

# RISKY BUSINESS: DEATH & INJURY ON SINGAPORE'S CONSTRUCTION SITES

## Examining Worksite (Un)Safety Through Conversations with Migrant Construction Workers

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Construction sites are the deadliest workplaces in Singapore. In the first quarter of 2014 alone, there were 19 worksite fatalities; 12 occurred on construction sites.<sup>1</sup> The fatality rate in the construction sector is triple the overall workplace injury fatality rate: in 2013, the workplace injury fatality rate was 2.1 per 100,000 employed persons;<sup>2</sup> in the construction sector, it was 7.0 per 100,000 employed persons.<sup>3</sup> (In 2013, of the 59 fatal workplace injuries, 33 occurred on construction sites).<sup>4</sup> Work injury rates are equally alarming. The total number of reported work injuries - both major and minor<sup>5</sup> - in the construction sector was 2,587 in 2013, a rate of 215 injuries a month.<sup>6</sup> Moreover, these figures likely underrepresent the problem, as unreported

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<sup>1</sup> In the first six months of 2014, there were 17 construction site deaths, a 50 percent increase from the same time period last year. 12 of those fatalities occurred in the first three months - an average of one construction death a week. See Yeo Sam Jo, "50% Rise in Construction Deaths", *Straits Times*, July 4, 2014.

<sup>2</sup> Comparatively, the rate of work-related fatalities in 2010 in Great Britain was 0.71 per 100,000 workers; in Germany, 0.81 per 100,000 workers; in Italy, 1.57 per 100,000 workers; in Spain, 1.76 per 100,000 workers. See Health and Safety Executive, *European Comparisons: Summary of GB Performance*, January 2014, UK: Health and Safety Executive, 2, <http://www.hse.gov.uk/STATISTICS/european/european-comparisons.pdf> (accessed June 16, 2014). A 2013 *Straits Times* article, meanwhile, reported that Australia's workplace fatality rate was 1.9 per 100,000, while Britain's was 0.6 and Germany's was 0.7. See Goh Chin Lian, "Govt to Ramp Up Workplace Safety Efforts", *Straits Times*, May 21, 2013.

<sup>3</sup> Comparatively, in the UK, the rate of fatal injury per 100,000 construction workers was 1.9 per 100,000 workers in 2012/13. See Health and Safety Executive, UK, *Health and Safety in Construction in Great Britain*, 2013, October 2013, UK: Health and Safety Executive, 8, <http://www.hse.gov.uk/STATISTICS/industry/construction/construction.pdf> (accessed June 16, 2014).

<sup>4</sup> Workplace Safety and Health Institute, *Workplace Safety and Health Report 2013: National Statistics*, Singapore: Workplace Safety and Health Institute, 11, <http://tinyurl.com/q4upp3p> (accessed July 23, 2014).

<sup>5</sup> The WSHC's 2013 report distinguishes between major and minor injuries. Major injuries are defined as "non-fatal injuries which are more severe in nature". This is assessed from a combination of factors, "including the nature of injury, part of the body injured, incident type and duration of medical leave". Some examples given include "amputation, blindness, paralysis, asphyxia/drowning and concussion with more than 20 days of medical leave". See WSHI, *Workplace Safety and Health Report 2013*, Annex D, 52.

<sup>6</sup> In the first five months of this year, there were 71 major injuries reported, compared with 62 in the same period last year. See Yeo, "50% Rise in Construction Deaths".

work injuries are a noted complaint among migrant construction workers and migrant worker advocacy groups.<sup>7</sup>

While government statistics may cite the number of workplace injuries and the sectors in which they occur, what is rarely emphasized is the fact that a high percentage of workers who die or are injured on the job are migrant workers. In a 2009 journal article on construction fatalities in Singapore, the researchers noted that fatalities disproportionately involved “unskilled” workers with low education levels between the ages of 24 to 34 – a typical profile of low-paid migrant workers in the construction industry. The study conspicuously omitted workers’ nationalities.<sup>8</sup> It was only in 2013, at the launch of the National Workplace Safety and Health Campaign, that Prime Minister Lee Hsien Loong singled out “foreign workers” as part of two “at-risk” groups in the industries most prone to workplace accidents.<sup>9</sup> This higher risk of workplace accidents, however, was attributed to migrant workers’ “different languages and work practices at home”.<sup>10</sup>

Public discourse on worksite safety in Singapore, in terms of public service campaigns, has a strong tendency to place the onus of responsibility on workers to ensure accidents do not happen. Prominent materials such as posters and banners display taglines such as: “Say No To Risks”, “Don’t Laze. Be Safe.”, and “Stop The Assumptions. Stop Work Accidents” (see Figures 3-6).

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<sup>7</sup> Cai, a Chinese construction worker with eight years of work experience in Singapore, believes that about half the work injuries that occur do not get reported. This is especially so for first-timers, who are unfamiliar with Singapore’s legal system and have fewer social networks. Several construction workers interviewed have also mentioned incidences in which co-workers enter into “private settlements” with employers, whereby they accept a sum of money to return home for medical treatment instead of reporting injuries. In one extreme case, a construction worker, Wang, related how his co-worker’s death – from an eight-storey fall – was allegedly covered up as a suicide by the company.

<sup>8</sup> Florence Yean Yng Ling, Min Liu and Yue Chiau Woo, “Construction Fatalities in Singapore”, *International Journal of Project Management* 27, no.7 (October 2009): 717-726.

<sup>9</sup> The second at-risk group identified was “employees of small and medium-sized enterprises (SMEs)”. The industries where most accidents take place are construction, manufacturing and marine. See Goh Chin Lian, “Govt to Ramp Up Workplace Safety Efforts”, *Straits Times*, May 21, 2013.

<sup>10</sup> Goh, “Govt to Ramp Up”.



Figure 1: Safety banner at construction site, Singapore, 2008.



Figure 2: Safety banner at construction site, Singapore, 2008.



