	✓
2	**PCP models with community of scavengers in Faridpur, Bangladesh**	• PPP models with scavenging communities to formalize them as desludging service providers • **Scale:** Muslim community of scavengers in Faridpur formalized as a cooperative**; Dalit-Harijan cooperative to follow	✓	✓	✓	✓
3	**Safety initiatives in the Indian mining industry**	• Multi-pronged approach taken by the Indian coal mining industry to improve worker safety • Fatalities and serious injuries have consistently declined over the years • **Scale:** ~400K workers	✓	✗	✓	✓

* [B]: Behavioral, [S]: Social, [I]: Infrastructure, [G]: Governance; ** data on number of workers not available

We have developed six case studies from different geographies and industries to learn what works (2/2)

Case-lets

	Case study	Key characteristics	Dimensions covered			
			B*	S*	I*	G*
4	**Enhanced worker safety through regular desludging in Malaysia**	• Data-based and independent monitoring, as well as integrated systems have ensured regular and frequent desludging among households in Malaysia and improved worker safety • **Scale:** ~1.2 mn septic tanks in Malaysia	✓	✗	✓	✓
5	**Worker-friendly contracts in Los Angeles**	• Occupational health and safety measures in Los Angeles (LA) and across the US are moving towards writing terms of contracts that are favorable for workers, such as investments in worker safety and training, compliance with min. wages, health benefits • **Scale:** ~6,000 waste workers in LA	✓	✗	✗	✓
6	**Rehabilitation of latrine cleaners by Jan Sahas**	• Several initiatives for rehabilitation of female latrine cleaners, including collective manufacturing and awareness campaigns • **Scale:** ~30K workers rehabilitated between 2000 – 2016, across 6 states	✓	✓	✗	✗

* [B]: Behavioral, [S]: Social, [I]: Infrastructure, [G]: Governance

Image sourced from HMWSSB report 2017.

CASE STUDY

Micro-entrepreneurship models for mechanized cleaning in Hyderabad

1 Context: Hyderabad has a sewered sanitation system; lacunae in the system necessitated frequent manual intervention, especially in narrow internal lines

Sewer network coverage in Hyderabad is high

- 99% coverage; limited use of septic tanks in the peripheries
- ~173 km of trunk lines (over 600 mm wide) and ~6083 km of internal lines (200 – 500 mm wide)
- Internal lines collect sewage from residential and commercial institutions and join trunk lines

There are several issues with the sewer system, resulting in frequent blockages

- Legacy infrastructure in urgent need of upgradation and improvement
- No solutions at source (silt chambers, etc.) to mitigate blockages in the sewer network
- Sewerage lines in several areas have been converted to open drains, attract solid waste and construction debris

While machines are available, manual intervention is often necessary

- 57 large sewer-cleaning machines in operation, but system necessitates regular and frequent manual intervention, especially when blockages are caused by heavy objects
- Moreover, blockages in the network are managed in a reactive manner, making the work riskier
- There are ~650 sewer workers in Hyderabad (per government); as per NGOs, there are thousands, mostly contractual
- Workers use rudimentary tools to do the work

- **6 deaths in sewers reported in the last 3 years**
- **Workers face significant health risks, poor working conditions**
- **System always playing catch up with complaints**

Source: "Eliminating Manual Sewer Operations in Hyderabad" HMWSSB 2017, "Mechanisation of Sewerage Activity" DICCI 2017

1 The Hyderabad Metropolitan Water Supply and Sewerage Board adopted a four-pronged approach to improve service delivery and worker safety

Awareness and behavior change

- Planning and awareness **workshops** with Mr. Bezwada Wilson (Founder, Safai Karamchari Andolan), workers, officials and residential welfare associations **to eliminate manual scavenging**
- **Short films and advertisements** for sensitization of end-users to minimize blockages
- Operational health and safety **training and workshops** for permanent and contractual employees

Tech-based interventions

- HAL[1] developing a signal system to **geotag manholes** and identify breakages
- **HAL developing a safety suit** for sewer workers
- **Mobile app** for citizens and staff to log complaints on the sewerage system
- **Mini-jetting machines** to clean sewers in narrow lanes

Detailed in the following slides

Infrastructure upgradation

- **Ground Penetrating Radar**[2] to identify trunk sewers that need replacement
- **1,200 silt chambers** constructed on-site to trap material likely to cause blockages
- **Monitoring complaints to identify "hotspots"**, i.e. areas of frequent blockage in the sewer system

Standard operating procedures

- ASCI[3] engaging with the HMWSSB to specify **SOPs for sewer cleaning**
  - The proposed SOPs include safety gear such as chemical cartridge masks, gloves, safety belts, etc. in accordance with the 2013 MS Act

