Evaluating the impact of COVID-19 on the human security of low-income migrant workers in Singapore: Perspectives among policymakers, community stakeholders, and academic experts

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Abstract—: This research examines human security issues of low-income migrant workers in Singapore as a result of the COVID-19 pandemic. We conducted stakeholder interviews and a review of secondary data, which were deductively analysed using themes adopted from a United Nations Development Programme human security framework. This research found that while several efforts by civil society and the government have been assessed to make a lasting, positive impact on human security, other areas may still have fallen short. We suggest that despite efforts to address the immediate needs of migrant workers, structural changes are needed to create a lasting impact on these workers who are instrumental to the nation's growth.

Keywords : low-income migrant workers, human security, COVID-19, Singapore

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Introduction

Being a labour-deficient country, Singapore has been importing low-income migrant workers from developing countries in Asia to work in sectors such as maritime industry and construction. The import of such low-income migrant workers has been economically viable for the government, as such labour is cheap and labour policies in Singapore have allowed for easier control of the migrant worker population (Kaur 2007). Currently, foreign workers represent a third of the country's workforce (Powers 2019, 70). As Singaporeans become increasingly educated, Singapore faces labour shortages in low-skilled occupations. While the importation of low-income migrant workers to do construction work like Housing and Development Board (HDB) flats contributes to the well-being and comfort of Singaporeans' living conditions, the living conditions of low-income dormitory-dwelling migrant workers were a controversial issue during the COVID-19 outbreak in Singapore. There were concerns and ongoing debates over human security issues about the management of COVID-19 clusters in low-income migrant workers' dormitories, provided a focus for this research to examine these issues.

Singapore's management of the COVID-19 pandemic won praise in the early days of the pandemic. Prime Minister Lee Hsien Loong's remarks on the COVID-19 situation in Singapore, delivered on 10 April 2020, three days after Singapore's initiation of its lockdown (the 'circuit breaker') to control the spread of COVID-19, included the Singapore government's commitment to paying attention to low-income migrant workers' health and socioeconomic issues (Prime Minister's Office Singapore 2020). However, according to Woo (2020), one critical deficiency in Singapore's political capacity in responding to COVID-19 was insufficient communication between the State and Civil Society Organisations (CSOs), particularly CSOs that deal with migrant workers' welfare.

The human security of low-income migrant workers in Singapore was particularly a critical and controversial issue during the COVID-19 outbreak in migrant workers' dormitories.

This had shown policymakers the 'cramped and unsanitary living conditions' that many migrant workers were made to live in by their employers (Woo 2020, 354-5). In a critical assessment of Singapore's response to the COVID-19 outbreak, Huat and Wong explain that calls from CSOs like Transient Workers Count Too (TWC2) for better work and living conditions for foreign workers has always been ignored due to 'the wider political system and the secure position of the ruling party: it has never felt the need to succumb to pressure from the odd civil society group' (Abdullah and Kim 2020). Moreover, Chua et al. (2020) highlighted that one of the lessons learnt from the COVID-19 outbreak in Singapore is that more attention should be given to vulnerable groups in the country including migrant workers living in dormitories, and improvement in living conditions is needed to prevent a similar outbreak. Yuen et al. (2021) concluded that a state-led response model like Singapore's had brought early success, but failed to prevent the COVID-19 outbreak among the migrant workers' population.

In fact, the living conditions of low-income migrant workers' dormitories have always been a significant issue that civil society organisations (CSOs) in Singapore have been anxious about. CSOs have been advocating for better living conditions for migrant workers. However, there is limited ability for CSOs in Singapore to influence the government on its policy position regarding foreign labour, or participate in the policy process (Marti 2019). In other words, due to the restrictions on expression, assembly, and association, spaces for CSO action in Singapore are constrained and there is little chance for 'governance from below' (Marti 2019, 1354). Moreover, there have been negative portrayals and misconceptions of low-income migrant workers in Singapore, Bal (2017) analysed that such issues have been perpetuated by state authorities and by society in general. These misconceptions include, that (i) migrant workers will be rich when they leave Singapore for their home country (ii) migrant workers are victims of 'errant employers', and (iii) migrant workers are a threat to Singapore society. Consequently, with such misconceptions in mind, there is limited understanding of the need to improve migrant workers'

working and living conditions in Singapore.

