



## **WE NEED SOME SHELTER:**

# **ASSESSING WORKING CONDITIONS AND THREATS CLIMATE CHANGE AND EXTREME HEAT POSE TO HONG KONG'S RURAL SANITATION WORKERS**

**Hong Kong Food and Environmental Hygiene Department Staff Rights Union  
Government Frontline Employees Union  
Centre for Community Care**

**November 2021**

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Email: [cecoca2019@gmail.com](mailto:cecoca2019@gmail.com)

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## Introduction

Climate change is, according to UN Secretary-General António Guterres, happening now and to all of us. In addition to the threats posed by long-term global temperature increases of over 1.5°C, climate change makes extreme weather events more and more frequent.<sup>1</sup> Prolonged fires in California, U.S.A., heat waves in Siberia, and torrential rain and floods in China damage habitats and homes and displace millions of people. The impacts of these extreme weather events are disproportionately experienced across racial, gender, and class divides.<sup>2</sup> Low income communities tend to be the most climate-vulnerable; their housing situations, access to resources, and working conditions may put them more at risk of adverse health and financial impacts posed by climate change.<sup>3</sup> Workers, especially those working outside with poverty wages, are adversely affected by the increasing number of hot work days, especially when there is a lack of legislation and infrastructures to protect them from such impacts.<sup>4</sup> For example, in the US, outdoor agricultural workers experienced serious injuries in the heat waves in summer 2021.<sup>5</sup> Many have died due to heat stress, leading to the government issuing a new regulation that limits workers' exposure to extreme heat.

In Hong Kong, temperatures are also rising. The annual number of “very hot” days where the daily maximum temperature reached 33 degrees C or higher has been steadily climbing, reaching 54 days in 2021 (Figure 1).

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<sup>1</sup> IPCC, *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge: Cambridge University Press, Cambridge, 2014), 6.

<sup>2</sup> United Nations, “Climate justice,” *United Nations Sustainable Development Goals*, May 31, 2019, accessed October 18, 2021, <https://www.un.org/sustainabledevelopment/blog/2019/05/climate-justice/>

<sup>3</sup> S. Nazrul Islam and John Winkel, *Climate Change and Social Inequality* (New York: UNDESA, 2017), 14-15.

<sup>4</sup> Diane M. Gubernot, G. Brooke Anderson, and Katherine L. Hunting, “Characterizing occupational heat-related mortality in the United States, 2000-2010: An analysis using the census of fatal occupational injuries database,” *American Journal of Industrial Medicine* 58, no. 2 (2015), 203-211.

<sup>5</sup> Daniela Sirtori-Cortina and Elizabeth Elkin, “Overheated, underprotected: Climate change is killing U.S. farmworkers,” *Bloomberg*, August 12, 2021, accessed October 18, 2021 <https://www.bloomberg.com/news/articles/2021-08-12/farmworkers-overheat-on-frontlines-of-climate-change>

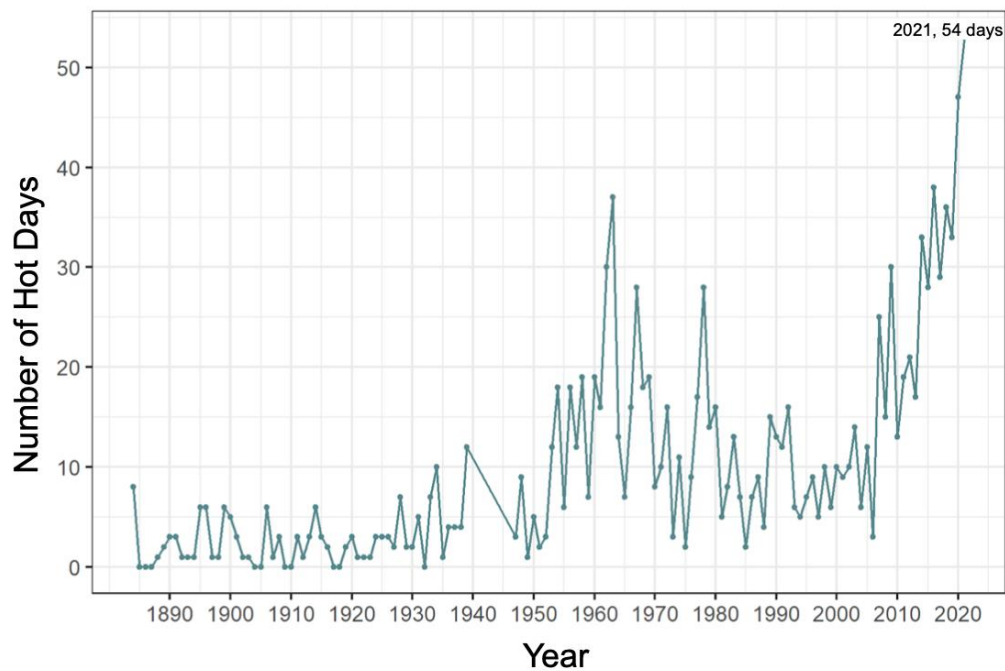


Figure 1.1. Number of hot days in Hong Kong per year between 1884 and 2021. Hot days are characterised by daily maximum temperature reaching or exceeding 33.0 degrees Celsius. *Data from: Hong Kong Observatory.*<sup>6</sup>

Prolonged exposure to the sun and heat, combined with Hong Kong's high humidity, can make summers increasingly dangerous for the worker working outdoors.<sup>7</sup> Hong Kong's humidity in the summer (May-Sep) averages 81.05%.<sup>8</sup> According to the heat-health index (Figure 2), working in 33-34 degree heat and 80% humidity is dangerous. Heat cramps, heat exhaustion, and heat stroke are highly likely with prolonged exposure and/or physical activity. Despite many groups of people – mostly underprivileged people such as the elderly, people with chronic diseases, outdoor workers – living and working in such environments, the HKSAR government still does not have appropriate legislative measures or facilities to ensure their protection. In fact, there are only non-binding reminders from the Labour Department to encourage employers and employees to take precautions against heat stroke.<sup>9</sup>

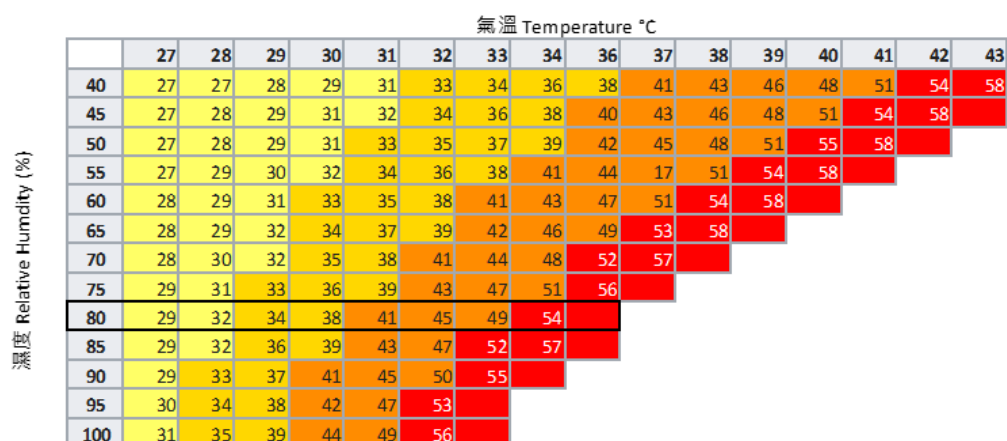
<sup>6</sup> "Number of very hot days," Hong Kong Observatory, 2021, [https://www.hko.gov.hk/en/cis/statistic/vhotday\\_statistic.htm](https://www.hko.gov.hk/en/cis/statistic/vhotday_statistic.htm)

<sup>7</sup> Emily YY Chan, "Heat-related health impacts in subtropical cities: Global Overview and Research Frontiers in Hong Kong," (paper presented at Global Heat Health Information Network First Global Forum for Heat and Health, Hong Kong, 2018), <https://ghhin.org/wp-content/uploads/Chan-EYY-Global-Heat-Health-Information-Network-Dec-2018-Final.pdf>.