(1): Hindustan Aeronautics Ltd.; (2): a technology that uses electromagnetic waves; (3): Administrative Staff College of India

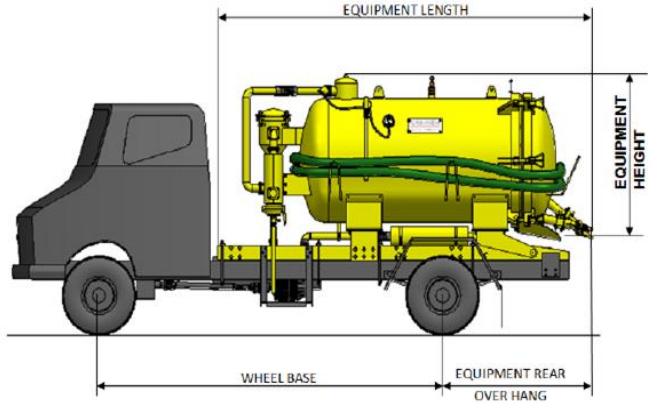
Source: "Eliminating Manual Sewer Operations in Hyderabad" HMWSSB 2017, "Mechanisation of Sewerage Activity" DICCI 2017

1 Spotlight: In June 2017, HMWSSB deployed 70 mini-jetting machines through a micro-entrepreneurship model for maintaining internal sewer lines (1/2)

Machines developed specifically for Hyderabad, and deployed through a micro-entrepreneurship model

Custom machines developed

- **Machine designed by HMWSSB** and manufactured by Kam-Avida, a leading cleaning equipment maker in India
- **Chassis:** TATA Ace
- **Capacity** of ~2,000 liters (V/s 6 - 8K liters for large suction-cum-jetting machines); **jetting pressure** of 140-150 Bar
- **Easy mobility and flexibility**



Micro-entrepreneurship model adopted

- **SC/ST entrepreneurs given preference**
  - Individual tender floated as opposed to organizational tender
  - Targeted from within existing sanitation workers
- **Favorable economics**
  - Vehicles cost INR 2.6 mn
  - Can avail loans up to INR 2 mn for the vehicle + working capital loans
  - Guaranteed revenue by government: INR 11.7 per running meter (rmt), with min. 500 rmt per day, resulting in a gross revenue of >INR 150K p.m.
  - Net monthly income of INR 20 - 30K
  - Payback period ~3.5 years
- **Integration with government loan and subsidy schemes**
  - Subsidies under T-Pride, a state government scheme for SC entrepreneurs (INR 0.95 mn for men, INR 1.1 mn for women)
  - Subsidized loans from SBI under “stand up India” (eligible for lowest bank interest rates, 3% surcharge)
- **DICCI support to applying entrepreneurs**
  - Training and support in drafting business proposals
  - Assistance in securing loans

Source: Interview with MD’s Office at HWMSSB, DICCI, “Eliminating Manual Sewer Operations in Hyderabad” HMWSSB 2017, “Mechanisation of Sewerage Activity” DICCI 2017

1 Spotlight: In June 2017, HMWSSB deployed 70 mini-jetting machines through a micro-entrepreneurship model for maintaining internal sewer lines (2/2)

Support services put in place, coupled with rigorous monitoring to ensure superior service delivery and safety

Services company to support owners

- **Services company – Apna Doorstep Company – incorporated to work on behalf of the contractors**
  - Signed service contract with HMWSSB
  - Staff of 18-20
- **Services provided to contractors include:**
  - Pool of ~40 standby drivers and workers that can be hired on a per-day basis
  - Vehicle maintenance
  - Insurance
  - Loan repayments
  - Monitoring
- **Contractor pays flat fees of INR 5K p.m. to the services company** + additionally for standby drivers and helpers, as per use

Tech-enabled reporting and monitoring

- **Citizens can report overflows and blockages** using social media platforms + multiple other channels *(app shown in picture)*
- **Assignments forwarded by HMWSSB to operators**
- **GPS-based monitoring of vehicles**
- **App-based navigation and monitoring of assignments**; pictures taken before and after each unblocking
- **Complaints reviewed before releasing payments**

Prescriptions to ensure worker safety

- **Standardized PPE prescribed by services company**
  - Safety helmet, goggles, gumboots, jackets, gloves and masks
- **Safety devices for risk assessment also prescribed**
  - Gas monitor, torchlight, air compressor blower etc.
- **Monetary incentives to workers for following safety norms**

