

PROVISIONING OF HEALTH CAMPS FOR SANITATION WORKERS

June 2020







PROVISIONING OF HEALTH CAMPS FOR SANITATION WORKERS

June 2020





Provisioning of Health Camps for Sanitation Workers

June 2020

For Citation: TNUSSP, 2020. Provisioning of health camps for sanitation workers.

This document is produced as part of Tamil Nadu Urban Sanitation Support Programme (TNUSSP). TNUSSP supports the Government of Tamil Nadu (GoTN) and cities in making improvements along the entire urban sanitation chain. The TNUSSP is being implemented by a consortium of organisations led by the Indian Institute for Human Settlements (IIHS), in association with CDD Society, Gramalaya, and Keystone Foundation.

Document Team: Niladri Chakraborti, Monisha Ravi, Blessy Oviya, Nandini Natarajan, Vinitha Murukesan, Kaavya Kumar, Rekha Raghunathan

Editing: Rekha Raghunathan, Word Lab, IIHS, Bengaluru

Design and Layout: Divya Dhayalan

Production: Shaheena Manoj, Krishnapriyaa P., Govardhan Seshachalam

Team Lead: Santhosh Ragavan

Project Director: Kavita Wankhade

1. CC license terms: This research and data has been published under the Creative Commons Attribution 4.0 license. <u>Under the aforementioned license</u>, <u>you are free to:</u>

Share — copy and redistribute the material in any medium or format

Adapt — remix, transform, and build upon the material for any purpose, even commercially.

This license is acceptable for Free Cultural Works. The licensor cannot revoke these freedoms as long as you follow the license terms.

Under the following terms:

Attribution — you must give appropriate credit, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.

No additional restrictions — you may not apply legal terms or technological measures that legally restrict others from doing anything the license permits.

Notices:

You do not have to comply with the license for elements of the material in the public domain or where your use is permitted by an applicable exception or limitation. No warranties are given. The license may not give you all of the permissions necessary for your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how you use the material.

- 2. BMGF funding acknowledgment: This Research / Work was supported by Bill & Melinda Gates Foundation.
- **3. Logo use**: "The IIHS logo, name and all graphics on the IIHS website are trademarks of IIHS. Use, reproduction, copying or redistribution of trademarks, without the written permission of IIHS is prohibited. All other trademarks marks or service marks appearing on this report are the marks of their respective owners."

www.tnussp.co.in | www.iihs.co.in

CONTENTS

Abbreviations	iii
Executive Summary	E1
E1.1. Methods	E3
E1.2. Findings	E3
E1.3. Way Forward	E4
1. Introduction	1
1.1 Background	5
1.2 About TNUSSP	5
1.3 Coimbatore: Two Model Town Panchayats	6
2. Health Camps	7
2.1 Rationale and Evolution	g
2.2 Observations and Emerging Issues	11
3. Way Forward	13
Bibliography	17
Annexure	A 1
Table A 1.1. Summary of health camps conducted	A ²

Figures

Figure 1.1: Health camp at Karmadai	3
Figure 1.2: Sanitation workers and their family consults doctors at the health camp	4
Figure 2.1: Health camp held on Menstrual Hygiene Day for sanitation workers at PNP and NNP panchayats	10
Figure 2.2: Prescription and provision of free medicines to a sanitation worker at a health camp	11
Boxes	
Box 2.1: A worker's testimony	10

Abbreviations

BMGF Bill and Melinda Gates Foundation

ENT Ear, Nose, Throat

FSM Fecal Sludge Management

GoTN Government of Tamil Nadu

IIHS Indian Institute for Human Settlements

MAWS Municipal Administration and Water Supply

MoU Memorandum of Understanding

NNP Narasimhanaicken-palayam

PDI People's Development Initiative

PNP Periyanaicken-palayam

PPE Personnel protective equipment

SHGs Self- help Groups

TD Tetanus and Diphtheria

TNUSSP Tamil Nadu Urban Sanitation Support Programme

TSU Technical Support Unit

ULB Urban Local Body

YUGAA Youth Unit Growth Awareness Actions

Executive Summary

Executive summary

The Tamil Nadu Urban Sanitation Support Programme (TNUSSP) has been supporting the Government of Tamil Nadu (GoTN) in achieving total sanitation in the state, and are demonstrating innovations in two model urban locations — Tiruchirappali Corporation, and Periyanaicken-palayam (PNP) and Narasimhanaicken-palayam (NNP) town panchayats. The Bill and Melinda Gates Foundation (BMGF) is supporting the GoTN through TNUSSP.