<sup>8</sup> "Monthly Mean Relative Humidity (%)" at the Hong Kong Observatory," Hong Kong Observatory, 2021, <https://www.hko.gov.hk/en/cis/monthlyElement.htm?ele=RH>

<sup>9</sup> "Employers and employees should take precautions against heat stroke," The Government of the Hong Kong Special Administrative Region Press Releases, September 27 2021, <https://www.info.gov.hk/gia/general/202109/27/P2021092700300.htm?fontSize=1>





Classification	Heat Index	Effect on the body
Caution	27°C - 32°C	Fatigue possible with prolonged exposure and/or physical activity
Extreme Caution	32°C - 38.5°C	Heat stroke, heat cramps, or heat exhaustion possible with prolonged exposure and/or physical activity
Danger	38.5°C - 51°C	Heat cramps or heat exhaustion likely, and heat stroke possible with prolonged exposure and/or physical activity
Extreme Danger	51°C or higher	Heat stroke highly likely

Figure 1.2 Heat index chart with health effects. A heat index chart includes the temperature and relative humidity. The colours of the chart represent differing health effects corresponding to the heat index. *Data from: NOAA.*<sup>10</sup>

Sanitation workers are one group of labourers who work under prolonged heat and other extreme weather conditions. Due to the outsourcing of sanitation work and the cost-cutting tendencies of subcontracting companies, workers often are not provided enough resources to acclimate or adapt to their working environments. As such, they are among one of the most climate-vulnerable groups in Hong Kong. Local and international organizations, such as Oxfam, Hong Kong Women Workers Association, Greenpeace, and the Hong Kong Catholic Commission for Labour Affairs, have been reporting on the various climate risks sanitation workers face, as well as the actions needed to ensure a safe and dignified working environment for them.<sup>11</sup>

We focus on rural sanitation workers in this report because rural sanitation workers have little resources to cope with the extreme heat. These sanitation workers are dispatched to rural refuse collection points in the New Territories (Table 1.1), where they are required to collect rubbish, sweep the streets, and clear weeds and leaf litter by roadsides.

<sup>10</sup> "What is the heat index?," National Oceanic and Atmospheric Administration, n.d.  
<https://www.weather.gov/ama/heatindex>

<sup>11</sup> HKCCLA, *Investigation report on the arrangements and treatment of subcontracted sanitation workers under Typhoon Signal No. 8 and Black Rainstorm Warning*, 2018,  
[https://www.hkccla.org.hk/article/RI\\_20180918.pdf](https://www.hkccla.org.hk/article/RI_20180918.pdf);  
 HKWWA, *Investigation report on the provisions of subcontracted cleaning workers under severe heat and thunderstorms*, August 12 2017, <https://issuu.com/hkwwa/docs/2017.8.12>.docx; Oxfam Hong Kong, *Research on working conditions of Hong Kong's outdoor sanitation workers under extreme heat: Summary and policy suggestions*, 2021, [https://www.oxfam.org.hk/f/news\\_and\\_publication/70503/CC\\_research\\_outdoor\\_worker\\_chi%20\\_final%20version.pdf](https://www.oxfam.org.hk/f/news_and_publication/70503/CC_research_outdoor_worker_chi%20_final%20version.pdf)

Table 1.1 Public refuse collection points in Hong Kong, Kowloon, and New Territories. *Data from: FEHD Annual Report 2020.*<sup>12</sup>

Permanent off-street	Temporary	Village type with temporary structures	Bin sites
162	10	869	1889

Working alone, these sanitation workers can serve up to 2000 citizens and handle up to 15180L of rubbish a day.<sup>13</sup> Rural refuse collection points are either made of concrete or aluminium or have no shelter at all (Figure 1.3). They are made to house only refuse or garbage bins. As such, rural sanitation workers also do not have access to the amenities such as lockers, running water, or water coolers available within urban Public Refuse Collection Points.<sup>14</sup>



Figure 1.3. Types of refuse collection points in the New Territories: a) an on-street refuse station, b) an aluminium pen, c) a concrete collection point, and d) a collection point with no shelter.

<sup>12</sup> Food and Environmental Hygiene Department, “Annual Report 2020” (Government Report, Hong Kong SAR, 2021), <https://www.fehd.gov.hk/english/publications/annualrpt/2020/4.html#>

<sup>13</sup> Sanitation workers have reported to have to process 23 full bins of refuse a day. These bins are 660L in volume, though the weight of the refuse can vary. The volume of refuse a sanitation worker has to process can be up to  $23 \times 660\text{L} = 15180\text{L}$ .

<sup>14</sup> HKWWA, “Investigation report on the provisions of subcontracted cleaning workers under severe heat and thunderstorms,” August 12 2017, <https://issuu.com/hkwwa/docs/2017.8.12>.docx. It should be noted that subcontracted cleaning workers in urban areas also lack necessary adaptive resources to climate change, as demonstrated by the same HKWWA report.

Climate adaptation is highly dependent on context, capabilities, and access to resources. Due to the differential access to amenities between urban and rural sanitation workers, it is necessary to understand whether rural sanitation workers face different problems and have different needs while working under extreme heat and weather conditions. The Hong Kong Food and Environmental Hygiene Department Staff Rights Union partnered with Government Frontline Employees Union and Centre for Community Care to conduct this study on the ways rural sanitation workers are adapting to climate change, the negative impacts they face due to inadequate protection, and the systemic and policy changes needed to remedy working under dangerous conditions directly or indirectly related to climate injustice.

Our aims for this study are:

1. To understand the needs of rural sanitation workers for adaptation to increasing temperatures and more erratic weather conditions
2. To understand direct and indirect impacts of climate change on the health and labour conditions of rural sanitation workers
3. To advocate for adaptive measures put forward by sanitation workers themselves and thus creating a more humanistic waste management system in rural Hong Kong
4. To push for long-term climate change policies from the HKSAR government, the Food and Environmental Hygiene Department, and their subcontractors to ensure worker protection
5. To increase recognition and promote dignity for rural sanitation workers

## **Methods**

In July and August 2021, we made site visits to 56 rural refuse collection points across seven districts (Appendix 1), and performed qualitative interviews and focus groups with 47 sanitation workers across four districts: Tuen Mun, Yuen Long, Tai Po, and Outlying Islands. Interviews and focus groups ranged from 10 minutes to an hour depending on the free time the sanitation worker had. Workers responded to questions about their daily work routine, their working conditions and environment, the impacts of adverse weather on their work and health, the adaptive resources and measures they are provided with by employers, the resources and measures they adopt themselves, the problems - whether directly related to extreme weather or not - that they face while working in rural areas, and the improvements they suggest to make their workplace safer. Interviews and focus groups were recorded and conducted by the team, and responses were then coded into themes. When given permission, we also took photos of the refuse collection points and ad-hoc shelters built by sanitation workers for visualisation of adaptive measures and working conditions. To thank them for their work, we distributed weather- and COVID-protective gear such as sunglasses, cotton sleeves, masks, and sanitizer to sanitation workers after interviews.

## Results

### 1. Demographic Information

#### a) Place of birth

Out of 47 interviewees, 12 had hometowns outside of Hong Kong. However, they were not new immigrants, having lived in the city for 19 to 40 years. Within these “old” immigrants, many came to Hong Kong for their spouse or family. Some sanitation workers were formerly farmers, others had worked in clothing or handbag factories. Upon arrival to Hong Kong, many started off being stay-at-home parents, but started work again once their children had grown up. Some interviewees have expressed that the reason they became sanitation workers was because they did not speak English, and could not interview for jobs that required them to speak the language. When asked whether work in the mainland was harsher than sanitation work, interviewees said that they faced different kinds of hardships in different jobs: work hours in mainland factories were longer, but sanitation work required them to be outdoors. Some workers maintained that sanitation work was harsher, and thought that Hong Kong should learn from the mainland and employ more technology in the waste management system in order to lessen the burden placed on workers.

#### b) Gender

Of the 47 sanitation workers we interviewed, 43, or over 90%, were female-presenting. Only 4 were male-presenting. This shows that cleaning work is gendered work, and gendered bodily needs must be accounted for.