Figure 3 & 4: Posters reproduced from the Work Safety and Health Council website<sup>11</sup>

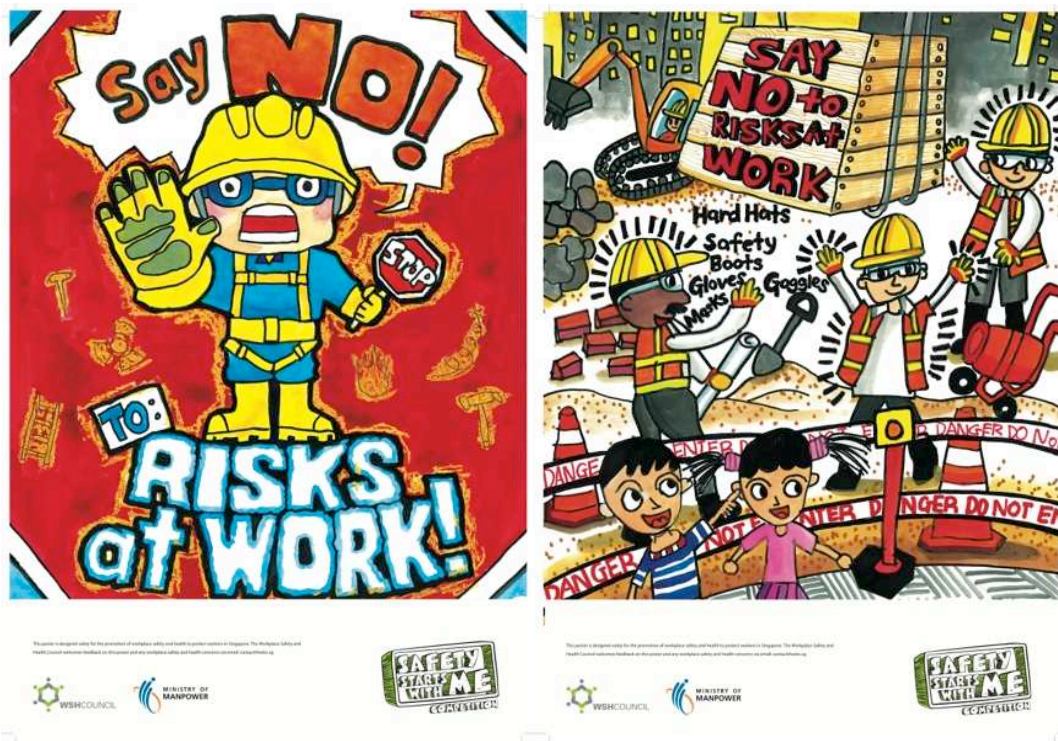


Figure 5 & 6: Posters reproduced from the Work Safety and Health Council website<sup>12</sup>

<sup>11</sup> Work Safety and Health Council, "Gallery>Posters", <http://tinyurl.com/ld8dafq> (accessed July 23, 2014).

<sup>12</sup> Ibid.

Such messages perpetuate an image of the “careless”, “ignorant” and “uneducated” worker. It assumes that safety is not paramount to workers, who are presumed to take reckless liberties with life and limb. This negates the genuine fear and disempowerment many workers in hazardous situations feel daily at their worksites, where a “twist of fate” such as a collapsed crane,<sup>13</sup> falling concrete slab<sup>14</sup> or metal pipe,<sup>15</sup> could mean permanent disability or death. In fact, most of the construction site fatalities in 2012 were a result of such accidents,<sup>16</sup> signaling an urgent need to scrutinize equipment and structural safety as well as maintenance regimes, not only worker behaviour. An attendant concern is how excessive work hours and cost-cutting measures impact workplace safety, as the construction industry grapples with “the dual challenge of working safe while experiencing constant reductions in resources”.<sup>17</sup>

Policy debates about worksite safety, at least in Singapore, have largely been lacking a critical voice: that of construction workers. Yet attempts to formulate a holistic workplace health and safety framework will fail if workers’ perspectives are overlooked in the formulation of long-term action plans. At HealthServe, a local non-profit community development organization that assists migrant workers in distress, we see large numbers of injured migrant construction workers, the majority of whom are from China.<sup>18</sup> Alarmed by the growing death toll of construction workers, we decided to explore the issue of what makes construction sites unsafe, with an emphasis on workers’ perspectives.

### *Methodology and Preliminary Findings*

Between January to June 2014, twelve semi-structured interviews were conducted with Chinese construction workers who had suffered work injuries. A focus group

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<sup>13</sup> K.C. Vijayan, “Engineer in Fatal Crane Collapse ‘Not Liable for Damages’”, *Straits Times*, March 5, 2012; AsiaOne, “1 Dead, 2 Injured as Crane Collapses in Construction Site”, February 29, 2012, <http://tinyurl.com/kyk9bha> (accessed May 18, 2012).

<sup>14</sup> Kezia Koh, “Concrete Slab Falls on Worker, Killing Him”, *Straits Times*, March 11, 2012.

<sup>15</sup> Kimberly Spykerman, “Falling Metal Pipe Kills Worker at Sentosa IR”, *Straits Times*, August 10, 2009; Elena Chong, “Firm Fined \$100K Over IR Worksite Death”, *Straits Times*, June 27, 2009.

<sup>16</sup> Jalelah Abu Baker and Pearl Lee, “Body of Worker Who Fell Into Pit Flown Home”, *Straits Times*, August 28, 2012; Benita Aw Yeong and Rennie Whang, “Death and the Construction Industry”, *The New Paper*, August 2, 2012; Bryna Sim, “Worker Falls to Death in Yishun”, *Straits Times*, May 1, 2012; Kezia Koh, “Concrete Slab Falls on Worker, Killing Him”, *Straits Times*, March 11, 2012; Tham Yuen-C and Lee Xin En, “Two Workers Killed in Separate Accidents”, *Straits Times*, March 1, 2012.

<sup>17</sup> Janice Heng, “Working at Heights: Fewer Safety Lapses Found”, *Straits Times*, July 2, 2013.

