



# Progress and Potential

A focus on occupational safety and health

THEMATIC  
BRIEF

## KEY FINDINGS

Improvements in occupational safety and health conditions are associated with higher productivity

Higher quality dialogue in the factory is linked to better health outcomes for workers

Better Work improves OSH conditions, though clear challenges remain



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## KEY FINDINGS

### Progress and Potential

#### A focus on occupational safety and health

- ◆ Independent analysis of workers' perceptions shows Better Work activities have ameliorated harmful conditions
- ◆ Factories in the Better Work programme achieve improvements with many workplace safety and health issues, but other areas of non-compliance remain high
- ◆ Improved occupational safety and health conditions are associated with higher productivity
- ◆ Higher quality worker-manager dialogue in the factory is linked to better health outcomes for workers

Launched in 2007, the Better Work programme – a joint initiative of the International Labour Organization (ILO) and the International Finance Corporation (IFC), a member of the World Bank Group – has made progress in improving working conditions and promoting competitiveness in global garment supply chains. Participating in the programme has enabled factories to steadily raise their compliance with ILO core labour standards and national legislation. A recent impact assessment of Better Work shows that factories' increased compliance has significantly upgraded working conditions while advancing productivity and profitability.

Tufts University has carried out an independent impact assessment of Better Work since the programme's inception. The university's interdisciplinary research team has gathered and analysed nearly 15,000 survey responses from garment workers and 2,000 responses from factory managers in Haiti, Indonesia, Jordan, Nicaragua and Vietnam. Their in-depth analysis of the surveys provides concrete evidence of Better Work's effectiveness in enhancing workers' lives and boosting factory competitiveness.

This brief provides evidence of Better Work's impact on improving safety and health at the workplace. It covers Better Work's approach to addressing occupational safety and health (OSH), describes trends in safety and health data, and summarizes results of impact analysis.

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## 1. Introduction

Unsafe work environments have severe consequences for both workers and their employers. The ILO has estimated that 2.3 million workers die every year from work-related injuries and diseases. A further 160 million workers suffer from work-related diseases, and 313 million workers experience non-fatal injuries each year. Negative economic consequences add to the damaging effects of unsafe work environments on human health and wellbeing. More than four per cent of the world's annual gross domestic product (GDP) is lost as a consequence of work-related injuries and diseases.

The experience of the Better Work programme provides an illustration of how poor occupational safety and health can threaten workers' wellbeing as well as the competitive sustainability of factories.

Common knowledge and on-the-ground implementation experience of Better Work's staff would assert that safety and health issues at work matter for the wellbeing of workers. This link was empirically established in past research with programme data, which showed reported life satisfaction and outlook were higher where occupational environments were healthier. Additional

past research from Better Work demonstrated that improved working conditions, including in the OSH working environment, are correlated with higher worker productivity. Workers who reported better environments reached daily production targets up to 40 minutes faster than otherwise similar counterparts. Better Work's model and strategy seeks to foster dialogue among managers and workers to sustainably address workplace concerns such as safety and health conditions to the benefit of all parties.

### BETTER WORK'S APPROACH TO SAFETY AND HEALTH AT WORK

The Better Work programme addresses workplace safety and health issues from multiple angles. The programme's unannounced **assessments** verify compliance with national labour law covering OSH in several subcategories: Emergency Preparedness, Worker Accommodation, Health Services and First Aid, Welfare Facilities, Working Environment, Worker Protection, Chemicals and Hazardous Material, and OSH Management Systems.

The programme's **advisory** service provision establishes bipartite worker-manager committees in factories. These committees use compliance assessment results as the basis for creating dialogue to address the interest of both workers and management in the factory, including how to address issues of workplace safety and health.

Among its **training** offerings, Better Work delivers a two-day module of specialized training on occupational safety and health. The training covers i) a systems approach to creating an OSH policy, ii) the role of OSH committees, and iii) specific issues such as temperature/ventilation, noise, lighting, chemical hazards, machine guards, and fire and electrical safety. Better Work also delivers short OSH trainings for workers focusing on prevention and protective equipment and has also amongst its offerings three OSH related Industry Seminars on Fire Safety, Chemical Handling and Electrical Safety.

In addition, Better Work increasingly seeks to reinforce and build capacity of local labour inspectorates enforcing location OSH regulations.

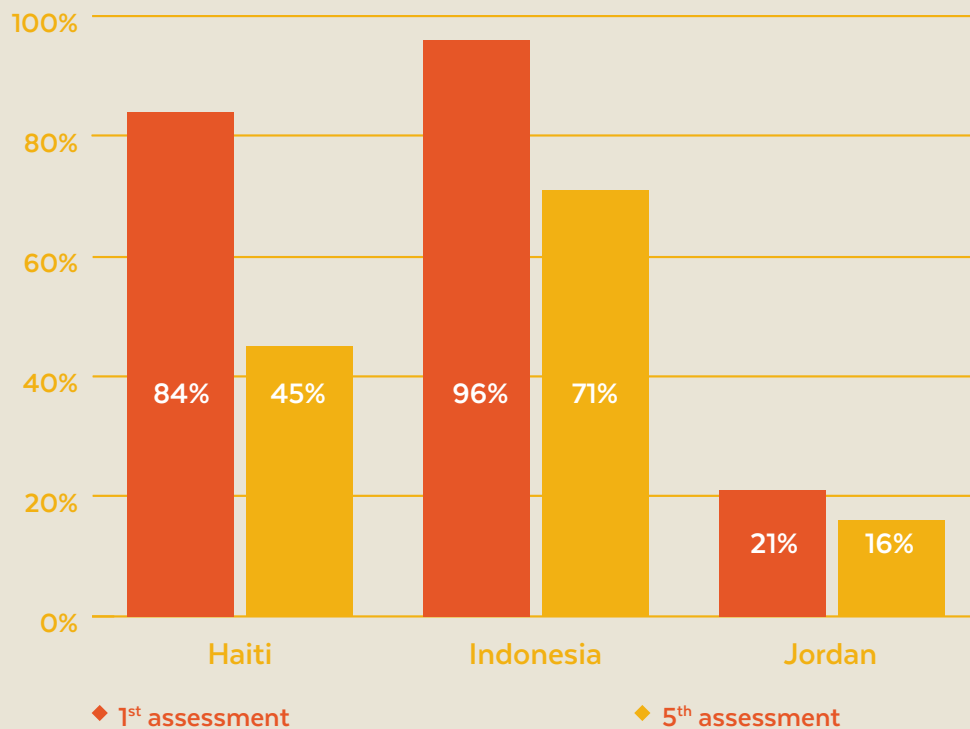
## 2. Trends in occupational safety and health