One of the key focus areas of TNUSSP is improving the occupational health and safety of sanitation workers, who play a crucial role in the sanitation chain. The nature of their work exposes them to various occupational and environmental hazards, putting their health at serious risk. While existing policies, laws and government programmes emphasise the importance of regular health screening and vaccination, the reality is often different. Though comprehensive preventive healthcare of sanitation workers is mandated under the Prohibition of Employment as Manual Scavengers and their Rehabilitation Rules (2013), availability and their access to healthcare is negligible. While sanitation workers in larger urban local bodies (ULB) manage to receive sporadic healthcare, those in smaller towns and informal sectors are often neglected. The COVID-19 pandemic has further jeopardised their already-vulnerable health and safety.

In an effort to change the status quo, TNUSSP organised regular health camps for both formal and informal sanitation workers and their family members in PNP and NNP, in collaboration with private trust hospitals. The health camps were gradually extended to the nearby Veerapandi, Gudalur and Karamadai town panchayats.

This report documents the experiences of the 11 health camps organised over the last three years in Coimbatore district and proposes a way forward to institutionalising regular health camps that specifically address the needs and risks faced by sanitation workers.

E1.1.Methods

Private hospitals were roped in to organise the health camps. The initial camps offered services such as general screening, diagnostics, counselling and free medicine. However, based on the health issues observed among the sanitation workers – specialised doctors – ENT specialist, gynaecologist, etc. – were brought in. A total of 11 health camps have been conducted over a period of three years for sanitation workers and their families in collaboration with KR Hospital and Karpagam Medical College Hospital. More than 800 sanitation workers and their family members have benefitted from the health camps. The camps have helped TNUSSP issue health cards to all the sanitation workers as well as record the demographic data and details of ailments. Separate interviews were also conducted with the beneficiaries and doctors to understand the occupational health hazards.

E1.2.Findings

The observations at the health camps identified the following health issues that were predominant among sanitation workers

- High blood pressure
- Anaemia
- Stomach ulcers
- Orthopaedic and muscle pain
- Skin problems
- Alcoholism and substance abuse

E1.3. Way Forward

The outcomes of the health camps underline the need for a standardised healthcare system for the sanitation workforce. Drawing on the results of these health camps, it has been proposed to institutionalise the health camps by facilitating Memorandum of Understanding (MoU) between the five town panchayats — Periyanaicken-palayam, Narasimhanaicken-palayam, Gudalur, Veerapandi and Karamadai — and private hospitals. Efforts to provide technical assistance to sanitation workers by linking them with government health insurance schemes are under way. Recommendations to strengthen the existing policy and regulations, streamline the health monitoring process to establish a sustainable healthcare model for the sanitation workforce which can be adopted by other urban local bodies are in progress.

Introduction

1.1 Background		
1.2 About TNUSSP		
1.3 Coimbatore: Two Model To	own Panchayats	6

1. Introduction

Sanitation workers provide an essential public service and yet they continue to live and work in hazardous conditions. They perform a range of tasks that include sweeping the streets, collecting garbage, cleaning sewers and managing fecal sludge.

With little or no access to personal protective equipment (PPE), sanitation workers are exposed to harmful chemicals, gases, pathogens, and sharp objects. They face severe health problems such as musculoskeletal disorders, infections such as leptospirosis and hepatitis, respiratory ailments, and cardiovascular degeneration¹. The direct physical threat aside, these adverse conditions also lead to a range of mental health issues as well, such as alcoholism and drug abuse.

These occupational hazards cannot be examined in isolation. There are systemic issues associated with caste and gender that undermine the well-being of India's sanitation workforce. Despite legal interventions over the years, almost all workers still belong to the poorest sub-castes within the Dalit community. This historically disenfranchised community have to grapple with entrenched social stigmas that deny even basic improvement of their working conditions.