<sup>18</sup> In 2013, HealthServe registered 188 work injury cases, an average of 15 new cases per month. These numbers have remained consistent – by end June 2014, HealthServe had already registered almost 100 work injury cases (99 to be exact, of which 96 were Chinese nationals), an average of 16 cases per month.

was also conducted in February 2014 – this involved another eight Chinese construction workers (most were injured, though not all). Insights and data were also gleaned from case notes, affidavits and impromptu conversations with injured construction workers, who spend a considerable amount of time “hanging out” at the HealthServe compound. A small amount of material was reproduced from my doctoral thesis on migrant construction workers, submitted in 2013.<sup>19</sup>

The Chinese construction workers interviewed included “first-timers” – one injured just four months into his new job – as well as highly experienced construction workers who have spent more than a decade working in Singapore. The men we spoke to worked on a range of developments: from prestigious government buildings and public housing projects, to private residences and commercial high-rises. The convergences in the men’s key complaints were thus startling, and a troubling signal that many of the problems highlighted are widespread and systemic. Notably, the interviewees all worked for subcontractors. The main factors influencing work safety emphasized by the Chinese construction workers interviewed include:

- Excessive workloads and unreasonable productivity targets;
- Cost-cutting measures that result in severe time pressures and the reduction of materials and resources (leading to hazards such as unstable scaffolding, or platforms with wide gaps);
- Fatigue from long working hours and a lack of rest days;
- External conditions such as Singapore’s weather.

These factors were enabled, as well as exacerbated, by their bosses’ and supervisors’ general disregard for workers’ safety and wellbeing, and zero tolerance for dissent. Ultimately, the priority, as one construction worker pointed out, is to maximize profits: “The company does not care if we live or die, as long as we help them earn a lot of money.”<sup>20</sup>

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<sup>19</sup> My PhD thesis on low-paid migrant workers was submitted in November 2013 and can be viewed here: <http://researchrepository.murdoch.edu.au/22465>.

<sup>20</sup> Interview with Tao, a construction worker from China, HealthServe, January 4, 2014.

The following sections elaborate on each of these key factors, with examples and quotes from construction workers (pseudonyms are used to protect the men's identities). By sharing these preliminary findings, HealthServe hopes to contribute to shaping the discourse on workplace safety through:

- Highlighting some under-examined factors that make worksites so risky for construction workers;
- Pointing out further areas of research and policy attention so as to eventually reduce workplace hazards for migrant construction workers;
- Generating greater concern for the problem of workplace (un)safety, which has become “normalized”.

## THE BIG SQUEEZE: DOING MORE WITH LESS

*“They [our bosses] don’t care about safety,  
only about speed and us completing our work fast.”*

*~ Tao, Chinese construction worker*

All the construction workers interviewed emphasized the speed at which they were expected to work. Productivity targets were deemed excessive, with workers echoing a common refrain: 工程量太大 or 分量不合理, in other words, “The work load is too much/unreasonable”. This resulted in the men working furiously hard *and* fast, with implications for work safety. Explains Yang:

Say, for example, we manufactured cups, and made five cups a day. The next day, we will be asked to make six cups. If we accomplish that, the supervisor will think, you can do more! Try seven, maybe eight. If you manage it, everyone else on the site will also have to finish seven or eight, as the supervisor will say: He can do it, you can too! Are you being lazy?<sup>21</sup>

Such examples were common. Gui says:

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<sup>21</sup> Interview with Yang, a construction worker from China, HealthServe, March 25, 2014.

If we are asked, for example, to make a table and usually finish it in one day, the boss will suddenly push you to finish it in three hours! So you rush like mad, and do everything really fast, but one cannot work well – or safely – like that.<sup>22</sup>

There are consequences for not keeping up. Construction workers whose work performance is assessed according to their productivity (that is, “per piece” of work done) rush to meet designated targets to avoid financial penalties. According to Zhao, if workers on his site did not complete the amount of work assigned to them, their employer would refuse to pay them for the full number of hours they have worked; instead, a lesser number of hours would be recorded on their time cards (for example, though Zhao may have worked 10 hours, the employer only pays him for 8 or 9 hours).<sup>23</sup> Liu relates a similar situation: “My boss only wants to earn money. If he gives me a work target that I cannot complete, instead of giving me the \$10 he promised, he only pays me \$8.”<sup>24</sup>

Working at such speeds – and with few rest breaks – takes its toll on focus and attentiveness. As Bing points out, “If you want speed, you cannot be safe. If you want things to be safe, then it cannot be fast.”<sup>25</sup> Cai explains, “Perhaps, with my original workload, I can walk at a comfortable pace from one area to another. But as I am asked to finish more and more, I will start to hasten my pace. As they add even more work, I will rush about, and perhaps miss a step, or not notice things in my way.”<sup>26</sup> It is also common for construction sites to be messy, with materials strewn everywhere, creating further hazards (see Figures 7 and 8).

Wang, a woodworker whose work target was increased from two storeys a month to two-and-a-half, said the men had to “work as if their life depended on it” [拼命干活].<sup>27</sup> Under such a regime, doing things the safer way would have been “too slow”. Cutting corners, though hazardous, was the only way to keep moving quickly – so materials were kept where they shouldn’t be, construction material (for e.g. planks, bars, pipes) were thrown down several floors (using a pulley would slow things

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<sup>22</sup> Interview with Gui, a construction worker from China, HealthServe, April 24, 2014.

<sup>23</sup> Interview with Zhao, a construction worker from China, HealthServe, June 17, 2014.

<sup>24</sup> Interview with Liu, a construction worker from China, HealthServe, February 19, 2014.

<sup>25</sup> Interview with Bing, a construction worker from China, HealthServe, July 8, 2014.

<sup>26</sup> Interview with Cai, a construction worker from China, HealthServe, March 25, 2014.

<sup>27</sup> Interview with Wang, a construction worker from China, HealthServe, February 24, 2014.

down), and men scurried like ants carrying loads that exceeded safety standards. Wang says that on his site, metal bars should be carried by two persons, but waiting for his partner caused delays, so he simply heaved them up himself. Describes Wang, “All the time, your brain is just thinking, ‘How do I do this faster?’”.



Figures 7 & 8: Materials strewn haphazardly at a worksite. Photo submitted by construction worker, Singapore, 2014.