COVID-19 has impacted the livelihoods of many in ASEAN countries (The ASEAN Secretariat 2020). In exploring the vulnerabilities, challenges and opportunities in the context of labour migration in Asia during COVID-19 outbreak, Suhardiman et al. (2021) concluded that documented low-income migrant workers in Singapore were better placed during the outbreak as Singapore in comparison to migrant workers in other Asian countries. This was due to the government implementing the policy of paying migrant workers basic salaries and providing food, accommodation, and timely medical care.

At the time of researching and writing this paper, much has been written about the management of the COVID-19 situation in Singapore. Still, limited attention has been given to the human security issues of low-income migrant workers in Singapore as a result of the pandemic, which is a significant area of concern to gain an in-depth understanding on the way in which the COVID-19 outbreak and the management of the outbreak brought fundamental impact to the different aspects low-income migrant workers living in Singapore. According to the United Nations Development Programme (1994), there are two main aspects of human security. 1. Safety from chronic threats such as physical or mental illness 2. Protection from sudden and hurtful disruption such as homes, jobs or communities. The seven possible types of human security threats that Human Security Unit United Nations (2009) proposed are 1. economic security (e.g. persistent poverty, unemployment) 2. food security (e.g. hunger, famine) 3. health security (e.g. deadly infectious disease, unsafe food, malnutrition, lack of access to basic health care) 4. environmental security (environmental degradation, resource depletion, natural disasters, pollution) 5. personal security (e.g. physical violence, crime, terrorism, domestic violence, child labour) 6. community security (inter-ethnic, religious and other identity-based tensions) 7. political security (e.g. political repression, human rights abuses). Thus, a human security perspective is useful to guide future interventions that hope to address human security issues that have

worsened as a result of the pandemic, as well as those that have existed even before the pandemic.

The aim of this paper is to highlight the human security issues that low-income migrant workers in Singapore have faced as a result of the onset of the COVID-19 pandemic and its associated control measures, and to review the response from the government and CSOs towards the changes in human security issues that resulted during this time. This study complements other studies adopting primary research among low-income migrant workers in Singapore through a combination of stakeholder interviews (policymakers, researchers, and civil service representatives) and secondary research. The findings in this research highlight the need continuously to develop policies to support the roles of civil society and the government in dealing with low-income migrant workers' human security by cooperating and collaborating with different sectors to effect long-lasting, sustainable improvements to low-income migrant workers' human security, in order to safeguard Singapore economic security and national security.

Situating low-income migrant workers in Singapore

As of mid-2020, Singapore's total population was estimated to be at 5.69 million people, including a non-resident population of 1.64 million (29%) individuals who comprise foreign nationals residing and working in Singapore on long-term work or visit passes (Singapore Department of Statistics 2021). Among the 1,231,500 migrant workers in Singapore as of December 2020, 247,400 were low-income migrant domestic workers and 311,000 workers in the construction, marine shipyard and process sectors (Ministry of Manpower 2021a). Immigration and foreign worker policies have been developed intentionally and carefully to address key economic and demographic concerns in Singapore.

Migrant worker policies in Singapore and the city-state's approach towards the importation of migrant labour has been described as being aligned with these neoliberal principles, which

have helped Singapore achieve economic prosperity today. Specifically, scholars have argued that neoliberal capitalist principles have engendered a system that prioritises the pursuit of profit, and undermines access to fundamental labour rights for migrant workers (Dutta 2021). Singapore's foreign workers can be divided into 'foreign workers' and 'foreign talent', the former comprising unskilled labour, and the latter, semi-skilled and skilled workers. In terms of the treatment of such workers, scholars have pointed out that the tiered system of work passes and legislation in Singapore ascribes varying levels of workers' rights depending on how economically desirable a migrant worker is. For example, unskilled and low-income migrant workers on the 'lowest-tiered' work permits are not able to sponsor a spouse or dependent and apply to become Singapore permanent residents, whereas those on the 'highest-tiered' employment pass comprising skilled labour, may do so (Poh 2020). In terms of socioeconomic standing, semi-skilled and skilled workers are also paid a higher salary as mandated by minimum salary levels that are associated with varying work pass types (Seow 2020). For example, as of 2021, the minimum salary for 'S-pass' and Employment Pass holders were Singapore Dollars SGD 2,500 and SGD 4,500, respectively.