Table 3.1.1. Gender of interviewees

Gender	No. of Interviewees	Percentage
Male	4	8.51
Female	43	91.49
<b>Total</b>	<b>47</b>	<b>100</b>

#### c) Age

Through our interviews, we only found out the ages of 19 workers. However, unlike the surveyed population in previous studies,<sup>15</sup> most of our interviewees were under 65. This may be because our interviewees were mostly FEHD employees rather than subcontractors, where the retirement age is 60, with contract extensions post-retirement lasting one to five years.

<sup>15</sup> HKCCLA, “Survey on subcontracted cleaning workers”, 2018; HKWWA, “Investigation report on the provisions of subcontracted cleaning workers”, 2017



Table 3.1.2. Age distribution of interviewees.

Age	No. of Interviewees	Percentage
<45	0	0.00
46—55	5	10.64
56—65	13	27.66
66—75	1	2.13
76—85	0	0.00
>85	0	0.00
No response	28	59.57
<b>Total</b>	<b>47</b>	<b>100.00</b>

## 2. Length of Service

Most workers (54%) we interviewed have worked as sanitation workers for five years or less, whereas 25% have worked for two years or less. These numbers are similar to the results in the 2018 study by the Hong Kong Catholic Commission for Labour Affairs, and different from the 2017 study by Hong Kong Women Workers Association, where 47.9% workers interviewed had worked for six to ten years, and 29.4% had worked for over ten years. Prior to becoming sanitation workers, some interviewees had worked in airport runway services, in real estate, or in schools and hospitals as janitors. Many worked in factories in Hong Kong and China; rural sanitation work was an alternative livelihood when factories left the region, or when they immigrated to Hong Kong.

Table 3.2.1. Number of years interviewees have worked as sanitation workers.

Length of Service	No. of Interviewees	Percentage
<1 year	2	4.26
1—2 years	7	14.89
3—5 years	10	21.28
6—10 years	8	17.02
11—20 years	3	6.38
>20 years	4	8.51
No response	13	27.66
<b>Total</b>	<b>47</b>	<b>100.00</b>

In rural Hong Kong, sanitation workers are usually assigned to refuse collection “beats”. However, sanitation workers may be required to move around or switch beats throughout

their career. A majority of beat switches were those being promoted from a “substitute” to a “regular.” Substitutes have to work a different beat every day, to act as substitute for the regular beat workers who have a day off. As a result, substitutes do not have a fixed working space, and thus find it harder to find a fixed or regular shelter or space to rest.

Table 3.2.2. Length of service in current beat.

Length of Service	No. of Interviewees	Percentage
<1 year	5	10.64
1—2 years	11	23.40
3—5 years	9	19.15
6—10 years	6	12.77
11—20 years	2	4.26
>20 years	0	0.00
No response	14	29.79
<b>Total</b>	<b>47</b>	<b>100.00</b>

Interviewees working for subcontracting companies may be reassigned positions to accommodate for relocation or health (for example, workers who are often seasick get assigned new beats and no longer work in nearby outlying islands). Some subcontracted workers have also been on beach or river cleaning beats.

### 3. Employers

Out of the 47 sanitation workers we interviewed, 34 were directly employed by the Food and Environmental Hygiene Departments, and 13 were employed by subcontractors. Interviewees who were employed by subcontractors were mainly located on outlying islands. Their subcontractors were Shiny Glory Services Ltd. and Sparkle Environmental Services Ltd.

Table 3.3 Distribution of sanitation workers working as civil servants under the Food and Environmental Hygiene Department or under subcontractors.

Employer	No. of Interviewees	Percentage
Food and Environmental Hygiene Dep't	34	72.34
Subcontracting company	13	27.66
<i>Shiny Glory Services Ltd.</i>	5	-
<i>Sparkle Environmental Services Ltd.</i>	8	-
<b>Total</b>	<b>47</b>	<b>100.00</b>

#### **4. Work hours and Routine**

FEHD sanitation workers work 45 hours a week, distributed across six days. Sanitation workers generally begin the workday at 7am at an urban roll-call point, and then travel to their respective workplaces. Travel times can vary, with the longest travel time with traffic being 45 minutes by bus. For example, Tuen Mun rural sanitation workers have to sign in at Hung Kiu, but work at Tai Lam Chung. Drinking water, lockers, and fans are located at the roll-call point; they are not accessible where the sanitation workers are actually working. Thus, sanitation workers tend to bring or buy their own water or supplies. According to Chapter 57 of the Employment Ordinance, workers are entitled to an hour's rest after five hours of work under normal circumstances. Sanitation workers thus tend to eat lunch between 11:30-12:30. Because some of the stations are located far away from restaurants, sanitation workers generally bring their own lunch, and have to eat out in the hot sun or in the resting spots they find, occupy, or construct themselves. However, lunch hours are not counted towards work hours, and thus, workers are not paid or covered by insurance during that time. Many workers are also forced to postpone or not take lunch to finish their refuse collection in time for garbage truck pick-up. At the end of the day, sanitation workers have to travel back to the urban roll-call point to sign off.

Subcontracted workers are divided into two shifts. The day shifts work 9-10 hours a day (between 7am and 4-5am), and the night shifts work 6 hours a day (between 5pm and 11pm). For day shift workers, lunch hours are not counted as work hours, and thus, workers are not paid or covered by insurance during that time. Night shift workers are not allocated time to eat.

#### **5. Impacts of extreme weather and climate change on rural sanitation workers**

The table below shows the numerous ways extreme weather impacts sanitation workers. Heat, rain, and typhoons impact workers differently. Hot weather increases the amount of pests and negatively impacts the quality of lunch breaks and rest that workers are entitled to have. Rain increases the weight of the rubbish and wheelie bins and thus increases the physical strain for sanitation workers. Typhoons and rain may increase the workload of workers and also pose hazards for their temporary resting spots.

Table 3.5 Impacts experienced by rural sanitation workers under extreme heat, rain, and typhoons.

Extreme weather	Impacts
Heat	<ul style="list-style-type: none"> <li>● Heat stress and heat stroke</li> <li>● Loss of appetite</li> <li>● Increased perspiration and inadequate time and space to change out of sweaty uniforms, leading to skin rashes</li> <li>● Increased refraction of heat and light in some work environments (e.g. carparks), leading to physical exhaustion</li> <li>● Increased proliferation of and exposure to rats, mosquitoes, bacteria, and viruses</li> <li>● Increased risk of dehydration; increased need for drinking water (which sanitation workers often purchase themselves)</li> <li>● Physical discomfort leading to inability to rest</li> <li>● Decrease in vision (e.g. development of cataracts) due to UV light</li> </ul>
Rainstorm	<ul style="list-style-type: none"> <li>● Flooding of refuse collection point and thus lack of shelter from rain</li> <li>● Landslides may occur and damage temporary resting spots</li> <li>● Increased weight of garbage</li> <li>● Difficulty in seeking shelter from rain</li> <li>● Uneven flooring in refuse collection point creates puddles and leads to difficulty in moving wheelie bins</li> <li>● Raingear provided by employers is not breathable and only suitable for wearing in the winter; workers often get soaked in the summer</li> </ul>
Typhoon	<ul style="list-style-type: none"> <li>● Sanitation work still has to be carried out under typhoon signals 1 and 3, posing significant physical risk to the worker</li> <li>● Workload increases drastically before and after typhoons (e.g. after the typhoon, workers have to clean up debris on roads and in drains)</li> </ul>



Figure 3.5. A sanitation worker pushing wheelie bins across the street under heavy rains in July 2021.

As a result, over half the sanitation workers (n = 24) we interviewed said they were concerned or very concerned about their safety while working under adverse weather conditions.

Table 3.5.2. The degree to which sanitation workers were concerned for their safety while working under extreme weather.

Concern for safety	Number of interviewees
Very unconcerned	0
Unconcerned	3
Concerned	20
Very concerned	1
Total	24

## 6. Resting amenities for rural sanitation workers

The list of current resting amenities rural cleaning workers have is meagre. In face of climate change and increasingly dangerous work environments, employers are advised by the Labour Department to allow workers to take more rest breaks, to create temporary shelters that block the sun and heat, or to increase facilities for air circulation, cooling, or insulation from the elements (Labour Department, 2021).