Not only does the pace of work constantly increase, this is frequently matched by diminishing resources or a reduced headcount. Work that is supposed to be done by three persons is done by two; if one person can do it, says Tao, better still. Gui, who specialized in woodwork, says there were only three others on his site with similar training; he estimates there should have been at least seven to eight persons doing the work they were assigned. Heavy lifting is often done by fewer persons than is deemed safe,<sup>28</sup> with Tao complaining that on his worksite, workers were forbidden from carrying materials in pairs on higher floors, though managing on their own was dangerous. Tao believes that his company “just wants to save money and

<sup>28</sup> In November 2009, I interviewed two Chinese construction workers who were asked to carry a 130kg alloy pipe between them, though construction safety guidelines recommend a maximum load of 35kg per person. TWC2 has also documented instances in which workers have sustained injuries from carrying exceedingly heavy loads, such as glass frames weighing anything from 70-100kg. See Lim Wei Zhen, “Workers Told to Ignore Max Carrying Load Capacity Per Man: Suffer Injury”, *twc2.org.sg*, August 19, 2013, <http://tinyurl.com/lqos68p> (accessed July 23, 2014).

maximize each worker's output, as they have to pay a foreign worker levy every month".<sup>29</sup>

## CUTTING COSTS, COSTING LIVES

Working from heights is risky, but the imperative of companies to cut costs through saving time (thus "manpower") and materials greatly heightens such risks, with the consequences painfully borne by workers. According to Tao – and several other construction workers – scaffolding should be erected by trained specialists; it is a costly and time-consuming process. In certain instances, erecting scaffolding might take more time than the actual task workers are asked to do. To save time and money, Gui's company sometimes directs workers to use a ladder instead. Jiao, meanwhile, fell a metre off a wooden bench clumsily patched from mismatched planks.<sup>30</sup> The company's cost savings in not erecting scaffolding led to Jiao fracturing his left arm. In the event scaffolding *is* erected, it is often done by untrained construction workers, and with less materials than mandated by safety regulations.

Tao fell off scaffolding that wasn't erected properly – to save money, the company had placed less rungs than it should. Already fatigued from a series of 24-hour shifts, Tao unclipped his safety harness to descend from the scaffolding but could not find a comfortable footing. Tao slipped and fell on his back, three metres to the ground.

The scaffolding Zhu was standing on did not even have an upper rung on the side, leaving Zhu nowhere to clip his safety harness, despite wearing one. (Additionally, Zhu was required to do plastering work beyond the one-metre radius of the safety harness.) The planks used were also narrower than normal – 60 cm instead of one

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<sup>29</sup> In Singapore, employers of low-paid migrant workers on R-Pass Work Permits (which the majority of construction workers are on) and S-Passes have to pay the Singapore government a foreign worker levy (FWL) per foreign worker they hire; this is a *monthly* tax. The FWL has been rising over the years, and as of July 2014, ranged from S\$300-\$950 per worker per month (the levy for hiring a female foreign domestic worker is \$265 or \$120, if one qualifies for the concession rate). Another round of increases are due in July 2015, with the levy hitting a high of S\$1050 per "unskilled" construction worker per month. The foreign worker levy, while meant to be paid by employers, frequently results in employers and agents engaging in (sometimes illegal) cost-recovery practices, with workers suffering the consequences in the form of low and stagnating wages, salary deductions, inflated agency fees and kickbacks. See Ministry of Manpower, "Enhancements to Foreign Manpower Policy for Quality Growth and Higher Wages", February 26, 2013, <http://tinyurl.com/m3o36xu> (accessed July 23, 2014); Charanpal Singh Bal, "The Politics of Obedience: Bangladeshi Construction Workers and the Migrant Labour Regime in Singapore" (PhD diss., Murdoch University, 2013), 58-63, <http://researchrepository.murdoch.edu.au/18664/> (accessed July 23, 2014).

<sup>30</sup> Conversation with Jiao, a construction worker from China, HealthServe, May 19, 2014.

metre – leaving a wider than usual gap. The company’s disregard for safety procedures extended to them instructing a staff member, who lacked the required qualifications, to operate a forklift. While moving materials, the scaffolding was hit, and Zhu fell two metres to the ground and lost consciousness. When Zhu returned the next morning to take a photograph of the scaffolding, it had, overnight, been re-constructed according to safety regulations.<sup>31</sup>

Liu, meanwhile, was ordered to work on scaffolding where the gap was so wide “even a cow could fall through”. He asked for additional iron boards to reduce the gap. His supervisor, however, barked: “I don’t care if it’s safe or not, get to work.” Liu complied, and eventually fell five metres through the gap.<sup>32</sup>

Other examples of cost-cutting measures impinging on safety include not erecting side beams, leaving workers no place to clip their safety harnesses (which they are made to wear).<sup>33</sup> Workers are also forced to undertake work they are untrained to do – for example, those trained in woodworking may be asked to do iron work. (This is sometimes written into the employment contracts of Chinese construction workers.)<sup>34</sup> Gui, who is trained in woodworking, says if his work is completed, he would be directed to do something else. “If we are asked to do it, we must comply,” Gui says. “We watch others do it, and we follow. If we really do not know how, we assist others.”

## EXPLORING CONNECTIONS: FATIGUE, DISCIPLINARY & REGULATORY REGIMES, AND THE WEATHER

*“We are humans, not machines. Some days we may be more productive and focused, other days, especially if we are fatigued or stressed, our work performance is affected.”*

*~ Liu, Chinese construction worker*

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<sup>31</sup> Interview with Zhu, a construction worker from China, HealthServe, February 6, 2014.

<sup>32</sup> For more on Liu’s story, see Stephanie Chok, “I Don’t Care If It’s Safe or Not”, *HealthServe.org.sg*, April 11, 2014, <http://tinyurl.com/kf3lq7e> (accessed July 23, 2014).

<sup>33</sup> Interview with Chen, a construction worker from China, HealthServe, May 19, 2014.

<sup>34</sup> One employment contract for Chinese construction workers stipulated: “The worker must abide by the demands of the work and the arrangements made by management personnel, including being asked to work in areas where the worker may not be technically trained in (for instance, a carpenter may be asked to assist in cement works, in metal works and other forms of job tasks). The worker must not ask for additional wages or decline deployment in these other job tasks, failing which, the employer may regard the worker as being absent from work.”