Such differentiated treatment of migrant workers has led to key issues around inequities that low-income migrant workers face, such as having low income and not being able to cover their costs working in Singapore, lack of universal health coverage schemes and cramped living conditions. Firstly, the low wages of low-income migrant workers have been cited as reflecting global inequalities, where high-income nations can exploit depressed wages of 'guest workers' from low-to-middle-income countries through 'revolving door' policies (Poh 2020). Furthermore, many low-income migrant workers begin their work in Singapore in debt, having spent an average of SGD 5,000 to SGD 15,000 (approximately United States Dollars [USD] 3,500 to 11,000) in recruitment and training fees, and earning an average of SGD 400 to SGD 800 (approximately USD 300 to 600) per month (Fillinger et al. 2017). Second, while migrant workers are legally entitled to healthcare benefits provided by their employers, they

are not covered by universal health coverage schemes that are extended to the resident population in Singapore, thus raising issues of equity and fairness in the health of migrant workers (Rajaraman et al. 2020). Issues of gatekeeping of healthcare benefits and the vulnerability of workers to repatriation further exacerbate such inequities.

Thirdly, one key issue especially pertinent to the COVID-19 pandemic, are the living conditions of migrant workers in Singapore. Low-income migrant workers in Singapore are currently housed in three types of housing; these include purpose-built dormitories (PBDs), factory-converted dormitories (FCDs), as well as those living or renting out spaces from the private housing market (Ministry of Manpower 2021b). In spite of legislation enacted in 2016 through the Foreign Employee Dormitories Act (FEDA) which govern PBDs and imposition of new requirements for FCDs, housing conditions have been reported to be suboptimal, and have been attributed as the key factor leading to the spike in cases within the migrant worker dormitories. Some reports highlighted how up to 35 men could share a single room, or how 80 men could share a single toilet (Poh and Sim 2020; Yea 2020).

Methods

Study design

Data collection in this research consists of secondary and primary sources of information. The former includes press releases, officially published reports and newspapers, while the latter includes conducting interviews with key informants who have expertise on Singapore society and low-income migrant workers.

Participants

Key informants were contacted through purposive sampling based on their expertise in each of the sectors, from June to August 2021. By having both Singaporean and non-Singaporean people as key informants who have expertise and knowledge of Singapore, migrant workers' human security issues in Singapore were critically assessed from both an insider and outsider point of view.

Interviews were conducted with key informants and policy experts from five sectors: public health, education, media, civil society and economy, to discuss the prevailing human security conditions for low-income migrant workers before the COVID-19 pandemic, and as a result of COVID-19 and its concomitant lockdown measures. A total of ten key informants were identified in these areas, and sampling was guided by the principle of information power (Malterud, Siersma, and Guassora 2016), where participants who had relevant and rich insight (e.g., direct policymakers or individuals directly involved in the provision of community-based services) were sought, and quality of such information was privileged over the quantity of participants.

Data generation

The interviews were semi-structured to assess the public health management in Singapore during the COVID-19 pandemic and the impact of COVID-19 on human security issues in vulnerable groups, with a particular focus on low-income migrant workers' livelihood and living conditions. Conducting semi-structured interviews considers flexibility in response and is more suitable for issues that require exploration to obtain adequate information (Walliman 2018). In order to meet the COVID-19 measures and reduce the risk of researchers and key informants being infected by COVID-19, all the interviews were conducted through online platforms or telephone calls.

Data analysis

Our data was analysed through framework analysis (Gale et al. 2013). We adopted the human security framework developed by the Human Security Unit United Nations and United Nations Development Programme deductively to record how COVID-19 had impacted various types of human security (economic, food, health, environment, personal, community, political) among low-income migrant workers in Singapore. The original human security framework was conceived in 1994 with the domains of economic, health, community, political, food, personal, and environmental security. Since its conception, this broad framework

has been utilised as a tool for examining the varying constructs of human security.