Source: TNUSSP, 2019

These workers function in precarious conditions even during 'normal' times, i.e. before the spread of COVID-19, a virulent disease that has significantly heightened the need for hygiene and personal protection. While the more privileged are able to hoard sanitisers, disinfectants, masks and make

¹ Their health issues are summarised in the Workplace Occupational Safety and Health newsletter of ENVIS-NIOH published in 2015, 'Occupational Health Issues of Sewage and Sanitary Workers'.

appointments for tests and general health check-ups, sanitation workers now face worsened health risks. Those who are daily-wage workers (not on the payroll of local governments or private organisations) also face the prospect of job and income losses.

As unsafe practices persist even during these trying times, it is essential that the health and safety of sanitation workers are prioritised. Comprehensive preventive healthcare for sanitation workers is mandated under the Prohibition of Employment as Manual Scavengers and their Rehabilitation Rules (2013). In addition to directing employers to provide protective gear and other safety equipment, this document also underlines the need to carry out regular medical check-ups and vaccinations.

However, only rudimentary health infrastructure currently exists. While the provision of personal protection equipment can offset these risks to a certain extent, regular and free medical check-ups will enable early detection and ensure preventive steps are taken to improve workers' health. These health camps could also build awareness among workers about safe practices.

In order to address this gap, the Indian Institute for Human Settlements (IIHS), through the Tamil Nadu Urban Sanitation Support Programme (TNUSSP), is now focusing on institutionalising health camps for sanitation workers, drawing from its experience of organising camps in Coimbatore district over the last three years. The initiative's main objective is to mainstream health check-ups by state infrastructure, with the support of private groups. A first step in this direction is forging a Memorandum of Understanding (MoU) between the Tamil Nadu government's Directorate of Town Panchayats and a private trust hospital – Karpagam Medical College Hospital – that has been actively involved in the organisation of camps so far.



Figure 1.2: Sanitation workers and their family consults doctors at the health camp

Source: TNUSSP, 2019

As part of the health camp programme, the TNUSSP's Coimbatore City Technical Support Unit (run by the Indian Institute for Human Settlements and the Keystone Foundation) initiated check-ups in two panchayats in the district, Periyanaicken-Palayam and Narasimhanaicken-Palayam, in 2017. The

intervention had extended to Veerapandi, Gudalur and Karamadai town panchayats by June 2019. Since then, a total of 11 health camps have been organised for sanitation workers and their families in collaboration with KR Hospital and Karpagam Medical College Hospital.

This report details the outcomes of the health camps conducted for sanitation workers in different panchayats in Coimbatore district, including prevalent concerns among sanitation workers, emergent health issues, and the need to chart a way forward. The camps currently focus on providing physical check-ups and screening for common ailments, as well as counselling on dietary patterns and reducing alcohol consumption, along with quality medical care service by specialists in ENT, orthopaedics and gynaecology. This, however, is still in the early stages and needs to be scaled up.

The repercussions of the COVID-19 pandemic and the lockdown on the most vulnerable has sharply drawn attention to the state of public health and the need to dramatically improve services that are accessible to all. Sanitation workers are a particularly at-risk community and there is an urgent need to facilitate safer work environments, access to free healthcare and widen the reach of social security measures such as insurance.

1.1 Background

Led by the Indian Institute for Human Settlements (IIHS), the TNUSSP and its partners PDI, YUGAA, Hasiru Dala along with Trichy City Corporation are working to improve the health, occupational safety and livelihood of sanitation workers.

IIHS has, since the launch of TNUSSP in 2015, identified and engaged with different types of sanitation workers employed in urban areas such as Urban Local Body (ULB)-managed workers, school toilet cleaners, public and community toilet cleaners, independent cleaners and daily wage workers, desludging truck operators and cleaners, privately-managed solid waste workers, rag-pickers, and railway cleaners.

One of the most prominent issues identified in the course of the organisation's surveys and fieldwork, was that of medical conditions affecting the at-risk community of sanitation workers and their limited access to healthcare. This report focuses of this critical aspect of the urban sanitation chain by documenting the experiences of the 11 health camps organised over the last three years in Coimbatore district. It proposes a way forward to institutionalising regular health camps that specifically address the needs and risks faced by sanitation workers.