### *Long Working Hours, Lack of Rest Days*

As earlier mentioned, Tao worked a series of 24-hour shifts before his fall. His work pattern prior to his accident: a 24 hour shift, a day's rest, another 24 hour shift, one day of rest, and it was the following day, when he returned to work, that he got injured. Tao typically worked 13 hours a day, with work beginning at 8am and finishing at 10pm.<sup>35</sup> During a typical 24-hour shift, Tao says the men worked till midnight, rested for an hour (and had something to eat), before starting work again – in total, the men had about 2.5 hours of rest during the entire 24 hours of work. Other than designated meal breaks, there was no time to idle. As Tao describes, the men were constantly watched by their 管工 [supervisor]:

You have to work non-stop, ceaselessly, there is no way you can sit down to take a rest. You may walk around and pretend to look for something, but if you dare to sit down, you will be scolded. The supervisor bullies newcomers, and if you are deemed slow or keep wanting to rest, the supervisor will take a disliking to you; some will even get beaten.

Tao also worked seven days a week, and during the four months he worked – till he got injured – he only had four days of rest, during the Chinese New Year period (excluding the “recovery days” in between his 24 hour shifts). At his worksite, his supervisor threatened to deduct S\$50 from workers’ salaries if they took a rest day without a medical certificate.<sup>36</sup>

Such work patterns, of 10-13 hour work days, seven days a week, are common among Chinese construction workers. Qiao, who has worked in Singapore for four years, says that in his first year as a construction worker, he rested for just one day; in his second year, he rested two days, in his third year, he rested for three days. “I had no idea what existed outside the worksite”, he says.<sup>37</sup> Gui says that in the last one year, he did not rest a single day. Zhu, who worked 10 hours a day, and every

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<sup>35</sup> There would be a one hour lunch break from noon to 1pm. At 7pm, the men have a break for dinner. It is meant to be a half-hour dinner break, but Tao says the men are chased back to work once they consume their food, even before the half hour is up.

<sup>36</sup> When asked if his company had actually deducted any money for workers taking rest days, Tao says he cannot be sure, as the method of salary calculation at his company was so opaque, it was hard to understand how final amounts were reached and to confirm if any deductions were made and for what purpose.

<sup>37</sup> Conversation with Qiao, a Chinese construction worker from China, HealthServe, May 27, 2014.

Sunday, agreed that it was rare to get a day off. Most times, he would work every single day of a month. At their company meeting, Zhu's supervisor told the men they could only rest a maximum of two days a month – any more, and there would be a S\$30 deduction from their salary per “off day”. So, Zhu concedes, we “work ourselves to death”. He says, “As foreign workers, we are here to earn money and are willing to 吃苦 [endure hardship].”<sup>38</sup>

Margaret Chan, an academic researcher, argues that fatigue is “the number one accident risk factor for construction workers”. Her research showed that previously identified factors like failure to follow safety procedures as well as use proper equipment is heavily influenced by fatigue, therefore “if you eliminate fatigue, you also eliminated other so-called ‘causes’ of accidents”.<sup>39</sup> Chan, whose research involved migrant Chinese construction workers from rural China, noted that expatriate superiors tended to identify the main accident risks as migrant workers’ inability to read safety signs or comprehend safety regulations, thus believing that increased worker training was the solution.<sup>40</sup> Yet her research yielded a surprising result, with a high percentage (78 percent) of all stakeholders identifying fatigue as “the most critical accident risk item perceived to cause accidents”.<sup>41</sup> A significant insight from her research is that “fatigue is not only a trigger risk factor but also the lynchpin in the quest to reduce accidents”.<sup>42</sup> Chan’s research was premised on workers who worked an average of 60 hours a week. This raises critical questions for the situation in Singapore, where migrant construction workers are known to work up to 90 hours a week, and over 350 hours a month.

### *Housing and Transport*

Compounding some of the workers’ fatigue were difficult transport and housing arrangements. Wang, whose dormitory was in Tuas, was ferried daily to a worksite located at the other end of Singapore. As with most construction workers, his

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<sup>38</sup> The literal translation is “eat bitterness”, in which 吃 means eat and 苦 means bitter.

<sup>39</sup> “Fatigue the Major Risk Factor in Construction”, *International Business Times*, February 3, 2010.

<sup>40</sup> Liam Tung, “Is Fatigue Mining-Construction’s Hidden Killer?”, *OHS Professional* 3 (March 2010): 12.

<sup>41</sup> Margaret Chan, “Fatigue: The Most Critical Accident Risk in Oil and Gas Construction”, *Construction Management and Economics* 29, no.4 (2011): 347.

<sup>42</sup> Chan, “Fatigue”, 350.

company transport consisted of a large lorry or “goods vehicle” [货车], with the men seated in the cargo area, itself a hazardous form of transport.<sup>43</sup>



Figure 9: Workers being transported to work on the back of a lorry/goods vehicle, Singapore, 2009. Photo credit: Mykel Yee.

Wang woke up at 4am each morning to get ready for his ride, which usually arrived at 5am. Sometimes, the lorry didn't arrive till 6am, but Wang still had to wake up at 4am, “just in case”. Officially, however, work began on the construction site at 8am. At the end of the work day, Wang only returned to his dormitory at 9pm, even if work finished at 7pm; if traffic was bad, he would only get back at 10pm.

Tao, who already worked long hours and even a few 24 hour shifts, lived in a dormitory in Geylang, though his worksite was in the western part of Singapore. His company only hired a few lorries to send all its workers to various worksites, so the drivers had to make many trips back and forth. As a result, Tao had to wake up each morning at 5am to get ready for his lorry ride at 5.30am. He arrived at his worksite at 7am, though work began at 8am.<sup>44</sup> While work finished at around 10pm, Tao sometimes waited till 11pm for the lorry to pick them up. He would return to his dorm in Geylang around midnight. After doing some laundry, having a bite for

<sup>43</sup> See Stephanie Chok, “TOC Special Feature: Safer Transport – What are We Waiting For?”, *theonlinecitizen.com*, June 28, 2010, <http://tinyurl.com/kpr4mfp> (accessed July 23, 2014).