We compared the changes in human security issues prior to and as a result of COVID-19 outbreak in Singapore. We also analysed, through recording of secondary data sources, the changes in human security issues before the first case of COVID-19 was detected in Singapore (23 January 2020), and compared the human security issues that low-income migrant workers faced as a result of the 'circuit breaker' from 7 April – 1 June 2020.

Results

Comparing human security before and as a result of the COVID-19 outbreak

With reference to Human Security Unit United Nations (2009) and United Nations Development Programme (1994), we adapted these to summarise how COVID-19 impacted the various types of human security among low-income migrant workers in Singapore. This is summarised in Table 1 (Appendix 1 at the end of this article). The results in Table 1 are based on our analyses of both secondary data, as well as our key informant interviews. In this section, we draw on our literature review and interview data to discuss the prevailing security conditions for low-income migrant workers before the COVID-19 pandemic, and as a result of COVID-19 and its concomitant lockdown measures.

Table 1. Evaluating types of human security among low-income migrant workers before and as a result of COVID-19 and lockdown in Singapore (Types of human security adapted from Human Security Unit United Nations [2009] and United Nations Development Programme [1994])

Type of Human Security	Before COVID-19	As a result of COVID-19 and lockdown in Singapore
Economic	Poor economic security as low-income migrant workers typically arrive in Singapore with debt and with low wages	Low-income migrant workers are now worse off due to lack of work. Many have been infected with COVID-19 and potential long-term symptoms of COVID-19 may affect their productivity in the long term
Food	Poor quality and insufficiency of food for low-income migrant workers	Exacerbation of food insecurities due to lock-up within dormitories, and lack of choice for food options
Health	Limited health insurance, lack of access to universal health coverage, employers gatekeeping health services	Worse off due to COVID-19 infection; long-term impact of COVID-19

Environment	Cramped living conditions within foreign worker dormitories	Lockdown under tight spaces and lack of mobility
Personal	Mental health of low-income migrant workers suffer as a result of debt, lack of autonomy and agency, poor access to healthcare	Worsening of mental health due to lockdown situations as well as situations back home. Lack of privacy and contact tracing
Community	Prevailing stigma towards low-income migrant workers	COVID-19 motivated xenophobia, stigma and discrimination towards low-income migrant workers
Political	Neoliberal principles and lack of workers' rights have led to a curtailment of rights for lowest-skilled and low-income migrant workers	Inability to travel back to source countries due to lockdown measures that have impacted many low-income migrant workers in Singapore

Economic Security

With regard to economic insecurities, it has been reported that low-income migrant workers are laden with debt from their point of arrival in Singapore, even before they start work. Some pay up to SGD 10,000 (approximately USD 7,500) in agent and training fees just to get to Singapore, and many accumulate debt through interest rates if they borrow money from moneylenders or pawnbrokers to be able to pay off these fees. Given that the average worker earns about SGD1,000 a month (inclusive of overtime), workers are placed in a precarious situation where there is little economic freedom, and that they must, regardless of any injuries, accidents, or illness, be able to fulfill their work requirements up until they are able to pay off their debts, before they can start saving for themselves and their families. The pandemic has exacerbated this precarity through layoffs in certain industries, delayed pay days (Transient Workers Count Too 2020a), as well as bureaucratic barriers to switching jobs within Singapore (Transient Workers Count Too 2021).

Stakeholders interviewed also highlighted how the pandemic meant that many were not able to either come to Singapore or return to Singapore to work, and that those in Singapore were quarantined to the extent that they were not able to work and earn their full salary. One stakeholder shared:

'Some migrant workers went back home last year and they cannot come back to Singapore to work. As for migrant workers who were quarantined in their dormitories, they were not allowed to come out, while food and water were sent to them. There was lots of criticism on this issue'

This was an important aspect for most low-income migrant workers in Singapore, especially when many have paid high agent fees to arrive and are only able to repay their debts to such agents, and remit money back to their families after several years. One

stakeholder recounted what a migrant worker shared during case work:

'We were questioning, is it unusual for a migrant worker to feel down, sad, and hopeless when his salary is not paid on time. He lost his job, he couldn't change his job, he got a huge debt back home. He has been unable to send money back home.'