Table 3.6. Resting amenities currently available to sanitation workers through formal or informal means.

Resting amenities	No. of interviewees	Percentage
Resting spaces provided by employers	0	0
Public toilet	6	12.77
Space provided by villagers/others	5	10.64
Makeshift shelters constructed by workers	5	10.64
Makeshift shelters constructed by district councillors	1	2.13
Nearby shops	1	2.13
Switch room	1	2.13
Shade from nearby trees	1	2.13
Refuse collection points (occupation)	20	42.55

However, FEHD and subcontractors have not provided workers with any resting amenities. Without resting spots provided by their employers, Often sanitation workers opt to take temporary rests under limited shade, and do not have a designated spot for lunch breaks that allows them to stay out of the heat. Some may take shelter in switch rooms or in nearby shops. Most of the sanitation workers we interviewed said they would rest inside the refuse collection point. However, this poses risks to them. The refuse collection point, while ventilated, is still exposed to heat and other extreme weather conditions, such as flooding from heavy rains and typhoons. Moreover, the collection point is not designed for workers to rest in, but to store refuse. Sanitation workers thus have to share space with trash while resting. This poses an occupational hazard as temperatures rise, because higher temperatures can lead to the proliferation of viruses, bacteria, and infectious diseases. Sanitation workers also have no access to water and electricity at the workplaces. Water is important to sanitation workers in the summer for hydration purposes, but also for cleaning and cooling down their bodies and for washing their sweat-drenched uniforms. Without cleaning their uniforms, sanitation workers find it hard to continue working or rest, some may even develop rashes because of it. As one sanitation worker said, “Because it is getting hotter and hotter these days, we really need to rest after collecting all the garbage in the wheelie bins. Our clothes are soaked with sweat, but we do not have space to change or dry wet clothes. I used to hang my sweaty clothes outside the refuse collection point to dry, but then they told me to stop doing that. And now we have no space. But if we don’t dry our clothes, we don’t have enough uniforms to wear. We have to change uniforms at least once or twice a day!” Some sanitation workers may have access to public toilets as a safe space to change their clothes and wash their bodies, but the distribution of toilets is uneven. Often, sanitation workers have to walk 10-15 minutes for the nearest toilet and water source.

Electricity is needed for charging devices such as hand-held fans, which sanitation workers often buy themselves to stay cool in the heat. Some sanitation workers have also expressed desire to have electricity to boil some water or cook their own meals over their unpaid lunch

hour, “It would be nice if we had water and electricity like the workers at the Leisure and Cultural Department. I’d like it if I could boil some water. It would be even nicer if we could have space and electricity to cook ourselves lunch, but I’m just putting it out there.”

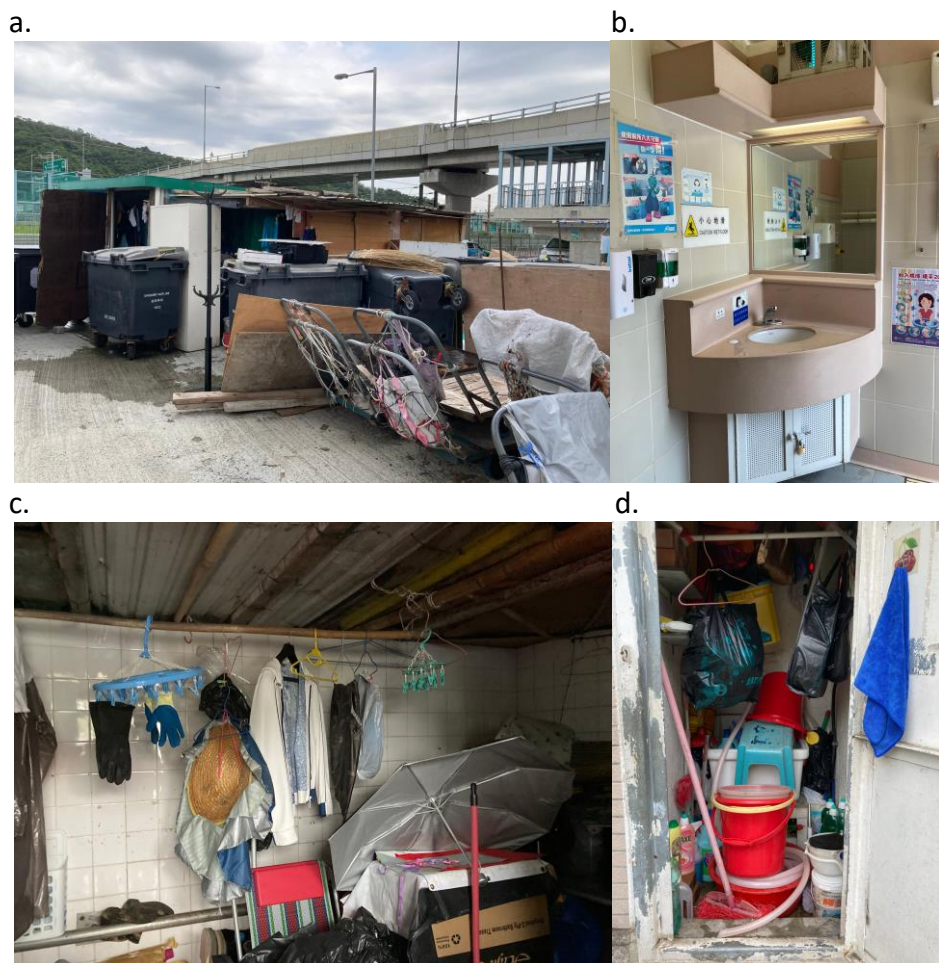


Figure 3.6. Resting amenities occupied or created by sanitation workers in face oa) an extension built by workers next to their refuse collection point, b) a public toilet, c) the interior of a refuse collection point, d) a water closet to store personal items and resting stools

## 7. Adaptation resources provided by employers

FEHD and its subcontractors provide some resources for alleviating heat stress for sanitation workers. Workers reported that common provisions are hats (baseball cap style), towels, drinking water, and raincoats. However, the drinking water provided is often at some distance from the refuse collection point where the worker is stationed for the majority of work hours, and the bottled water provided in situ (at the collection point) is never enough. The resources provided may also be unsuitable for the changing climate. For example, at least five workers have pointed out that the raincoats provided by their employer are made of non-breathable material and are completely unsuitable to be worn in the summer. These workers have been using black plastic bigs as replacement raincoats. The hats FEHD provided workers were also “completely useless,” according to one worker. As a result, workers often make their own hats, which protect them from the sun and rain. Of those who commented on whether they found the resources or facilities provided by the FEHD or their employer satisfactory (n = 21), over 60% responded with “no” or “extremely

unsatisfactory,” 33% responded with “so-so.” Only 7% found the provisions from their employer satisfactory.

Table 3.7. Adaptation strategies and provisions to extreme heat and weather supplied by employers (including FEHD and subcontracting companies). <sup>16</sup>

Employer provisions	Number of interviewees provided for	Percentage
Hat	5	10.64
Raincoat	17	36.17
Bottled water	22	46.81
Towel	6	12.77
Fan	1	2.13
Shaded area	2	4.26
Rescheduling working hours to avoid heat	1	2.13
Breathable uniforms	1	2.13
Employers did not provide adaptation resources	4	8.51

#### 8. Adaptation resources or strategies employed by rural sanitation workers

Faced with harsh working conditions, inadequate equipment and supplies, and lack of amenities, workers are forced to find their own adaptive solutions, with little support from their supervisors or the government. Many sanitation workers told us they buy their own resources or equipment to deal with adverse weather, such as UV protective sleeves, wide-brim hats, portable fans, and gloves. Equipment supplied by their employer, such as raincoats, are often unwieldy and not suitable for the heat. The bristles of their government-issued brooms are too short, sparse, and flimsy for effective sweeping of leaves, rubbish, and other detritus, making the job harder and longer to finish. Sanitation workers thus modify the brooms to increase efficiency, so that they spend less time in extreme weather conditions. Workers also bring or purchase additional drinking water or electrolyte-rich drinks such as Pocari Sweat, which increase their physical burden of having to haul the heavy water between workplaces, or their financial burden of having to buy it.