<sup>44</sup> Tao also asked why Singapore allowed people to be transported in lorries/goods vehicles. He says, “It is uncomfortable, one cannot sit properly, and the lorry drivers drive very fast. In China, goods vehicles are not allowed to carry people.”

supper and waiting for his turn to wash up, it could be 1am by the time he went to bed. This resulted in Tao only getting four hours of sleep a night. (Additionally, workers who live in poorly ventilated, bug and rodent-infested dormitories – a very common occurrence – struggle not only with a lack of rest, but poor quality sleep.) Already aggrieved by these long stretches of unrecorded waiting and traveling time, Tao complained that his employer further reduced the number of work hours recorded on their time cards from 13 hours to 12.5 hours. Their boss had cut off the men's half hour dinner break though they were not even given the full half hour to have a meal; once the men finished eating, they were chased back to work.

### *Supervisory Pressure*

Keeping Chinese construction workers in check on worksites is the feared and dreaded 管工 [*guan gong*] or supervisor, generally a fellow Chinese national specially appointed by employers to manage the migrant Chinese workforce. According to Cai, this practice is prevalent, and happens whether the company is a China-linked or Singaporean company. Tao warns that if the supervisor, for some reason, 看你不顺眼 [takes an intense dislike to you], “you will be targeted”. Life on the worksite becomes especially unpleasant, even unbearable. The *guan gong* wields enormous power on the worksite: he can order workers off the site, deduct their salaries, or even fire them. Supervisors often scold and harass workers who are “slow” and take too many toilet breaks. Verbal abuse from supervisors appears common, physical assaults have also been reported. As Bing describes:

Lots of workers are afraid of the *guan gong*. Employers typically choose a supervisor who will bully and intimidate workers. They push and pressure workers onsite and prioritize profits and speed over workers' safety. Supervisors are given lots of power: if they order you to sleep, you sleep, if they order you to work, you work. They distribute work on the site, they can deduct money from your salary, and they can even dismiss you. Many workers, especially first-timers who owe money back home, have no choice but to obey their supervisors.

It is therefore in workers' interests to work fast and keep out of their supervisors' way. Even if one did not aim to excel, it was imperative to remain unobtrusive and

avoid being the target of the supervisor's displeasure. Zhao, for example, expressed a common sentiment, that there was pressure on him to do whatever work he was assigned for fear of his supervisor developing a negative impression of him.

Supervisors, meanwhile, aim to please the boss at the expense of workers' wellbeing – safety is not a priority. Liu, who was ordered by his supervisor to “get back to work” despite the risks, deems that when it comes to work accidents, it is, more often than not, the supervisor's fault. Chen, who worked 13 hours a day, says:

On worksites, supervisors pay lip service to safety. Though they may sometimes talk about the need to be safe, once we start work, if we are slow, we will get scolded. There is a lot of pressure exerted on us at the worksite by our supervisors, who demand that we finish our work fast. If our boss wants us to complete a piece of work in three days, the supervisor will push us to finish it in two – the supervisor gets paid more for this, even though the workers who exert themselves do not.

Wang also notes that his supervisor continually pushes workers to complete more work in shorter periods of time in order to “curry favour” with the boss. This results in a key conflict – even if the main contractor wants the worksite to be safe, the workers' supervisors (hired by subcontractors) are motivated by entirely different objectives. While supervisors may be aware of safety regulations – and their importance – their primary concern seems to be ensuring work targets are not just reached but exceeded. These worksite supervisors are generally former migrant construction workers who have risen up the ranks (say, after five years), and their financially superior position relies on their ability to discipline the company's workforce, a workforce sometimes portrayed as “unruly” and requiring draconian control measures in order to be productive and compliant.

### *Weather*

Singapore's weather exacerbates already harsh working conditions on construction sites. As Tao describes, “though the weather is hot and humid, we cannot rest, we cannot even sit”. This makes some workers susceptible to heatstroke; severe

disability and fatalities have resulted.<sup>45</sup> Jia says that under Singapore's extreme heat, construction workers, who "sweat liters", need to drink large amounts of water to prevent dehydration and ward off heatstroke. However, at his high-rise condominium worksite, workers were not allowed to take breaks unless it was mealtime. Men placed on the higher floors, who started work as early as 7 or 8am, were only allowed to drink whatever water they could fill into a plastic bottle they carried up with them. Once that was finished, they had to wait until lunchtime (noon or later) to access water. Those who "dared" to head downstairs for water before designated breaks would 被骂 [get scolded].<sup>46</sup>

In China, says Tao, if it is too hot or too cold, workers are allowed to stop work. In Singapore, however, "even when it is raining we are not allowed to stop work, and the wooden planks are very slippery". Working through a storm also makes construction workers vulnerable to lightning strikes. While not raised by workers during our interviews, it bears noting that construction workers are also exposed to dangerous levels of air pollutants once a year when Singapore is engulfed in smog and haze due to forest fires in Indonesia.<sup>47</sup>

### *'Time to Drink Tea': Scheduled Safety Inspections*

Cai, who has worked in Singapore for almost eight years, says he has never encountered "surprise" safety checks by the Ministry of Manpower. In his experience, the authorities will inform the worksite, and the company will hurriedly "clean up" the place. By the time the safety officers arrive, everything will be in order; after the officers leave, things will revert to normal (that is, its previous unsafe condition).

Gui also says that the main contractor always knows when a safety check will occur. The main contractor then alerts the subcontractors, and construction workers will be asked to abandon work on the higher floors – which tend to be more unsafe – and

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<sup>45</sup> "Construction Worker Dies from Heatstroke; Employer Fined", *TODAY* December 10, 2011; Jermyn Chow, "Chinese Workers Coping with Heat Here", *Straits Times*, December 11, 2011.

<sup>46</sup> Interview with Jia, a construction worker from China, September 7, 2009.

<sup>47</sup> "Singapore Government Should Issue Mandatory 'Stop Work' Order", *twc2.org.sg*, June 21, 2013, <http://tinyurl.com/mrlbj33> (accessed July 23, 2014); Lynn Lee, "Working Through the Haze", *www.lianainfilms.com*, June 23, 2013, <http://www.lianainfilms.com/2013/06/working-through-the-haze/> (accessed July 23, 2014); Kirsten Han, "Singapore Haze: Discontent Rises", *thediplomat.com*, June 27, 2013, <http://thediplomat.com/2013/06/singapore-haze-discontent-rises/> (accessed July 23, 2014).

work on the lower floors. Workers are also instructed to quickly tidy up their work areas. “Sometimes”, says Gui, “before MOM safety officers arrive, we are told to go and drink tea! So, by the time they arrive, we are drinking tea and they cannot find anything.”