Source: "Eliminating Manual Sewer Operations in Hyderabad" HMWSSB 2017, "Mechanisation of Sewerage Activity" DICCI 2017

1 Spotlight: The machines have improved service delivery and have provided an opportunity for sanitation workers to move up the value chain

Worker safety and rehabilitation

Improved worker safety

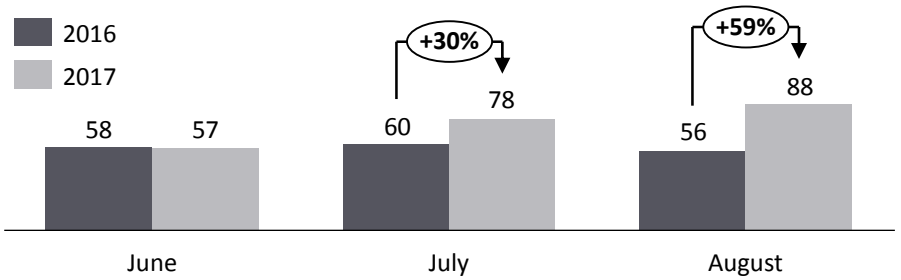
- HMWSSB claims **no manual entry into manholes**, post intervention
- **No reported deaths or accidents** since June '17

Successful rehabilitation of workers

- **29 SWs rehabilitated as vehicle owners**
  - 25-30% are women
- **142 employed as drivers and helpers**
  - …136 of whom are SC, ST, or BC
  - Salary of INR 12 - 15K p.m.

Maintenance of sewerage systems

SLA efficiency[1] has improved significantly



- SLA efficiency improved 36 pp from June to July '17
- Average daily complaints have dropped by 6%; monthly complaints have dropped by 24% (between June – August 2016 and 2017)

Shift towards preventive maintenance

- **Currently, operating hours for mini-jetting machines split equally between preventive and reactive maintenance**
- Since the intervention started during the monsoons (which usually sees a surge in complaints), HMWSSB believes that the **subsequent months will focus almost exclusively on preventive work**

The Delhi Jal Board is planning to adopt this model – starting with an order of ~250 mini-jetting machines

(1): SLA Efficiency refers to the % of complaints solved within the SLA period (4 days); Source: "Eliminating Manual Sewer Operations in Hyderabad" HMWSSB 2017, "Mechanisation of Sewerage Activity" DICCI 2017

Key learnings

1. Interventions are premised on an **explicit acknowledgment of the problem** of unsafe manual intervention in sewers

2. The focus of Hyderabad's municipal body is on devising solutions that enable **preventive maintenance**, which reduces need for manual intervention and riskiness of work

3. **Preference to workers with prior experience in sanitation work** provides for sustained rehabilitation of workers and their families

4. **Guaranteed revenue** from government, **financial subsidies** from existing government schemes (T-Pride, Stand Up India), and support for entrepreneurs through a **services company** de-risk the model for new entrepreneurs

5. **Model designed keeping in mind its sustainability**, as reflected in favorable economics for machine owners and the establishment of a financially sustainable services company to support owners

Image sourced from Practical Action report 2017.

CASE STUDY

PCP models with community of scavengers in Faridpur, Bangladesh

2 Context: Faridpur, an urban agglomeration in Bangladesh, has been struggling with unsafe handling and disposal of faecal waste

Faridpur has a decentralized sanitation system…

- **94% of households in Faridpur (urban agglomeration with population of 130K) have access to toilets**
- **The sanitation system is decentralized, with a high proportion of pit latrines, reflective of urban trends in Bangladesh;** of the households with toilets:
  - 61% are connected to single pits
  - 7% are connected to double pits
  - 32% are connected to septic tanks

…and high rates of unsafe faecal matter handling

- **~90% of faecal sludge in Faridpur is unsafely managed (2014 est.)**
  - It either flows into drains or is emptied manually
- **30% of the onsite systems are emptied manually**

Faecal matter was handled mostly by informal workers from underprivileged communities

- **Manual emptying used to be predominantly done by the municipality and two informal scavenging groups** (belonging to the Dalit-Harijan and Muslim communities)
- **Municipal department seen as slow, unreliable and costly**
- **Informal providers significantly cheaper but operate without safety gear or equipment, are given substandard wages, and are socially isolated**

Source: "Preliminary Results of the FSM Business Model in Faridpur" de La Brosse et al 2017, "Tackling the post-ODF challenge in Bangladesh through public-private partnerships" de La Brosse 2016, "PPP led improvement in FSM services" Saha 2016