Health Security

With respect to health, past research has shown that low-income migrant workers faced considerable barriers to accessing universal health coverage (UHC). While employers are mandated to provide health insurance for low-income migrant workers through private insurance providers, the coverage is limited. Furthermore, such coverage exists outside the national UHC system, and there are multiple barriers to accessing such healthcare among low-income migrant workers. These barriers include the high costs of healthcare, employers being gatekeepers to healthcare and medical access, as well as migrant workers' vulnerability to repatriation (Rajaraman et al. 2020).

Key informant interviews and secondary data also show that migrant workers are definitely worse off with respect to health as a result of the pandemic, owing to a disproportionate number of cases among migrant workers at the start of the pandemic, and potentially due to the long-term health implications of COVID-19 infection (Aiyegbusi et al. 2021). Mental health issues were also a concern, with reports of attempts to escape the dorms, or suicide-related behaviors reported among migrant workers:

'Workers are feeling the strain now and I don't think any of us outside can appreciate how serious and terrible the situation is

being stuck in the dorm, being periodically locked down. Workers in the dorm technically are given a few hours off where they can go to the recreation center. […] For migrant workers who are calling us, we are seeing mental health problems coming up, we are seeing distress, emotionally and mentally. And don't forget we talk about long COVID-19'

'Not to mention, this time, there have been conflicts about people living in the same dorm that were not reported and there was quite a lot of attempted suicide. […] There was a lot of attempted suicide that was not reported. There were many attempts to escape the dorms that were not reported.'

Food Security

It has also been reported that low-income migrant workers faced food insecurity prior to the pandemic. A previous study among Bangladeshi migrant workers found that they faced challenges in acquiring food that would meet their health needs (Dutta 2015). Specifically, 86.2% and 80.6% of workers surveyed (n=500) highlighted that the food they receive from caterers 'makes them sick' or is of poor quality. 93.4% of workers in the study also mentioned that the food that they had got from the caterers was unclean. Alarmingly, 71.8% of workers also cited that the quantity of the food they received was not sufficient (Dutta 2015). Such workers are also unable to cook food that they enjoy due to the lack of adequate cooking facilities in the dormitories where they reside. While no secondary data has been published on the impact of COVID-19 on food security for migrant workers, we hypothesise that the lockdown measures may have cut off alternative sources of food that were available in the community, and thus exacerbated food insecurity among migrant workers.

One stakeholder shared how migrant workers were potentially deprived of food in the early days of the pandemic, especially when they were fearful of either being infected by COVID-19,

or were afraid of being taken to quarantine centers:

'And we know who the people are who have not stepped out for a few days and are running out of food. Because workers in the early days were terrified. Those in the community were terrified of stepping out because they were afraid of people being arrested by the police and brought to [the quarantine center] so those were pretty dark times.'

Stakeholders also shared how migrant workers were relatively worse off when it came to food options. While migrant workers were given meals during lockdown, one stakeholder shared how there was a stark contrast in the treatment of Singapore residents and low-income migrant workers, leading to a deprivation of food choices among such workers:

'I think it is easy for residents with homes to lock down. I mean you have space and you have food accessible. You could still go out to the park. But for migrant workers, it was a complete lockdown.'

Environmental Security

In terms of environmental security, the cramped and suboptimal living conditions of migrant workers has led to overcrowding in dormitories. The migrant worker dormitories have been under strict movement control measures since April 2020, and have largely been under lockdown, with the exception of leaving their dormitories to work for their employers (Transient Workers Count Too 2020b). While migrant workers have periodically been allowed to apply for approvals to leave their dormitories for several hours to visit recreation centers which contain amenities and services such as food and beverage outlets, minimarts, barbers and remittance services (Ministry of Manpower 2020), numbers by the government and community-based organisations

estimate that less than 10% of migrant workers have benefitted from the scheme (Transient Workers Count Too 2020b). Within the micro-system of the dormitories, stakeholders also highlight how environmental securities can be viewed through the lens of infection risks for COVID-19, which was heightened for migrant workers. For example, one stakeholder pointed how there was a lack of personal protective equipment even in medical facilities during the early days of COVID-19, and highlighted how residents in dormitories were then left with few options to protect themselves in spite of their heightened risks of acquiring COVID-19:

'And that in a crisis, if hospitals don't have enough masks, how would you expect dormitory operators to gain access to PPE [personal protective equipment] or even know how to use it properly?'