Chen, who first came to Singapore in 2008, says he has worked on many different worksites. He has experienced safety checks numerous times and, similar to Cai and Gui’s experience, says the authorities will alert the main contractor, who then informs the subcontractors. Chen says he and his co-workers are sometimes alerted an hour beforehand, sometimes even the day before, or on the day itself, during their morning meetings. The men will be asked to stop work in areas that are deemed dangerous and directed to the lower floors; they also have to tidy up the worksites. These views are consistent with what participants shared during our focus group.<sup>48</sup> Chen, like many of the other workers interviewed, feels strongly that in order to improve safety conditions on the worksite, surprise safety inspections are necessary in order to uncover violations.

## **AFTER THE INJURY**

The injured workers interviewed not only suffered grievous physical harm as a result of their work accidents, their suffering was often exacerbated by their company’s callous treatment post-injury. Liu, who fell from a height of five metres, was simply moved out of sight and made to lie there, writhing in pain, for several hours before being taken back to his dormitory – he was not allowed to visit a hospital as that would “create problems” for the company. Zhu, who fell two metres to the ground and lost consciousness, was also carried aside and made to wait till his overtime shift ended, before being driven back to his dormitory in the company lorry. Despite his evident suffering, his supervisor barred him from visiting the hospital. In fact, Zhu’s company did not wish to report his injury. They offered him one month’s salary and asked him to return to China to seek treatment. Tao, similarly, was made to wait for some time after his fall for his company’s lorry.

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<sup>48</sup> During the focus group, several participants also told of how MOM visits were announced. Sometimes, during their morning meetings, the men were told what time MOM safety officers will be arriving. Once they arrived, company representatives swiftly whisked the safety inspectors to the “safe areas”, and away from the hazardous ones. Some workers may even be told to take a rest, whereas on normal days, trying to take a rest will earn them a scolding. As there is usually no work taking place in unsafe areas by the time safety inspectors arrive, there is little opportunity to detect major offences. While safety conditions on the worksite may improve marginally after such inspections, any such improvements tend to be short-lived.

Even with his broken foot – which Tao says was facing a different direction – Tao was heaved on to the back of the company lorry. He lay on the back of the goods vehicle and said his whole body was shaking due to the vibrations of the vehicle, making the ride to the hospital excruciating.

HealthServe, who currently sees an average of 16 new injured worker cases a month, frequently witnesses the following problems: employers' reluctance to report work injuries, the denial of/poor quality medical care, non-payment of medical leave wages and medical bills, employers not providing timely and adequate maintenance in terms of housing and food provision for workers while they wait for their work injuries to stabilize. Waiting for their work injury compensation can also be a lengthy and unpredictable affair, and injured workers can sometimes wait for a year or more for their cases to be resolved, during which time they are bereft of an income. These are common problems documented by other migrant worker non-governmental organizations such as Transient Workers Count Too (TWC2)<sup>49</sup> and Humanitarian Organization for Migration Economics (HOME).<sup>50</sup>

## DISCUSSION

Workplace safety remains a key concern of the government, with significant resources directed towards efforts aimed at reducing worker fatalities and injuries. The Workplace Safety and Health Council (WSH Council)<sup>51</sup> and the Ministry of Manpower had previously set, in its national strategy WSH 2015, a target to reduce the number of workplace fatalities to 2.5 per 100,000 workers by 2015. This target has already been reached, with a new goal now set for WSH 2018: to achieve a workplace fatality rate of less than 1.8 per 100,000 workers.<sup>52</sup> Gradual improvements in the overall workplace fatality rate, however, are not evenly matched. Among the top three “risky” industries – marine, manufacturing, construction – the trend has

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<sup>49</sup> See TWC2's website: <http://twc2.org.sg/>.

<sup>50</sup> See HOME's website: <http://www.home.org.sg/>

<sup>51</sup> The Work Safety and Health Council, established in 2008, is self-described as comprising of “18 leaders from the major industry sectors (including construction, manufacturing, marine industries, petrochemicals and logistics), the government, unions and professionals from the legal, insurance and academic fields”. A total of “16 committees, taskforces and workgroups” have been set up under the council and it aims to promote safety and health and work and set acceptable WSH practices. See WSHC's website: <https://www.wshc.sg/>.

<sup>52</sup> Workplace Safety and Health Council, *WSH 2018: A National Strategy for Workplace Safety and Health in Singapore*, Singapore: WSH Council, 9, <http://tinyurl.com/17ae877> (accessed July 2, 2014).

been decreasing workplace fatalities *except* in construction,<sup>53</sup> where workplace fatality rates have been rising: from 5.5 per 100,000 workers in 2011, to 5.9 per 100,000 workers in 2012, then to 7.0 per 100,000 workers in 2013.<sup>54</sup> This anomaly requires greater scrutiny, for this upward trend converges with surging construction demand in Singapore, which hit a “historical high” of S\$35.8 billion in 2013.<sup>55</sup> Such high demand is expected to continue, at least in the short to mid-term, with public sector projects contributing to the bulk of this demand.<sup>56</sup>

Singapore’s workplace health and safety framework needs to be expanded to include workers’ voices. Our case records and interviews with construction workers show that serious accidents are not simply a problem of “different languages and work practices at home”, but a relentless labour regime that prioritizes profit and places undue pressure on workers to complete unreasonably set tasks within exceptionally tight timeframes. While deliberating solutions will require the input of multiple stakeholders, our preliminary findings indicate that a greater emphasis needs to be placed on workers’ participation and wellbeing in formulating workplace safety policies and strategies. There is also a need to resolve tensions between worksite safety and time/cost pressures. This includes paying attention to supply chain pressures so as to identify the causal factors that result in worksite (un)safety. Workers’ insights into workplace politics at construction sites also expose the grossly asymmetrical power relations between construction workers and their supervisors/employers – this must be addressed if workers are to participate meaningfully in improving their working conditions. There should also be greater transparency and more targeted information gathering in terms of work safety/injury data that is publically available for analysis and scrutiny, including details such as workers’ nationalities and the length of time it takes for work injury cases to be resolved. While the WSH’s annual reports tabulate the man-days lost, there is no mention of the palpable losses suffered by migrant workers.