<sup>16</sup> During one interview, a worker showed us a solar-powered fan privately bought for them by an empathetic foreman. Due to the fan not being company-issued, it was not listed as a provision from employers in Table 3.7.

Table 3.8. Sanitation workers' adaptation strategies to extreme heat and weather. The materials or space needed for these strategies are provided by the workers themselves, or by nearby residents.

<b>Adaptive measures or strategies</b>	<b>No. of interviewees</b>	<b>Percentage</b>
Use a fan	24	51.06
Find shelter under flyovers or shade	16	34.04
Construct makeshift shelter	5	10.64
Wear a hat	34	72.34
Wear a raincoat	19	40.43
Find shelter in air-conditioned places	2	4.26
Pause work under extreme heat/weather conditions	4	8.51
Drink water	26	55.32
Rescheduling working hours to avoid heat	7	14.89
Wear rain boots	1	2.13
Modify tools for higher efficiency	3	6.38
Buy protective sleeves and towels	2	4.26
Prepare herbal tea or buy cooling drink	7	14.89
Change uniforms	16	34.04

Because sanitation workers do not have resting spots, they are forced to build rudimentary shelters using discarded construction material under bridges or by roadsides, or occupy refuse collection points.

Makeshift shelters do not have running water or electricity by default, although sometimes the cleaning workers find ways to access such utilities on their own, without support from their supervisors. However, some makeshift shelters are not completely water-proof, and because they lack electricity, the sanitation workers do not even have fans for ventilation during the hottest days when the risk of heatstroke becomes most acute. Some sanitation workers are able to rely on the kindness of villagers, who allow them to shelter, store equipment, and draw water from their private homes. However, they fear repercussions from their supervisors if they are seen loitering on private property.





Figure 3.8. Adaptation strategies against extreme heat by sanitation workers: a) a makeshift shelter for the rain between a dumpster and a public toilet, b) extra bottles of water and herbal tea, c) a padded, upgraded broom for more efficient sweeping under high temperatures, and d) a solar-powered fan crowd-sourced by a few workers.

## 9. Occupational safety guidelines



Workers have pointed out that FEHD or subcontractors will provide occupational health and safety training. However, participation in training is often during working hours, but their time is not compensated. While workers do participate in training, occupational diseases, such as arthritis, still often occur. This shows that training sessions provided by employers are not easy to implement. Nor are they sufficient in preventing occupational disease. For example, occupational safety guidelines stipulate that wheelie bins cannot be maneuvered by less than two workers, and yet, because the department is understaffed, workers push the wheelie bins by themselves. Some workers even pointed out that they usually rely on occupational safety guidelines from their colleagues, or do not remember receiving any occupational safety guidelines.

### 10. Occupational diseases

Of the 47 workers we interviewed, over half (53%) had experienced heat exhaustion or heat stress. Because of the heat, many sanitation workers had experienced dizziness, fatigue, headache, weakness, and heavy sweating. As a result of heavy sweating and a lack of space and time to change uniforms, sanitation workers also suffer from related skin problems such as heat rashes. Some have reported developing cataracts and increased sensitivity to light from working under the sun for too long.

Table 3.10. Occupational diseases experienced by rural sanitation workers.

Occupational disease	No. of interviewees	Percentage
Heat stroke or heat stress	25	53.19
Lower back pain	7	14.89
Shoulder pain	7	14.89
Neck pain	1	2.13
Rheumatic joint pain	10	21.28
Inflammation	1	2.13
Arm and leg injuries	13	27.66
Loss of vision (e.g. cataracts)	2	4.26
Knee pain	5	10.64
Cuts and burns	1	2.13
Back pain	1	2.13
Skin diseases	4	8.51
Not suffering from diseases	1	2.13

In addition to heat stress and skin and eye problems, most workers we interviewed also reported chronic pain and swelling in the joints and muscles caused by years of arduous labour. As one sanitation worker explained in a focus group: “Everyone gets injured from working this kind of job.” Refuse from the villages are dumped in large wheelie bins (so called 660s). Discarded furniture and construction waste are dumped in these bins as well,

although this is technically illegal. This means that the wheelie bins are often overloaded with heavy waste. The sanitation workers are forced by necessity to load the wheelie bins sideways onto more maneuverable trolleys for easier transportation by a single worker, despite being forbidden by regulations to do so.

The work injuries and the lack of compensation for such hazards is summarised neatly by one worker: “I suffered from inflamed joints and knuckles, measles, skin rashes, and the ‘Three Highs’.<sup>17</sup> The weather is very hot in the summer, causing non-stop sweating from the heat. I suffered heat stroke once. To suffer such injuries, for such wages, is not worth it.”



Figure 3.10. A “660” wheelie bin mounted on concrete steps for easy transfer onto a more maneuverable hand cart. 660s are loaded sideways onto trolleys for easier transportation by a single worker.

### 11. Positive experiences at work

Very few workers recall pleasant experiences at work. “Work is work,” said one sanitation worker. “There is nothing to be happy or unhappy about. People give you work, and so doing a good job is the most important thing.”

Positive work experiences mentioned include:

- Having a good working environment: “The outlying islands are nice, clean, and the air quality is good.
- Meeting sympathetic citizens: “I’m happy when I meet people who are sympathetic and tell me I do a good job despite the hard work.”
- Finding an unexpected place to rest: a friend of an interviewee gave them a place to rest, cook lunch and make herbal tea
- Having a good foreman: a foreman we talked to sometimes gives the workers a ride from their cleaning beats back to the roll-call point. The foreman is sympathetic to

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<sup>17</sup> Three highs include: high blood pressure, high cholesterol and high blood sugar

workers' needs and have tried to negotiate with the company to provide running water and electricity for the workers (though negotiations ultimately failed)

## 12. Complaints received

Workers receive complaints from time to time. Since most of the interviewees were employed by FEHD, complaints are generally received through the 1823 complaint hotline. Complaints include:

- workers taking breaks during work hours; several citizens complained that workers were being lazy when they took short periods of rest from the heat or when they stopped for lunch.
- workers' makeshift shelters obstructing bathrooms and parking spaces despite the shelters only occupying some space behind the garbage station.
- workers' failure to dispose of garbage and dog dung in private spaces. However, sanitation workers are only responsible for the cleanliness of public spaces. Cleaning up private spaces is beyond the scope of their responsibilities.

## 13. Other issues

Some workers have reported other problems they face while collecting rubbish and sweeping the streets. These problems include the need to cross roads with big trucks and occasional flooding, heavy wheelie bins caused by inappropriate sorting of garbage by citizens (e.g. putting construction waste in a household waste refuse collection point), angry citizens threatening or following workers because they feel that the workers have not done a good enough job, and feeling unsafe while changing due to the lack of privacy at certain garbage disposal stations. Some sanitation workers said they faced discrimination from their employer or foreman, some said they faced discrimination from citizens who call them "garbage grandmas".

Table 3.13 Additional issues or workplace hazards experienced by rural sanitation workers.

Other issues	Number of people	Percentage
Getting injured at work	6	12.77
Discrimination from employer	3	6.38
Discrimination from citizens	5	10.64
Increased workload under COVID-19	1	2.13
Getting threatened	1	2.13
Having to clear up animal faeces	3	6.38
Having to clean up private spaces	1	2.13
Having to urinate into a box	1	2.13
Not having space to store personal items, change uniforms, or rest	47	100.00



Figure 3.13. The volume of refuse disposed of in rural villages often exceeds the capacity of the assigned 660s. This shows that the amount of refuse sanitation workers have to process also exceeds the original volume designated by the government.