Another issue highlighted was how collaborations between policymakers, employers, and workers led to inefficiencies in implementation of safeguards in a crisis. One stakeholder highlighted how the government creates legislation and policy directions for employers, but ultimately employers are left with the task of enforcing these policies and laws for their workers. In the case of COVID-19, such inefficiencies were coupled with the lack of resources and time, which led to an accumulation of disadvantages for workers in the context of COVID-19 infection risks:

'[The ministry] a policy unit knows that it does not have the manpower to ensure compliance with what the dormitory operators and the employers were doing. But it is inconceivable that [the ministry] had no clues of how ill-equipped the dorm operators and the employers were actually to fulfil the requirement set out in the various directives. So, the way that I see it, and I am glad to be proven wrong, but my hypothesis is that [the ministry] essentially said we are a policy unit, our job is to issue policy and directives, the employers, the dorm operators are private entities, it is not our job to help them. It is our

job to tell them what to do. And if they don't do it then we will punish them, which is a usual attitude we take towards regulated entities.'

Community Security

With regard to community-based security, Singaporeans have held negative attitudes towards migrant workers in Singapore (Jakkula 2020) and this has been expected to have become worse due to heightened xenophobic and racist sentiment that has arisen from the pandemic (Abdullah 2021).

One stakeholder reflected how the Prime Minister of Singapore thanked migrant workers for their contributions to society, and how powerful this was, given prevailing stigma towards these workers. But the stakeholder nevertheless reflected how such attitudes still prevail among the general public in Singapore:

'At the national level, the Prime Minister did a great job. […] He said we will look after you, to all your family in India, Bangladesh, we will look after your sons. Thank you for letting them come to Singapore to help us build the country. […] So that was very powerful. But remember that on the ground, the workers have always been treated very badly by the officials, Singaporeans by and large treat them as second-class or really invisible parts of the community. And many of them come from a very challenging home environment in their community, where minorities and those who stand out can be treated very roughly. So, if that is your mental model coming into Singapore, and you sense that everyone is looking at you and whispering about you. Then it is a deadly situation that you want to avoid.'

Personal Security

While low-income migrant workers were not exposed to greater levels of physical violence, the lockdowns imposed a form of structural violence that led to greater harms in other aspects of

human security. At the personal level, existing stressful situations that may have impacted the mental health of migrant workers prior to the pandemic are definitely exacerbated by the multiple insecurities that the pandemic has brought about. Correspondingly, we have seen a spate of attempted suicides and deaths by suicide among migrant workers since the onset of the pandemic (Bloomberg 2021). This has also been verified by key informants that were interviewed throughout the course of this study, and is reflected in previous sections.

Political Security

At the political level, the rights of low-income migrant workers as guest workers to the economy have been curtailed relative to other skilled workers, and they are now facing greater insecurities around their political situation, given additional barriers and travel restrictions that prevent travel out of the country. Their status as guest workers and not a meaningful and enduring part of Singapore's social fabric remains stagnant even throughout, and after the COVID-19 pandemic. One stakeholder also reflected how this false separation of imaginaries around the migrant worker narrative or story with Singapore's story of progress has not worked out. They suggested that we have tried to do so, such as through the built environment that separates low-income migrant workers in dormitories. But COVID-19 has revealed how we cannot sustain such a false separation of such narratives:

'Migrant workers are a global phenomenon. It's happening everywhere. And in Singapore, particularly, migrant workers are an integral part of our Singapore story. You can't separate them. We had tried to separate them. They are in the dorms. Even throughout COVID-19. Even the language used as far as infections are concerned has kept migrant workers very apart. You have community infections, and dorm infections [referring to how the government separated the counting of infections within the dorms and within the community]. So, we kept it very separate. I think this kind of separation belies the reality of how integral and part of our lives [migrant workers] are.'