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<sup>53</sup> WSHI, *Workplace Safety and Health Report 2013*, 11-13.

<sup>54</sup> Olivia Siong, “MOM Reviewing Penalties, Legislative Framework for Workplace Safety”, *TODAY*, May 7, 2014.

<sup>55</sup> Xue JianYue, “Building Boom ‘Having Impact On Worker Safety’”, *TODAY*, July 4, 2014.

<sup>56</sup> According to the Building and Construction Authority, construction demand for 2014 will remain strong, with public sector projects contributing to “the bulk of the industry’s total demand at close to 60%, or between \$19-22 billion”. See Building and Construction Authority, “Construction Demand for 2014 to Remain Strong”, January 9, 2014, [http://www.bca.gov.sg/Newsroom/pr09012014\\_BCA.html](http://www.bca.gov.sg/Newsroom/pr09012014_BCA.html) (accessed July 23, 2014).

In order to resolve many of the issues raised by construction workers in this paper, we must first own up to the deceit that current productivity targets are compatible with safe workplaces that value and respect workers' rights and lives. This is an issue powerful and influential stakeholders must critically examine and own up to, in terms of determining their culpability in the time and cost pressures exerted downstream. Examining supply chain pressures necessitates assessing how asymmetrical power relations between workers/supervisors, subcontractors/main contractors, main contractors/developers, contractors/service buyers (which includes government agencies) affect worksite regimes and thereby safety practices. One consideration would be work tenders that exert enormous pressure on main contractors and, subsequently, subcontractors to complete unreasonable amounts of work amidst stressful environments. Large fines issued for work not completed "on time" must consider if the timelines encourage or deter work safety compliance.

Under Singapore's current sociopolitical reality of shrinking foreign worker quotas and rising foreign worker levies,<sup>57</sup> construction companies are complaining about feeling the squeeze as much as the construction workers they exploit. An April 2014 *Straits Times* article cited construction industry stakeholders who attributed the sharp increase in worksite deaths to "the shortage of workers coupled with pressure to complete projects on time".<sup>58</sup> Construction companies mentioned the "severe manpower cuts" in a labour-intensive industry and the need for workers to clock in longer hours so that companies can avoid financial penalties. These pressures were again mentioned in a July 2014 *TODAY* article, which raised the following issues in relation to increased work accidents on construction sites: worker fatigue from long working hours, higher foreign worker levies leading to a "manpower" squeeze and a rush to complete jobs to manage project costs, as well as new workers' unfamiliarity with the job. The President of the Singapore Contractors Association (SCAL) said many developers were asking for projects to be completed earlier, thus placing additional pressure on contractors.<sup>59</sup> One construction company's managing director admitted that the "majority of projects" are "always done in a rush".<sup>60</sup> Ignoring such sociopolitical realities, including the policies that encourage exploitative employer behaviour, leaves major contradictions unaddressed –

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<sup>57</sup> MOM, "Enhancements to Foreign Manpower Policy".

<sup>58</sup> Yeo Sam Jo, "Worksite Mishaps Linked to Fatigue", *Straits Times*, April 20, 2014.

<sup>59</sup> Xue, "Building Boom".

<sup>60</sup> Xue, "Building Boom".

primarily, the tussle between the need or desire to work safe but at a slower pace and with more resources, and the tangible pressures on main contractors, subcontractors and subsequently construction workers to work at a frenetic pace without adequate rest, and with shrinking resources.

Disregarding worksite politics is akin to paying lip service to work safety measures. As our conversations with migrant construction workers show, supervisors and bosses demonstrate a stingingly callous attitude towards workers' wellbeing. Xu, for example, says his company's belief is: "Work injuries are a small matter, just don't die can already." Liu's statement demonstrates similar sentiments: "The main contractor cares about productivity and efficiency. Meanwhile, my employer [subcontractor] has no conscience." Gui, meanwhile, says that during his company's "safety briefings", the key message is: "Don't let the main contractor [*zhong bao*] catch you!"

The insinuation that migrant workers, through their "lack of safety awareness", are largely responsible for worksite accidents, is to obscure the central role that supervisors and employers often play in exposing workers to grave risks of injury and death. During our focus group, the workers stressed that it was not wholly workers who disregarded safety, but company practices that put workers' lives at risk. Says Tao, "As a worker, I am definitely safety conscious, but the reality is that our environment is simply not safe." This is reinforced by Cai, who points out that "no one wants to get injured, but the reality is that our workplace is not safe". While a few workers noted that working with persons of different nationalities mean there are sometimes language difficulties, they generally disagreed that this was a key factor in worksite accidents, pointing out that their supervisors are all fellow Chinese nationals.

## CONCLUSION

Migrant construction workers who labour under hazardous work conditions risk their lives and limbs. Those who complain or refuse to work under such conditions risk their livelihoods. This is an untenable situation. All workers deserve to work in an environment that is safe, and under the supervision of persons that safeguard, rather than jeopardize, their wellbeing. Workers who object to hazardous working

conditions should be protected from punitive measures by their supervisors and employers. Such measures, however, entail a radical restructuring of Singapore's migrant labour regime and the strengthening of migrant workers' collective bargaining powers. Empowering migrant construction workers to improve their working conditions is a political project, and a long-term one. Yet workers need to be empowered to participate meaningfully in monitoring their worksite and protected from the repercussions of whistleblowing when pressured to undertake dangerous work.<sup>61</sup>

Low-paid migrant workers' already precarious position within Singapore's socio-economic and political landscape place them in a weak bargaining position vis-à-vis their supervisors and employers, who are in turn beholden to the directives of main contractors, property developers and larger clients including agencies representing the Singapore government, who commission public sector projects. Their perspectives and concerns should not be marginalized, nor should the convenient rationalization of worker "complacency" be used to cloak deeper and more systemic problems that make our construction sites the deadly workplaces that they are.

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<sup>61</sup> Jolovan Wham, "Address Workplace Abuse to Ensure Work Site Safety", *theonlinecitizen.com*, April 20, 2014, <http://tinyurl.com/ljcy2lu> (accessed July 23, 2014).

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