1.2 About TNUSSP

The Government of Tamil Nadu (GoTN) has been a pioneer in the sanitation sector by recognising the importance of full sanitation coverage as core to improved standards of public health. It has prioritised the full cycle of sanitation, including strengthening of septage management as an economical and sustainable complement to network-based sewerage systems.

The TNUSSP aids the GoTN in scaling up urban sanitation measures, especially, Fecal Sludge Management (FSM) solutions across the state. Launched in 2015 with support from the Bill and Melinda Gates Foundation (BMGF), TNUSSP has been set up as a Technical Support Unit (TSU) within GoTN's Municipal Administration and Water Supply (MAWS) Department.

TNUSSP is working in two urban locations – Trichy city and the town panchayats of Periyanaicken-Palayam (PNP) and Narasimhanaicken-Palayam (NNP) in Coimbatore – to test and demonstrate approaches, build credibility for innovations, and understand on-the-ground challenges by working with urban local bodies, private informal sector and diverse urban communities, including the urban poor, women self-help groups (SHGs), and sanitation workers.

1.3 Coimbatore: Two Model Town Panchayats

In Coimbatore district, the TNUSSP has chosen two model demonstration towns, Periyanaicken-Palayam (PNP) and Narasimhanaicken-Palayam (NNP), where the first health camps were also organised in 2017. They are located to the north of Coimbatore city, along the National Highway enroute Mettupalayam. These two panchayats were chosen because both lack sewerage networks. This allows demonstration of FSM as an economical and effective means to achieve total sanitation and make a case for replicating on a larger scale.

A majority of households here depend on on-site sanitation systems such as septic tanks, which are emptied on demand by private desludging operators.

TNUSSP's interventions in PNP and NNP have led to improvements along the sanitation chain which are as follows:

- 1. Both town panchayats were provided with guidebooks on how to construct toilets with proper containment structures with funds provided under the Swachh Bharat Mission.
- 2. An improvement plan for public sanitary conveniences and a detailed project report for the renovation of community toilets were prepared.
- 3. Capacity building has been a priority area and the following measures were initiated:
 - a. A total of 28 desludging operators received training on best practices as per the Government of Tamil Nadu's Operative Guidelines on Septage Management and Occupational Safety Hazards. Since all desludging operators are registered under the Coimbatore Municipal Corporation, efforts are on to register them under the panchayats.
 - b. A total of 58 masons were trained on the construction of proper septic tanks and twinpits.
- 4. Behavioural change strategies were implemented through school sanitation and hygiene promotion programmes, as well during events such as World Toilet Day and Global Handwashing Day.
- 5. Progressing towards inclusion, a gender assessment strategy is being carried out to understand the sanitation needs of women and preventive health check-ups were conducted for sanitation workers.

Health Camps

2.1 Rationale and Evolution	9
2.2 Observations and Emerging Issues	11

2. Health Camps

2.1 Rationale and Evolution

The Prohibition of Employment as Manual Scavengers and their Rehabilitation Rules, 2013, mandates, 'Regular medical check-up of sewage workers which shall include the examination of respiratory organs, skin injuries, and other occupational diseases and injuries for their treatment to ensure that sewage workers afflicted with such diseases or injuries do not enter sewers for cleaning²'. However, the reality is that health check-ups are not regularly conducted for sanitation workers. There is also very little awareness among this high-risk group about the need to access timely and preventive healthcare considering the occupational hazards they face.

Recognising the immediate need to set up regular health screenings for sanitation workers, the TNUSSP launched a collaborative initiative to plug the gaps left by the existing policy infrastructure. So far, 11 camps have been held in the outskirts of Coimbatore city in partnership with the town panchayats they were held at, two private hospitals and a small finance bank. Since PNP and NNP are the two model towns identified for TNUSSP's sanitation projects, seven of these camps were held here. Annexure summarises the activities undertaken, number of beneficiaries and the common ailments diagnosed.