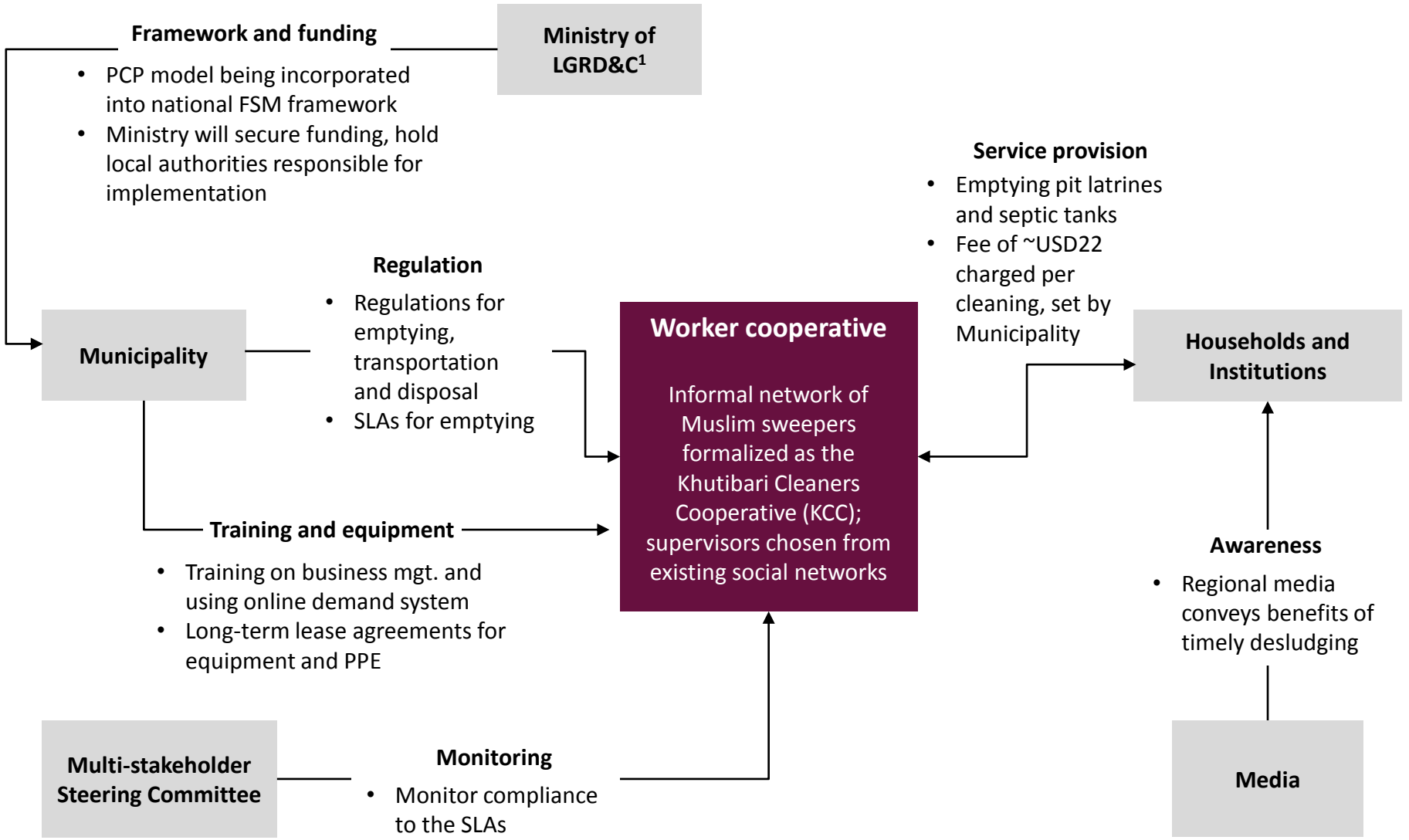
2 Practical Action initiated a multi-pronged faecal sludge management (FSM) approach in 2014 to improve the situation

	Improve containment standards in the city	Formalize market-based FSM through PCP models	Develop sludge treatment plant	Attract private business into FSM
Objective				
Details	• Campaigns targeted towards households and institutions to make them aware of the benefits of timely desludging, and costs of insanitary latrines	• PCP[1] model to replace the inefficient system of municipal workers and informal sweeper groups • Service-level agreements (SLAs) for pit emptying given to these groups; Multi-Stakeholder Steering Committee (MSSC) at municipality to oversee SLAs	• Treatment plant with a preliminary capacity of ~24 m^3/day operational • Subsidized by the municipality; to become profitable from sale of manure in ~2 years	• Frame and enforce an integrated regulatory framework to facilitate private sector involvement in desludging operations and treatment plants
Likely impact on workers	**Reduce risk of unsafe de-sludging**	**Enhance regular income, formalize employment, improve safety standards**	**Reduce emptying of sludge in drains, reducing risk for drain cleaners**	**Increase safe and organized employment**