#### **14. Workers' needs and suggestions for improvement**

Sanitation workers have stated their needs and suggestions for improving their working environment under increasing frequency of extreme weather conditions. As many as 28 (60%) interviewees have suggested building a mobile resting station next to their refuse collection spot. While sanitation workers might have space to rest at their roll-call point in town, a guaranteed space to have quality rest is lacking in their actual workplaces. The capacity of sanitation workers to find adequate resting spots is limited because they cannot leave their assigned cleaning beats during the day. Even walking 15 minutes to a public washroom to get water can be too far due to the expectation that they keep working throughout their entire workday. A resting station would guarantee shelter from extreme heat, wind, and rain, as well as a safe space to change out of their sweat-soaked uniforms. 27 sanitation workers have stated their need for running water, 20 have stated that they need electricity. Water is important for drinking, for cleaning and cooling down their bodies, and for washing their sweat-drenched uniforms. Electricity is needed for charging personal cooling items such as fans, or emergency devices such as cell phones.

Workers have advocated for an increase in the workforce. Wheelie bins are designed for two people to unload, but most current stations only have one sanitation worker serving the population. Sanitation workers are already faced with heavy loads intended for more than one person to handle. Two foremen acknowledged that the cleaning workforce is understaffed. Gross garbage amounts and sanitation workers' workloads are projected to further increase with development and resultant population growth in the New Territories (Yuen Long, for example, will experience a 66% increase in population in the next 20 years). Additionally, policies such as the garbage disposal fee policy may result in residents just

illegally dumping their trash in public spaces in an attempt to avoid the cost of the waste disposal, leaving sanitation workers to clean it up and thus increasing their burden of work. In the near future, temperatures in Hong Kong are projected to climb even higher. Therefore, just climate policies should consider expanding the workforce of cleaning workers to lighten the load of all sanitation workers in the extreme heat.

Other improvements have also been suggested by sanitation workers included better, more efficient tools designed for the purposes of sweeping and picking up rubbish in the streets, uniforms that absorb or wick away sweat and keep the body cool (made of fabrics like rayon or cotton), and fans supplied by the employer. Sanitation workers have also called for more long-term improvements, such as hazard pay and post-retirement health insurance.

Table 3.14. Sanitation workers' needs and suggested workplace improvements

Needs and suggestions	Number of interviewees	Percentage
Water	27	57.44
Electricity	20	42.55
<b>Resting spaces</b>	<b>28</b>	<b>59.57</b>
Appropriate tools	1	2.13
Better or more uniforms	5	10.64
Pension	1	2.13
Medical insurance after retirement	2	4.26
Spaces to wash off or change clothes	3	6.38
Increase in number of staff	4	8.51
Light for night shift	1	2.13
Better channels for voicing demands	1	2.13
Fans	6	12.77
Increase in wages	1	2.13

## Conclusions and Recommendations

Our interview findings show that, under climate change, rural sanitation workers' jobs require them to spend long hours in the heat and extreme weather. Often, work requires them to be located where water, resting spots, and spaces to maintain hygiene are limited or inaccessible. In order to adapt to increasing temperatures, workers finance their own tools, water, and protective gear. However, such self-financed adaptive strategies are seldom enough to protect workers from heat stroke and other occupational diseases. We also found that workers themselves have creative solutions and suggestions for extreme weather adaptation.

Below, we summarise the current working conditions of rural sanitation workers, emphasise the lack of adaptive provisions from FEHD and its subcontractors for working in extreme



heat by comparing existing (2021) provisions to the recommendations listed out by the Labour Department (2010). We also provide recommendations of our own.

Table 4.1. An assessment of FEHD/subcontractor provisions in accordance with the Labour Department's recommendations in alleviating heat stress for outdoor sanitation workers.<sup>18</sup>

Labour Department Recommendations	FEHD/Subcontractor Provisions (Y/N) (as per findings)	Our Recommendations
Where feasible, has the employer set up shelter or shade at the workplace?	<p>✗</p> <p>Employers have not provided shelter at the place of work. The only shelter available is at the roll-call point, which may be located as far as 45 minutes away. Sanitation workers thus occupy refuse collection points, construct makeshift shelters, or use nearby public toilets to escape the heat and extreme weather.</p>	We recommend that the government mandate employers to provide <b>mobile resting stations</b> for workers at each cleaning beat, similar to the resting amenities provided to bus drivers. These stations will provide shelter from rain, wind, and the sun.
Where feasible, have administrative measures been taken to avoid working in extremely hot environments for long periods of time (for example, rearranging outdoor work to cooler times during the day)?	<p>✗</p> <p>Sanitation workers' schedules are dependent on the schedule of refuse pick-up trucks. They must transport all the refuse in their beat to the designated pick-up point before the trucks come to collect it. Some workers have to postpone their lunch hours to make the schedule.</p>	We recommend that the government create a mandate to <b>reduce work intensity and work hours</b> on extremely hot days. This is similar to what countries with increasingly hot climates, such as Qatar and China, are doing. <sup>19</sup> Employers should develop a strategy with refuse pick-up companies where refuse pick up does not coincide with the hottest hours of the day.
Are workers provided with cool and accessible drinking water?	<p>✗</p> <p>While there is abundant water supply at the roll-call point, workers are only given a single bottle of water to take with them to their beat. In the extreme heat, workers often have to bring or buy extra water, which can increase their physical or financial burdens, respectively.</p>	We recommend that the government mandate employers to provide <b>mobile resting stations</b> with running water for workers at each cleaning beat.
Are workers reminded to drink plenty	<p>✓</p>	Rather than encouraging workers to protect themselves from

<sup>18</sup> Occupational Safety and Health Branch, "Assessment of heat stress on outdoor cleaning working environments", Labour Department, 2010, <https://www.labour.gov.hk/tc/public/pdf/oh/CleaningWorker.pdf>

<sup>19</sup> Adewumi-Gunn, Teniope, "Workplace heat protections across the globe", NDRC, September 15 2021, <https://www.nrdc.org/experts/teniope-adewumi-gunn/workplace-heat-protections-across-globe>

of water and pay attention to their physical conditions?	FEHD has notices encouraging foremen to remind workers to drink water. However, having reminders does not mean they provide workers with the resources to do so.	heat stress, we recommend that the government mandate employers to provide protection and resources according to the guidelines.
Are sheltered places provided for workers to rest as needed?	✗ Employers have not provided shelter at the place of work (see employers' implementation of recommendation 1).	We recommend that the government mandate employers to provide <b>mobile resting stations</b> for workers at each cleaning beat with running water (See recommendations 1 and 3)
Where feasible, are fans provided in resting areas to increase air flow?	✗ While fans are supplied at roll-call points, they are absent at the location of work. Workers have to purchase portable, battery-powered fans for cooling because they do not have any resting amenities or electricity.	We recommend that the government mandate employers to provide <b>mobile resting stations</b> with running water and sufficient electricity for workers at each cleaning beat. Electricity can be provided by solar panels to increase the sustainability of the resting station.
Has enough drinking water been provided to the workers or is drinking water accessible near the place of work?	✗ Workers are not provided with sufficient amounts of drinking water (see recommendation 2).	We recommend that government mandate employers to provide <b>mobile resting stations</b> for workers at each cleaning beat with running water (See recommendations 1, 3, and 5)
For workers who work alone in remote places, are there any effective communication equipment or other appropriate measures to call for assistance in emergency situations?	✗ Sanitation workers have their own mobile phones to call for ambulances when suffering from heat stroke. However, they tend to feel safer asking for help from their family members than their employers, who should be responsible for their health and work.	We recommend that employers normalise discussions of occupational health and safety in relation to extreme weather and heat, to allow workers to feel safe to ask for help from employers in related emergency situations.
If applicable, are workers provided with wide-brimmed hats to block the sun?	✗ Employers only provide workers with baseball caps, which do not provide adequate protection from the sun. Workers tend to buy their own wide-brimmed hats for UV protection.	We recommend that employers provide broader brimmed hats after discussions with the union, or that they provide stipends to workers to purchase suitable UV and weather protective gear.
Do workers wear thin, breathable clothing?	✓ Currently, FEHD workers' uniforms are of breathable material. However, the number of uniforms provided are not enough. There is also no space to change uniforms after a sweaty morning of work.	We recommend that employers increase the number of uniforms allocated to each worker, and that they provide <b>mobile resting stations</b> for workers at each cleaning beat with running water. These resting stations provide a safe space for workers (who are often women) to change out of sweaty