The first camp was conducted on February 11, 2017 at the PNP panchayat for sanitation workers, water suppliers and their families. Interviews with select participants indicated the following:

- All interviewees responded positively when asked about their opinion on health camps
- All said that their last check-up was over a year ago
- None of the participants had a health card and less than half said they had health insurance
- In terms of frequency of these proposed camps, the majority said that they need to be arranged every three months, while the rest said once in six months would suffice

Other problems raised by respondents included substance abuse, high rates of contact dermatitis, low blood pressure, high blood sugar and joint pain. All workers said that the PNP panchayat provided them with protective equipment but that they were frayed by regular use and improper maintenance and contributed to skin problems. This preliminary study reiterated the need to conduct regular health camps as workers face health problems and lack the resources to carry out preventive check-ups themselves.

At this first few camps, participants' height, weight, blood pressure and sugar levels were measured. This general check was carried out by staff from the KR Hospital. Medicines were also prescribed which were issued by the nearby government hospital, free of cost, as arranged by the PNP panchayat. Counselling was also provided to workers and their families.

In August 2018, a health camp was held in PNP panchayat for desludging operators, i.e. septic tank lorry operators. They are exposed to harmful gases such as methane and hydrogen sulphide putting them at risk of cardiovascular degeneration, infections such as hepatitis and jaundice, respiratory and skin disorders, among others³.

For this initiative, TNUSSP's Coimbatore City Technical Support Unit teamed up with Equitas Small Finance Bank's CSR initiative. This camp involved free general health check-up and medical prescriptions by staff from the Karpagam Medical College & Hospital for 20 desludging operators, 55 of their family members, and 21 sanitation workers.

²Provisions of the Act are detailed here: http://ielrc.org/content/e1314.pdf

³ TNUSSP, 2018. <u>Desludging operators in Periyanaicken-Palayam and Narasimhanaicken-Palayam – An Overview</u>

Box 2:1: A worker's testimony

Manimekalai (name changed) starts work every morning at 5.45. She, and other sanitation workers, are taken to their designated cleaning spots.

On an average, she collects waste from 400 households every day using a pushcart. She works two shifts – 6 am to 11 am and 2 pm to 3 pm. It is physically demanding work and at 33 years of age, she has chronic joint pain, anaemia, and irregular menstrual cycles.

"All these health issues surfaced within five years of joining sanitation work," she says. "This work has taken a toll on my health."

Manimekalai has been working as a sanitation worker for the last 12 years. She says she never had the time or money to visit a doctor and that it was during this health camp that she was able to finally report her problems and get treatment.

Subsequently, in 2019 and early 2020, initiative was this extended neighbouring panchayats in Coimbatore district including Veerapandi, Vadavalli, Karamadai and Gudalur. Basic check-ups such as monitoring of blood pressure and sugar and medical counselling continued and were supplemented with screening for orthopaedic, eyesight and disorders - common ailments reported by workers as a result of occupational hazards. In addition to prescribing medicines, later camps also began to directly provide participants with medicines, free of cost. This included deworming tablets such Albendazole. Those found needing additional help were referred to Karpagam hospital for free treatment including hospitalisation and surgery.

These 11 camps have benefitted 820 workers and their families since 2017 and feedback from participants have been overwhelmingly positive. Narayanan, a sanitation worker who attended the camp held at Karamadai town panchayat in June 2019, said that he had never had such a comprehensive health check-up before and now felt that they must be conducted more often. Darshan, proprietor of Darsan Septic Tank Cleaning Services, attended the Vadavalli camp and said that it was a lesson to adopt a proactive and healthier lifestyle.

MENSTRUAL HYGIE IV soft mil acceptant and season and se

Figure 2.1: Health camp held on Menstrual Hygiene Day for sanitation workers at PNP and NNP panchayats.

Source: TNUSSP, 2019

Many women workers were found to be suffering from irregular menstrual cycles and anemia.