Detailed in the following slides

(1): While the program is characterized as a PPP intervention, we believe It resembles a Public-Community Participation (PCP) setup more closely. Source: "Preliminary Results of the FSM Business Model in Faridpur" de La Brosse et al 2017, "Tackling the post-ODF challenge in Bangladesh through public-private partnerships" de La Brosse 2016

2 Spotlight: PCP model – formal, structured system put in place for emptying and desludging



(1): Ministry of Local Government, Rural Development and Co-operatives; Source: "Tackling the post-ODF challenge in Bangladesh through public-private partnerships" de La Brosse 2016, "PPP led improvement in FSM services" Saha 2016

2 The adoption of this model likely to result in improvement in worker safety and health as well as financial outcomes

Improvement in health and financial outcomes for sanitation workers

- **Increasing income for the worker cooperative – likely to stabilize and/or increase incomes for workers**
  - Rates fixed by municipality
  - Demand expected to grow with increasing awareness
  - KCC earned revenue of ~USD 4K from emptying services and ~USD 200 from disposal at the treatment plant between Aug – Nov 2016 (annual run rate of USD 12K)
  - Annual revenue expected to increase to USD 39K as demand increases

- **Better health and safety conditions**
  - Greater use of equipment (suction truck) and safety gear, leased from the municipality
  - Safer disposal of faecal sludge likely to reduce impact on drain cleaners
    - ~324 m^3 of sludge emptied at the Treatment Plant in the first year of its operation (2016-17), expected to grow to ~3,360 m^3 annually

- **Harijan community to benefit from this model too**
  - Harijan group expected to register 'Bandhaob Palli Cooperative', sign contract with municipality

Source: "Preliminary Results of the FSM Business Model in Faridpur" de La Brosse et al 2017

Key learnings

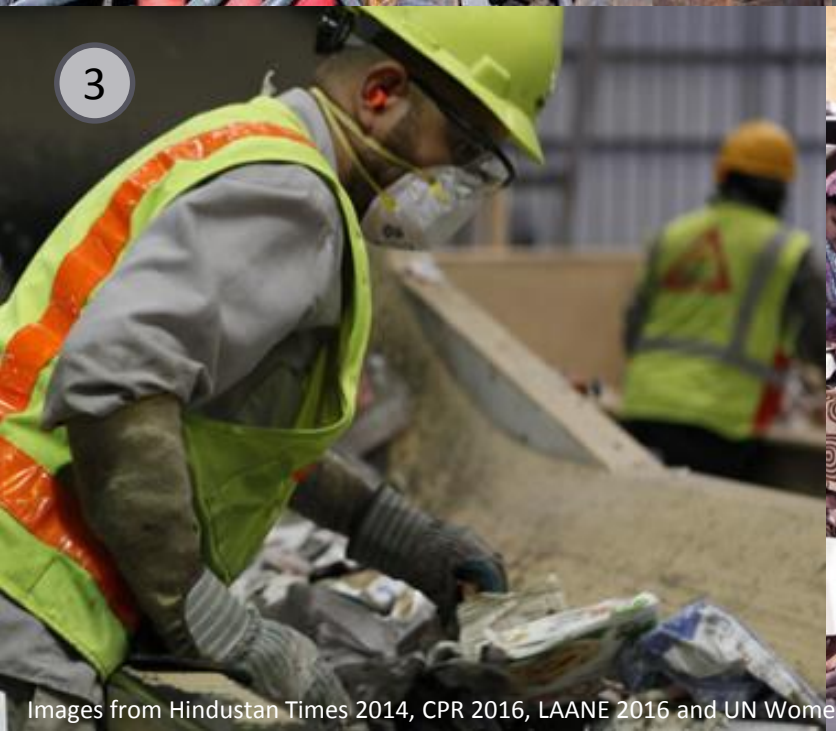
1. Participatory approach adopted that **leverages community networks** in groups associated with this work; **formalization of workers into a cooperative** helps increase stability and potentially income for workers

2. **End-to-end focus on FSM to reduce risk for workers**, through regular desludging of septic tanks and latrines at one end, and safe disposal of sludge at the other

3. **Clear allocation of responsibilities amongst stakeholders**; government role restricted to regulation and provision of training and equipment as opposed to operations; **independent multi-stakeholder committee setup for monitoring**

4. **Financing models (leasing)** for mechanical equipment and safety gear built into contracts

5. **Media leveraged** effectively for raising awareness and **generating household demand for services**



Images from Hindustan Times 2014, CPR 2016, LAANE 2016 and UN Women 2014.