		clothing, and the running water allows them to rinse used uniforms.
Are the reflective clothing worn by the workers breathable and conform to their body shape?	TBD. Data from findings do not provide an answer to this question.	We recommend that employers seek input from workers on whether the design of the reflective vests is suitable for work in extreme heat.
When workers must wear airtight work clothes and breathing apparatus (such as when spraying pesticides) on hot days, have sufficient precautions been taken?	N/A	N/A
Are workers acclimated to the hot work environment?	✗ Many workers suffer from heat stress or heat stroke. This shows that they are not acclimated.	We recommend that the government enact regulations for reductions of work hours or work bans in the extreme heat. <sup>20</sup> The government could refer to Guangdong Province's "Hot Weather Labour Law," where, at 35°C, employers are required to decrease working hours, and at 40°C, to suspend outdoor work.
For workers who are working in a hot environment for the first time, are lighter workloads or shorter working hours arranged for them gradually increased to help them adapt to the hot environment?	✗ Sanitation workers' schedules are tethered to the schedule of refuse pick-up trucks. Moreover, adaptations to heat should be available to all workers in early summer when extremely hot days begin to happen more frequently.	We recommend that the government create a mandate to <b>reduce work intensity and work hours</b> for sanitation workers on extremely hot days (see recommendation 2).
Are suitable and sufficient cleaning tools provided to reduce the effort during cleaning?	✗ Multiple workers have modified their cleaning tools or have had to purchase new ones to increase their efficiency and decrease time spent under the sun.	We recommend that employers provide cleaning tools in accordance with discussions with the unions, or that they provide stipends to workers to purchase their own tools suitable for using in extreme weather or heat.

<sup>20</sup> This was also a suggestion made in Oxfam, *Hong Kong's Outdoor Sanitation Workers*, 2021. Citing Guangdong Province's "Hot Weather Labour Law" (高温天氣勞動法), Oxfam recommended that the government establish a "heat index" or other standard indicators as a criterion for pausing outdoor work, so as to reduce the risk of heatstroke among workers. For information on other countries' labour laws, please see Appendix 2.

Are suitable and sufficient trolleys provided to reduce the physical effort required to transport waste materials and tools?	✗ Sanitation workers are provided trolleys, but are forbidden to use the carts to load wheelie bins for easier transportation.	We recommend that FEHD improve their designs for wheelie bins (see recommendation below), and increase its rural cleaning workforce in proportion to the population growth in the area, so that workers will not have to work solo and use trolleys as a last resort.
Are the wheels of the trolley properly maintained? Is the trolley easy to push?	✗ Wheelie bins are poorly designed; their wheels are flimsy, of poor quality, and incapable of easy movement of the bins, which are not maneuverable at all.	We recommend that FEHD improve their designs for wheelie bins, especially in terms of maneuverability on slopes and uneven surfaces. We also recommend that they repair the wheels of the bins frequently.
Is there enough manpower or machinery to handle large amounts of heavy materials, such as construction waste?	✗ Construction waste is often discarded into household waste collection points, of which sanitation workers are responsible for. However, despite the heavy load, the cleaning workforce is understaffed, and while official regulations stipulate that the wheelie bins be moved by a pair of workers, the lack of manpower means that most workers have to move the heavy bins alone. This causes injuries or chronic occupational diseases.	We recommend that the FEHD and its subcontractors increase its rural cleaning workforce in proportion to the population growth in the area. This will alleviate the heavy burdens sanitation workers have in processing not only (illegally dumped) construction waste, but also household waste.
Are work schedules reasonable and practical under extreme weather circumstances to reduce intensity of physical labour?	✗ Sanitation workers' schedules are dependent on the schedule of refuse pick-up trucks. They might be able to rearrange work only after the refuse pick-up to stay out of the heat.	We recommend that employers work with refuse pick-up companies to develop a strategy where refuse pick up does not coincide with the hottest hours of the day (see recommendation 2).
Are workers allowed appropriate rest (or changes in job positions)?	✗ Workers are often afraid to take breaks in case of being perceived as being lazy. Usually they will sit down when they are feeling dizzy.	We recommend that employers normalise discussions of occupational health and safety in relation to extreme weather and heat, to allow workers to feel safe to take sufficient breaks while working in extreme heat.



Higher heat levels caused by climate change deteriorates working conditions and decreases labour productivity.<sup>21</sup> Workers experience increased disruption of work patterns due to increased heat-humidity levels. Decent work in such conditions means that regulations to change working hours and increase quality and quantity of rest, adequate cooling and shading infrastructure, training and awareness on extreme weather adaptation strategies, and increased social protection are needed.<sup>22</sup>

Based on the stated needs and suggestions by sanitation workers, we find that adequate cooling and shading infrastructure is urgently needed in rural refuse collection and street cleaning beats in Hong Kong. As such, we suggest that rural sanitation workers' quality of rest can be improved primarily with a mobile resting station equipped with water and electricity, located near their main refuse collection point (Figure 4.1). The benefits of the small resting station is summarised below:

1. It is close to the worker and is thus an accessible resting spot
2. It provides sanitation workers, who are usually women, a safe space to change out of their sweaty uniforms
3. Water and electricity equipped in the station provides a safe supply of drinking water, a way of rinsing soiled uniforms, and a power source for cooling appliances such as fans
4. It provides shelter from heat, sun, rain, and wind
5. It allows sanitation workers some distance from bacteria and viruses that may arise from the garbage

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<sup>21</sup> ILO, *Working on a warmer planet: The impact of heat stress on labour productivity and decent work* (Geneva: International Labour Office, 2019), accessed October 18, 2021, [https://ghhin.org/wp-content/uploads/wcms\\_711919-1.pdf](https://ghhin.org/wp-content/uploads/wcms_711919-1.pdf)

<sup>22</sup> ILO, *Guidelines for a just transition towards environmentally sustainable economies and societies for all* (Geneva: International Labour Office, 2019), accessed October 18, 2021, [https://www.ilo.org/wcmsp5/groups/public/---ed\\_emp/---emp\\_ent/documents/publication/wcms\\_432859.pdf](https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/documents/publication/wcms_432859.pdf)

6. It provides storage space for personal items and cooling items such as fans



Figure 4.1. A model of what a resting station could look like. Solar panels could be installed on top of the station to provide electricity.

To reduce sanitation workers' work intensity and work hours in the heat or rain and wind, we recommend that:

1. FEHD and its subcontractors work with garbage truck companies to develop a strategy where refuse pick-up does not coincide with the hottest hours of the day
2. FEHD and its subcontractors provide a sufficient stipend for workers to purchase their own protective equipment and tools to increase cleaning efficiency, or to develop or source tools and protective equipment in accordance with input and needs of workers
3. FEHD and its subcontractors increase its rural cleaning workforce in proportion to the population growth in the area. This will alleviate the heavy burdens current sanitation workers have to carry in processing not only (illegally dumped) construction waste, but also household waste
4. The HKSAR Government enact an "extreme heat labour law" where there are standards and regulations for reductions of work hours or work bans in the extreme heat.<sup>23</sup> The government could refer to Guangdong Province's "Hot Weather Labour Law," where, at 35°C, employers are required to decrease working hours, allow workers (quality ) rest, and pay workers "High Temperature Subsidies" ranging from RMB 8 to 200 per day. At 40°C, outdoor work must be suspended. Workers must be compensated if they have heat stroke or heat stress-related health problems.