Discussion and conclusion

Our study highlighted the changes to human security that low-income migrant workers have faced as a result of the COVID-19 pandemic, and the response by the government and civil society to the situation of these workers. Overall, we believe that low-income migrant workers have faced greater insecurity across all dimensions of human security, including economic, food, health, environment, personal, community, and political forms of security. Our findings also indicate that several efforts are being made to address stigma towards migrant workers in the community, the living conditions of migrant workers, as well as the mental health of migrant workers, in direct response to the impact of the COVID-19 pandemic.

The most tangible and structural change that has taken place in response to the COVID-19 pandemic and its impact on migrant workers, is the building of new dormitories to alleviate space constraints and overcrowding in dormitories. There has also been a commitment by the government to review and improve the specifications for such dormitories, to improve the living conditions of low-income migrant workers (Phua 2020). The government has also indicated that these dormitories will be located closer to residential areas and have therefore urged Singaporeans to appreciate the presence of such migrant workers. These changes are promising, but may be limited in its impact on overall security for low-income migrant workers, if not paired with other interventions. Specifically, such structural changes should also consider how food, health, and personal securities can be improved through the use of space and the built environment, and how interactions between migrant workers and the surrounding resident communities can be fostered to reduce stigma and discrimination towards low-income migrant workers.

While civil society and the government have responded to address the mental health of low-income migrant workers, these efforts have largely been targeted at alleviating the added distress

and mental health burden that the pandemic has brought about; including the impact of being locked-in and the lack of opportunities to engage in recreational or social activities beyond the walls of the dormitories. These efforts, while necessary, may only address the symptoms of an inequitable system, rather than the root of such systemic issues. Specifically, addressing how other forms of insecurities trickle down towards distressing situations for low-income migrant workers would need to be formulated, and a partnership between CSOs and the government would be fundamental for such sustainable, long-term changes to take effect.

Efforts to address stigma towards low-income migrant workers have also been made by government officials. Given Singapore's reliance on low-income migrant workers for economic growth, and the need to better integrate migrant workers into Singaporean society, this research suggests that a sustained effort to destigmatise and integrate such workers is needed and public education campaigns for school-going children, as well as the general public are essential in achieving such goals in the long-run.

A key strength of our study is the use of key informant interviews who are policy experts in the areas of education, civil society, health, economics and media. These individuals were able to discuss policy issues, and assess how migrant workers in general have been impacted by the COVID-19 pandemic in Singapore. On the flipside, the lack of perspectives directly from migrant workers may be a limitation for the study, given that primary data on the experiences of low-income migrant workers may better situate and contextualise how the pandemic has impacted their human security;future research can consider to explore further into this issue.

To conclude, the pandemic and its control measures have negatively impacted all dimensions of human security of low-income migrant workers in Singapore, where gaps were present prior to the pandemic. While some efforts and responses by civil society and the government have been assessed to make a lasting, positive impact on human security, other areas may still fall short. While civil society has stepped up to address the immediate needs

of migrant workers, long-lasting efforts and structural changes by the government are needed to create a lasting, positive impact on these workers who are instrumental to the growth of the nation.

Ethics approval and consent to participate

The research was approved by The Research Ethics Review Committee for Research Involving Human Subjects: The Second Allied Academic Group in Social Sciences, Humanities and Fine and Applied Arts at Chulalongkorn University, based on Declaration of Helsinki, the Belmont report, CIOMS guidelines and the Principle of the international conference on harmonization – Good clinical practices (ICH-GCP) (Protocol No. 058/64 and COA No. 103/2564) and the Saw Swee Hock School of Public Health Departmental Ethics Review Committee, National University of Singapore (REF:SSHSPH-134).

All interviews were performed in accordance with relevant guidelines and regulations. There was approval of the study and informed consent of the participants. This study had considered all research ethics issues to ensure that the interviews with participants were conducted ethically and no one was harmed or at risk of being harmed in providing any information to the researcher. Participants were given relevant information about this study in order to take into consideration the issues raised by their participation in this study. Informed consent was obtained from all participants before conducting the interviews and submitting this manuscript for publication. All participants remain anonymous in the publication of this study. No minor or uneducated/illiterate persons were involved in this study.

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