CASE-LETS

1. ***Safety initiatives in the Indian coal mining industry***
2. ***Enhanced worker safety through regular desludging in Malaysia***
3. ***Worker-friendly contracts in Los Angeles***
4. ***Rehabilitation of latrine cleaners by Jan Sahas***

3

Coal mining in India: Multi-pronged approach taken to improve worker safety

Context

- Coal mining is a highly risky occupation, with significant health hazards, potential for injuries and fatalities
- Large sector, employing ~400K workers – most of these workers are from poor socio-economic backgrounds, and are pursuing this occupation over generations
- Contractual workers contribute ~55% of total coal production in India

Multi-pronged approach taken to improve worker safety. Key interventions given below.

Governance

- **SOPs and protocols for safety**
  - Each mine to develop Safety Management Plans and SOPs based on national benchmarks
- **Safety gear mandates**
  - Directorate General of Mines Safety (DGMS) approves safety gear to be procured by all mines
- **Robust monitoring mechanisms**
  - ★ DGMS housed in Ministry of Labor to ensure compliance with worker safety laws
  - ★ Safety audits by third party agencies
- **Incentives for safety**
  - ★ Annual 'national safety awards' for companies organized since 1983; high visibility (President of India to deliver awards this year)

Infra

- **Mechanization**
  - Manual loading of coal being replaced by mechanical systems
  - Mechanized drilling being adopted in underground mines
  - *Net loss of ~10K workers p.a. due to mechanization*
- **Safety gear innovation**
  - ★ Large private companies like 3M are providing PPE (suits, face shields, jackets, respirators, etc.) specifically designed for the mining industry and delivering workshops and training on their usage

Social and behavioral

- **Safety awareness**
  - Safety awareness fortnights
- **Safety culture**
  - Internal safety organizations, boards or committees in mining companies conduct routine safety inspections of mines
  - ★ Workers take oaths and safety pledges at the start of work-days
- **Training**
  - Mock drills
  - Refresher trainings for workers as well as officials; ~50K training sessions conducted annually
  - ★ Simulator training for workers who operate heavy machinery has become a regular feature since 2015

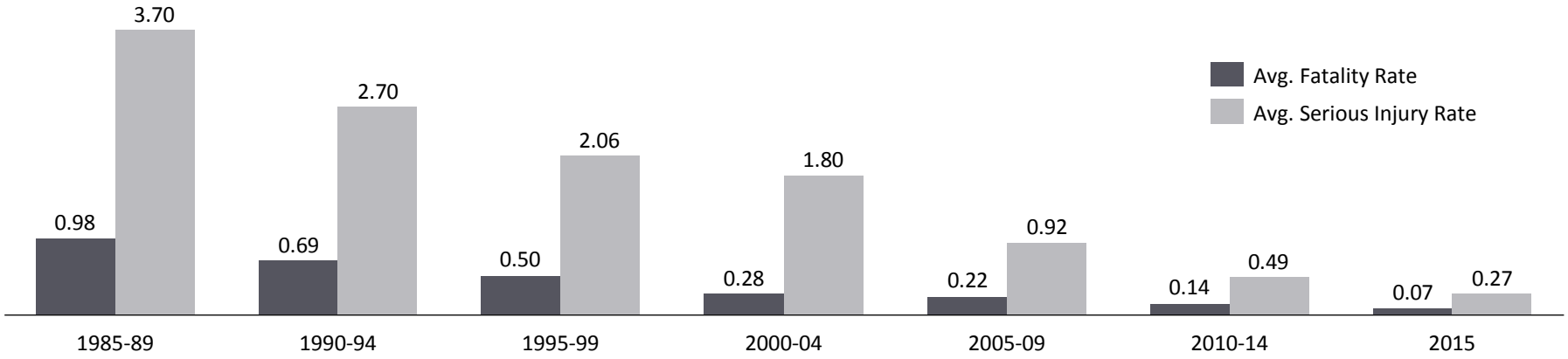
★ Intervention highlights

Source: "Coal India expects wage cost fall" Livemint 2015, "Safety concerns inside India's mines" Indian Express 2016, "Outsourcing gathers steam at Coal India" Business Standard 2016, Coal India SMP 2014; Dalberg analysis

3 Safety has significantly improved over the decades; the case offers some valuable lessons

Fatality and injury rates in the industry have declined by 93% over the last three decades

Coal worker fatalities/ injuries *(incidents per MT of coal)*



Valuable lessons

Carrot-stick approach adopted: rigorous monitoring along with recognition for good work