To summarise, the following are the main services offered by these health camps:

- i. General physical check-up for workers and their families: calculating body mass index through participants' height and weight measurements, blood pressure levels, blood sugar levels.
- ii. Screening for and diagnosis of common illnesses associated with their work: Musculoskeletal disorders such as osteoarthritis, infections such as hepatitis, skin problems.
- iii. Distribution of deworming tablets for desludging workers; prescription of other medication including vitamin and calcium supplements, antibiotics, paracetamols, Albandazole tablets; and Tetanus and Diphtheria (TD) vaccine injections are compulsorily given once in six months.
- iv. Counselling on safe and hygienic practices, reducing alcohol consumption, dietary habits.
- v. Referral services for those requiring additional treatment, including free hospitalisation and surgery.



Figure 2.2: Prescription and provision of free medicines to a sanitation worker at a health camp

Source: TNUSSP, 2019

2.2 Observations and Emerging Issues

These health camps also shed light on the dominant types of illnesses plaguing workers. As discussed in the previous sections, sanitary workers are particularly vulnerable and lack access to healthcare, social security measures or awareness of safe practices. Therefore, they have remained invisible and

their health problems neglected. Through these health camps, it was possible to identify key focus areas and patterns of health issues. This further underscores the need to replicate such camps on a much larger scale to able to systematise mandatory health check-ups for this largely informal workforce.

Based on observations made at these camps, the emerging health issues include:

- High blood pressure
- Anaemia (mainly among women workers)
- Stomach ulcers (workers have to report for work early in the morning which forces them to skip breakfast often leading to ulcers and contributes to anaemia)
- Orthopaedic and muscle pain (inflammation as a result of intense physical labour)
- Skin problems
- Alcoholism and substance abuse (which leads to other issues such as hypoglycaemia)

In addition to these common ailments, sanitation workers also reported more general workplace issues that affected their safety and livelihood:

- i. Difference in remuneration for permanent and temporary staff
- ii. Lack of toilet facilities for women workers (including community toilets in the areas they work)
- iii. Lack of awareness on personal protective equipment, which leads to improper handling of waste
- iv. Door-to-door waste collection trolleys and push-carts are unwieldy and difficult to use, which leads to orthopaedic problems
- v. Poor segregation of waste

The problems highlighted through health screenings and through conversations with the workers themselves can be addressed, to a large extent, by free health check-ups organised at regular intervals. Counselling on food habits, alcohol consumption, personal protection equipment is also a key facet of these interactions with workers. These interventions also need to take into account workplace practices. For instance, Dr. Naveen Prabhu from Karpagam hospital observed that prevalence of certain ailments such as ulcers can be significantly reduced by revising the schedule of workers and allowing them sufficient time to have breakfast.



3. Way Forward

As a result of the nature of their work and deep-rooted social stigmas attached to their identity and occupation, sanitation workers are prone to severe health issues and are unable to get access to basic healthcare. Organising regular health camps, which is already mandated by law, is a necessary step towards improving their quality of life. Helmed by the TNUSSP and carried out in partnership with the Keystone Foundation, KR and Karpagam private hospitals, the town panchayat administrations and Equitas Small Finance Bank, this multi-stakeholder, collaborative effort is a formula that worked with the 11 health camps organised so far. It is important to work towards implementing such camps on a much larger scale.

The TNUSSP is proposing that the way forward is to formalise this system through a Memorandum of Understanding between the Directorate of Town Panchayats and the Karpagam Hospital, which has been a regular partner. The MoU would clearly delineate roles and responsibilities of all parties, as well as elaborate on the periodicity and logistics of carrying out these camps. The MoU is being planned for a year on a trial basis, to begin with. The TNUSSP will support its coordination during this first year. The respective town panchayat would be expected to coordinate with the hospital, arrange the venue, refreshments for the medical team and other logistics and, most importantly, mobilise sanitation workers for the camp and maintain their records. The hospital will need to account for all the medical support.

All stakeholders stand to benefit from this collaborative exercise. Sanitation workers will be able to avail free and regular preventive healthcare. This regular monitoring is absolutely essential to identify early-onset of certain diseases and take timely action. These town panchayats stand to serve as a model for other panchayats. The hospital can build on their research on occupational health hazards and benefit from the recognition of being part of a first of-its-kind public-private partnership geared towards providing health services for sanitation workers.