To better training and awareness on extreme weather adaptation strategies, we

<sup>23</sup> This was also a suggestion made in Oxfam, *Hong Kong's Outdoor Sanitation Workers*, 2021. Citing Guangdong Province's "Hot Weather Labour Law" (高温天氣勞動法), Oxfam recommended that the government establish a "heat index" or other standard indicators as a criterion for pausing outdoor work, so as to reduce the risk of heatstroke among workers. For information on other countries' labour laws

recommend FEHD and its subcontractors:

1. Normalise discussions of occupational health and safety in relation to extreme weather and heat, to allow workers to feel safe to take safety precautions recommended in awareness raising and training sessions

To increase social protections for sanitation workers, we recommend:

1. The government continue providing health care to their civil servants and subcontracted workers post-retirement, due to the long-term effects of heat on workers' health<sup>24</sup>
2. The government mandate that workers receive worker injury benefits during lunch hour. Due to the lack of cooling systems and shelter, heat and extreme weather continue to affect workers during lunch hour<sup>25</sup>
3. The government mandate that workers receive a *non-zero* amount of hazard pay<sup>26</sup> if working in any rainstorm warning signal, a typhoon signal 3 or above, or in the hours where the temperature reaches or exceeds 33 degrees Celsius

While the new climate action plan of the Hong Kong government has ambitious targets and technologically-oriented solutions to cut carbon emissions, it is still lacking in efforts to provide resources and social protections for frontline workers who carry out their jobs in increasingly hot and extreme environments.<sup>27</sup> The transition to a low carbon, climate-ready society cannot be done justly without protecting and improving the wellbeing of workers<sup>28</sup>. Our study has shown that rural sanitation workers often lack resources and space to adapt to climate changes that they are already acutely experiencing in their workplace. And despite years of lip service to climate adaptation, government departments such as FEHD and big subcontracting companies still refuse to adopt measures that guarantee worker safety and dignity. As extreme weather events become more frequent, we argue that, in addition to climate policies such as emissions reduction, policies are urgently needed to provide workers with essential protections such as adequate resting spaces away from extreme environmental conditions, compensation, and long-term healthcare.

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<sup>24</sup> Long-term effects on chronic heat exposure include cardiovascular diseases, chronic kidney diseases, and declines in mental health. See: Jianjun Xiang et al., "Health impacts of workplace heat exposure: An epidemiological review", *Industrial Health* 52, no. 2 (2014): 92.

<sup>25</sup> *Ibid.* Heat exposure during work can have negative effects such as fatigue, impaired judgment, loss of dexterity, coordination and concentration. These negative effects can continue during lunch hour; even though lunch hour is supposed to be a duration of rest, rural sanitation workers are still continuously exposed to heat. Therefore, as a result of work, sanitation workers may still be prone to occupational diseases during lunch hour, and thus should be entitled to health insurance during that time.

<sup>26</sup> Currently, many subcontractors list the hazard pay for working in a black rainstorm warning signal or a typhoon signal number 8 as \$0. This is because they are legally allowed to fill in the compensation amount as \$0 in employees' contracts. For details, please see: HKCCLA, "Survey on subcontracted cleaning workers", 2018.

<sup>27</sup> *Hong Kong's Climate Action Plan*, (Hong Kong: Hong Kong SAR Government, 2021), accessed October 18, 2021. [https://www.climate-ready.gov.hk/files/pdf/CAP2050\\_booklet\\_en.pdf](https://www.climate-ready.gov.hk/files/pdf/CAP2050_booklet_en.pdf)

<sup>28</sup> Carbon Care Inno Lab, *A just transition for Hong Kong: A sustainable future for all in a climate-vulnerable city* (Hong Kong: Carbon Care Inno Lab, 2019), accessed October 18, 2021, <https://www.ccinolab.org/uploads/media/A%20Just%20Transition%20for%20Hong%20Kong.pdf>

# Appendix 1: Refuse Collection Points visited during site visits

地區 District	點名站 Roll-call Point	垃圾站及豬站編號 Refuse Collection Point and No.		種類 Type				
				磚式 Concrete	鐵皮 Iron Sheet	纖維 Aluminium	桶位 Bins Only	豬站 Pen
元朗 Yuen Long	錦田郵局後 Behind Kam Tin Post Office	元崗村	YL74			x		
		水盞田	YL78	x				
		牛徑村	YL57	x				
		萬家園	YL83		x			
		上村油站	YL81	x				
		上村古廟外站	YL53		x			
		八鄉古廟內站	YL188			x		
		永寧里村入口	YL68			x		
		永寧里村內	YL58	x				
		永寧里下圍				x		
		中心村					x	
		羅屋村	YL59			x		
		永慶圍站			x			
		石湖塘菜站	YL166	x				
		水尾村（鄉村俱樂部前）					x	
	東堤站 Tung Tai St. Refuse Collection Point	石屎離街站	YL2					
		青山公路潭尾下新圍村	YL145	x				
		青山公路米埔段米埔村	YL55			x		
		流浮山道	YL90	x				
		流浮山道近迴旋處	YL132			x		
		流浮山鳳降村	YL131	x				
		流浮山道	YL134		x			
		流浮山道	YL202	x				
屯門 Tuen Mun	青柏徑 Tseng Choi St. Refuse Collection Point	石屎離街站	TM7					
		大欖涌聯安新村西	TM55	x				
		新慶村五柳路	TM73			x		
		屯子圍	TM			x		
		青磚圍	TM	x				
		亦園村	TM23	x				
		舊咖啡灣站	TM42	x				
		藍地福亨村路	TM18	x				
大埔	大埔街市	大窩村	TP58				x	

Tai Po	Tai Po Market	元嶺村	TP59			x		
		九龍坑村	TP60	x				
		塘坑東村(一)	TP100			x		
粉嶺 Fanling		上水	N16	x				
		粉嶺鶴藪	N107					
西貢 Sai Kung	宜春街 Yi Chun Street	飛鵝山道與飛雲路 交界	SK4	x				
	Refuse Collection Point	飛鵝山道與飛霞路 交界	SK5	x				
		飛鵝山與百花林道 交界	SK6	x				
		大藍湖站	SK311			x		
		蠔涌田寮村	SK336			x		
		蠔涌山薯窩	SK401			x		
		井欄樹停車場	SK7	x				
		井欄樹心朗近燈柱 V7816		x				
		將軍澳村垃圾站				x		
沙田 Shatin		十二笏	ST49			x		
離島 Outlying Islands								
大嶼山 Lantau		昂坪巴士站公廁側		x				
		稔樹灣海傍	PC17			x		
		新圍村				x		
		梅窩白銀鄉				x		
		梅窩橫塘近 80 號				x		
		貝澳老圍村				x		
長州 Cheung Chau		中興街大石口				x		
南丫島 Lamma		榕樹灣大街				x		
		榕樹灣大街				x		

Appendix 2: Regulations on working in high temperatures in various countries.<sup>29</sup> Temperatures are based on the wet bulb globe index, which is calculated based on the effects of humidity on temperature.

Country	Wet Bulb Globe Index	Regulations
Hong Kong	NA	No regulations regarding occupation health and safety and adaptations to heat; only non-binding suggestions available through the Labour Department
Mozambique	33	Mining activities must be suspended when temperatures exceed 33°C
China	35	At 35°C, employers are required to decrease working hours and reduce work intensity during hot days. At 40°C, outdoor work must be suspended. Workers must be compensated if they have heat stroke or heat stress-related health problems. At 35°C, workers are also eligible to receive hazard pay, or "High Temperature Subsidies" ranging from RMB 8 to 200 per day.
South Africa	30	Employers must conduct medical monitoring for heat, ensure workers are acclimatized, provide heatstroke prevention training and first-aid if a heat-stroke occurs
Germany	26	If temperatures exceed 26°C, adequate ventilation, reduced work hours, drinks, and relaxed clothing must be provided. If temperatures exceed 35°C, cooling devices such as misters, frequent breaks, and heat protective clothing are required
Qatar	32	If temperatures exceed 32°C, all work must stop. There is a work ban between 10am-3:30pm in the summer months.
Brazil	32.2	No work is permitted when temperatures are above 32°C without appropriate control measures

<sup>29</sup> Adewumi-Gunn, Teniope, "Workplace heat protections across the globe", NDRC, September 15 2021, <https://www.nrdc.org/experts/teniope-adewumi-gunn/workplace-heat-protections-across-globe>



## **WE NEED SOME SHELTER:**

### **ASSESSING WORKING CONDITIONS AND THREATS CLIMATE CHANGE AND EXTREME HEAT POSE TO HONG KONG'S RURAL SANITATION WORKERS**

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Hong Kong Food and Environmental Hygiene Department Staff Rights Union  
Government Frontline Employees Union  
Centre for Community Care