Independent safety cell housed in influential ministry; can take decisive action

Innovation in gear and training (e.g., simulation)

Nudge-based methods adopted to change behavior (e.g., pledges, oaths)

Source: Safety in Coal Mines, Coal India Ltd. Annual Report 2016-17

4 Malaysia: Data-driven approach and technical innovation adopted to improve service delivery and worker safety in desludging and sewer work

Context

- Rapid urbanization (urban agglomerations grew 4 times between 1960 – 2000) put pressure on urban sanitation
- Erstwhile fragmented system (managed by 144 local authorities until 1993) centralized under a private company, Indah Water Konsortium (IWK); company nationalized in 2000
- IWK services ~1.2 mn septic tanks and ~14,000 km of sewers in Malaysia

Mechanization has reduced manual intervention, and a strong monitoring framework has improved worker safety

Governance

★ **Independent regulator**
- SPAN, setup as an independent regulator in 2006, sits within the Ministry of Energy while IWK, the operator, is under Ministry of Finance

- **Data-based monitoring of desludging since 2008**
  - Data on septic tanks in households
  - Can monitor desludging frequency due to centralized system for desludging requests and GPS-fitted vehicles

- **Data-based monitoring of sewers**
  - …using SCADA, enables preventive maintenance

- **Centralized system for desludging requests and sewer blockage complaints**

★ **Safety equipment mandated**
- Boots, gloves, vests, glasses etc.

Infra and Tech

- **Tech-based interventions**
  - CCTVs used for sewer inspections since 2010

★ **R&D in sewer design**
- R&D for sewer network design, materials, etc.

Robotic device with camera; inserted in manhole and placed in sewer to locate blockages

Social and Behavioral

- **Technical training**
  - Health and safety training for all workers and officials at dedicated in-house training facilities (beginning 2008)

★ **Financial disincentives for desludging non-compliance**
- Transitioned from scheduled to demand-based desludging in 2008, putting onus on households for desludging as per norms
- Heavy penalties: fines of up to RM 50K (~USD 16K) for non-compliance

★ Intervention highlights

Source: Indah Water Konsortium Reports 2010 and 2016, "Policy Shifts in Sanitation" The Wire 2017; Dalberg analysis

4 This has resulted in a significant improvement in service delivery; the case offers some valuable lessons

There have been significant improvements in service delivery and worker safety

Service delivery

- ✓ **Putting onus on households has increased compliance**
- ✓ **97% of complaints addressed by IWK within 24 hours**
- ✓ **Number of complaints dropping by 7% per year**

Worker safety

*"INDAH Water has been very successful in raising the quality of service with constant R&D, leading to continuous **improvement of vacuum trucks**, as well as the **safety equipment being made mandatory for workers.**"*

- CPR review of Malaysia's sanitation system[1]

Valuable lessons

Intense use of data across the septic tank and sewerage system enabled shift from reactive to preventive maintenance

Independent regulator housed in a different ministry as the operator, with power to take action

In-house innovation and training systems increase quality of service and worker safety

Onus on households for desludging, coupled with prohibitive penalties, increases sustained demand

(1): "Policy Shifts in Sanitation", Shubhagato Dasgupta, The Wire 2016

Source: Indah Water and SPAN Annual Reports 2010-2014, IWK Website

5 Los Angeles: The city government adopted "Zero Waste LA system" in 2014 to improve worker job quality and safety

Context

- Los Angeles is the second largest waste market in the US – 11K waste workers employed; >90% are from low-income Hispanic communities, primarily immigrants
- Waste workers in LA had one of the highest injury and illness rates in California, exposed to hazardous material
- LA had an open-permit system, with ~100 franchisee haulers; however, 7 players dominated the market
- **Competition to attract business has consistently led to poor standards in service provision, non-compliance with safety standards and labor issues**

"Zero Waste LA System" adopted by LA in April '14 to reduce waste, improve worker job quality, ensure fair and transparent rates and promote accountability. Key features given below.