Institutionalising camps needs to be supplemented with other measures. For one, in addition to medical screening, widespread vaccination programmes also need to be undertaken for sanitation workers, many of whom come in contact with human excreta and other contaminants. Regular vaccination is also required by the Prohibition of Employment as Manual Scavengers and their Rehabilitation Rules, 2013.

It is also important to consider that a majority of sanitation workers suffer indignities because they are contractual or daily-wage workers, are deprived of medical benefits and equal pay as their permanent counterparts. Linking these workers to government health insurance schemes such as the Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana is another focus area.

The TNUSSP has been trying out different models to help prepare a robust plan for standardised health check-ups that can be proposed at the state level. An ideal plan, in addition to specialised medical care, needs to also encompass the provision of health cards for sanitation workers, including desludging operators. This would help them keep track of their health and improve awareness of welfare schemes that workers are eligible to get.

Bibliography

Occupational Health Issues of Sewage and Sanitary Workers, Newsletter of ENVIS-NIOH published in 2015. Retrieved from

 $http://niohenvis.nic.in/newsletters/vol10_no2_Occup_Health_Iss_of_Sewage_and_Sanitary_Workers.\\ pdf$

Prohibition of Employement as Manual Scavengers and their Rehabilitation Rules, 2013, International Environmental Law Research Centre. Retrieved from http://ielrc.org/content/e1314.pdf

Desludging Operators in Periyanaicken-palayam and Narasimhanaicken-palayam An Overview, TNUSSP, 2018. Retrieved from http://muzhusugadharam.co.in/wp-content/uploads/2019/11/Desludging-Operators-in-PNP-NNP_24-OCTOBER-2019.pdf

Annexure

Table A 1.1. Summary of health camps conducted

АЗ

Table A 1.1. Summary of health camps conducted							
S.	Date	Date Venue Hospital and Beneficiaries			Service	Observations	
No.	_		Sponsers	Male	Female	provided	
1	22/MAY/ 2017	NNP TP	K.R Hospital	56	45	General health consultation; prescription w/o medication	High blood pressure, stomach ulcers, diabetes
2	11/FEB/ 2017	PNP TP	K.R Hospital	34	48	General health consultation; prescription w/o medication	Dermatitis, high blood sugar, joint pains reported
3	13/FEB/ 2018	PNP TP	K.R Hospital	55	43	General health consultation; prescription w/o medication	
4	31/AUG/ 2018	PNP TP	Karpagam Hospital; Equitas Small Finance Bank	34	01	General full health check- ups with free medication & referral service	-
5	13/FEB/ 2019	NNP TP	K.R Hospital	54	40	General health consultation & prescription without medication	Orthopaedic and respiratory problems, anaemia, alcohol and substance abuse,
6	27/MAR/ 2019	Vadavalli	Karpagam Hospital; Equitas Small Finance Bank	12	00	General full health check- ups with free medication & referral service	Orthopaedic, hypoglycaemia, alcohol abuse
7	23/MAY/ 2019	PNP Community MHM	Karpagam Hospital	00	45	General full health check- ups with free medication & referral service	
8	14/JUN/ 2019	Karamadai TP	Karpagam Hospital	55	43	General full health check- ups with free medication & referral service	Stomach ulcers, hypoglycaemia, orthopaedic problems, alcohol abuse
9	25/SEP/ 2019	Gudalur TP	Karpagam Hospital	45	39	General full health check- ups with free medication & referral service	Anaemia, alcohol and substance abuse, respiratory problems
10	12/DEC/ 2019	PNP Community Hall	Karpagam Hospital	55	46	General full health check- ups with free medication & referral service	Anaemia, spinal abnormalities, alcohol and substance abuse
11	12/MAR/ 2020	Veerapandi TP	Karpagam Hospital	28	42	General full health check- ups with free medication & referral service	Orthopaedic and respiratory problems, anaemia, skin infections
Source	ce: TNUSSP	, 2020					



Tamil Nadu Urban Sanitation Support Programme (TNUSSP) supports the Government of Tamil Nadu and cities in making improvements along the entire urban sanitation chain. The TNUSSP is implemented by a consortium of organisations led by the Indian Institute for Human Settlements (IIHS), in association with CDD Society, Gramalaya and Keystone Foundation.