Safety regulations

- **Explicit guidelines for worker safety** in sanitation laid down at both federal and state level

Zoning

- **11 exclusive zones** in the city designed **for small to medium sized hauling companies**
- This will reduce competition in those zones – and is therefore likely to improve compliance

Contracting

Contracts to include:

- Focus on community and union-based hiring
- Investments in worker **training and safety gear**;
- Provisions regarding living wages; **compliance with minimum wages**;
- **Health benefits** – insurance and check-ups;
- **Worker retention** to protect against indiscriminate firing

Worker protection

- ~30% of all waste workers are temporary; US OSHA[1] Temporary Worker Initiative defines **employers and labor-supplying agencies as joint employers** to fix accountability

Monitoring

- **Annual certification program:** haulers required to submit annual health and safety audits from third-party firms
- **Reporting freedom** for workers
- **Whistleblower protection** for workers
- Inspection personnel from the municipality

Because of a strong union and better terms of contract, this worker's[2] wage has increased to USD 20/hour, he has retirement benefits and he and his family have medical benefits

(1): Occupational Health and Safety Administration (2): Worker profile given in "Cleaning Up Waste" report; Source: "Cleaning Up Waste" LAANE 2015, "From Waste to Resource" LAANE 2014, "Don't Waste LA Factsheet" 2016, "Zero Waste Remains a Dirty Business", The Nation, 2015; Dalberg analysis

6 Jan Sahas: Systematic rehabilitation through partnerships and grassroots CSO action

Context

- Jan Sahas is a community-based organization that started in 2000
- It runs a long-term campaign called **'Rashtriya Garima Abhiyan'** to raise awareness among and liberate female latrine cleaners in Madhya Pradesh, Rajasthan, Uttar Pradesh, Maharashtra and Bihar

Jan Sahas has implemented several community-based initiatives, rights campaigns, and organized women into alternative livelihoods. The key initiatives have been described below.

Rehabilitation into small-scale manufacturing

- **Established 'Dignity and Design' – platform for organized manufacturing by female latrine cleaners**
  - Trades include apparel and *aggarbati* making
  - Corporate tie-ups:
    - Established supply contracts with TATA and ITC to channelize products
    - Usha International set up 50 small units and provided training on stitching Indian apparel
  - ~5,000 women engaged in 9 production units and 8 retail outlets in 3 MP districts
  - Income: Apparel makers – INR 1.5 - 2K p.m.; *aggarbati* makers – INR 3 - 4.5K p.m., much higher than latrine cleaning wages
  - Financing arrangements with CSR wings of corporations
- **Collectivized women into localized food-based occupations**
  - Group of 15-20 women have leased a pond from MP government to start a fisheries collective
  - Several small groups of women running mid-day meal centers

Community leadership

- Identified leaders of informal **caste-based communities** and convinced them to become **ambassadors for liberation**
  - Since 2014, 800 women have been trained in MP and Rajasthan to lead community initiatives
  - Leaders have been able to convince others to follow their example
- There are some examples of rehabilitated latrine cleaners running for *panchayat* elections

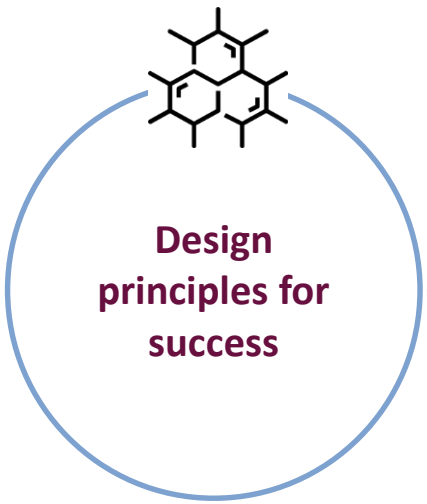
Awareness and mobilization

- **Organized a march of 10K liberated women through 18 states in 2012,** who met with another 50K women and motivated them to leave their latrine cleaning jobs
- **Organized initiatives and campaigns with celebrities and popular icons** (including Aamir Khan) to attract mainstream attention

~30K women have been rehabilitated so far

Source: "Making a brand out of the basket" Hindu Business 2014, "Fighting for Digniy" Hindu Business 2015, "Manual Scavenging Caste and Discrimination in India" HRW 2014; Dalberg analysis

Design principles for success (based on learning from the case studies)



1. **Acknowledge the problem.** This is the starting point. Media, CSOs, worker unions, influential agencies and donors can catalyse change
2. **Adopt "Systems" approach.** Holistic approach including technology, infra, governance, and behavior change, as the problem is multi-dimensional
3. **Data, data, data.** Collect real-time data on sanitation assets and hardware, service providers, etc. to enable preventive maintenance, efficient and effective response
4. **Ensure sustainability** through economically viable business models, rewards and recognition programs, etc.
5. **Leverage non-government stakeholders**. While government can take ownership of and drive the initiative, the private, non-profit, media sectors can play an important role. Community leaders should be leveraged.
6. **Monitor honestly.** Independent regulatory body that has powers to enforce; third party audits; worker reporting (with whistleblower protection)
7. **Evaluate and learn continuously.** Evaluate and learn iteratively to redesign and refine programs

Source: Dalberg analysis