Despite improvements over the course of programme participation, poor occupational safety and health is still a persistent issue across many factories in all Better Work country programmes. Safety and health data compiled by Better Work through the compliance assessments, as well as impact assessment data collected by independent researchers through confidential surveys of workers' perceptions, can provide insight on these trends.

### SAFETY TRENDS

Chemicals and Hazardous Material constitute one area from Better Work's compliance assessments where participating factories witness broad improvements during their engagement with the programme. Figure 1 demonstrates declining rates of non-compliance from the time of the first compliance assessment to the fifth assessment.<sup>1</sup>

**FIGURE 1: NON-COMPLIANCE RATE - CHEMICALS AND HAZARDOUS MATERIAL**



1. See explanatory note on sample composition and sample size provided at: [bit.ly/OSHSample](https://bit.ly/OSHSample). Additional information on impact assessment results can be obtained by accessing the full academic report on which it is based, "The Impact of Better Work," accessible from the Tufts Labor Lab: [sites.tufts.edu/laborlab](https://sites.tufts.edu/laborlab). A condensed summary of the report and related materials are available from [go.betterwork.org/impact](https://go.betterwork.org/impact).

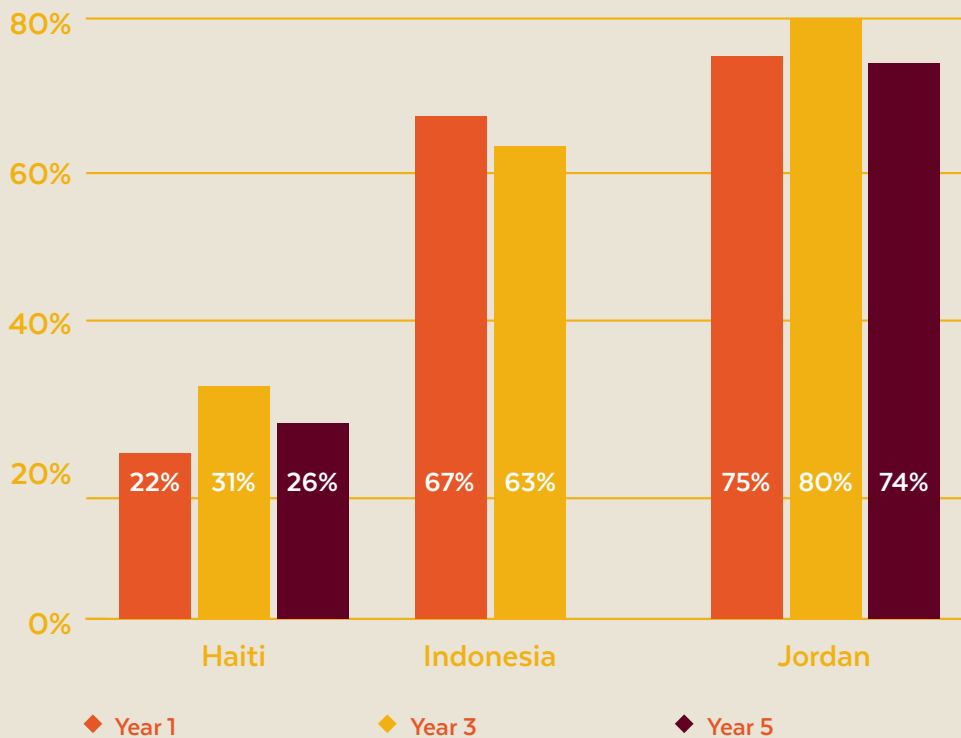
## Workers in Indonesia appear to report an improved environment related to chemical hazards over time

Assessing working conditions in participating factories against international labour standards and national labour law provides just one perspective into OSH conditions in factories. Better Work has long invested in an independent impact assessment of the programme, which involves using confidential surveys to elicit the perspective of workers over multiple time periods. This includes asking how they perceive their safety and health at work. To verify the compliance assessment results from Figure 1 on Chemicals and Hazardous Material, it can be instructive to identify

trends among what workers are saying directly about concern with hazardous chemicals (see Figure 2).

Workers in Indonesia appear to report an improved environment related to chemical hazards over time (data available only through year three), and after some initial deterioration in Jordan, an improved environment also emerges. Overall rates of concern in Haiti have been lower, but remain consistent, suggesting that often workers may not view OSH conditions as improving even if there are improved compliance records. Understanding work and safety

**FIGURE 2: % OF WORKERS CONCERNED ABOUT CHEMICALS OR HAZARDOUS MATERIAL**



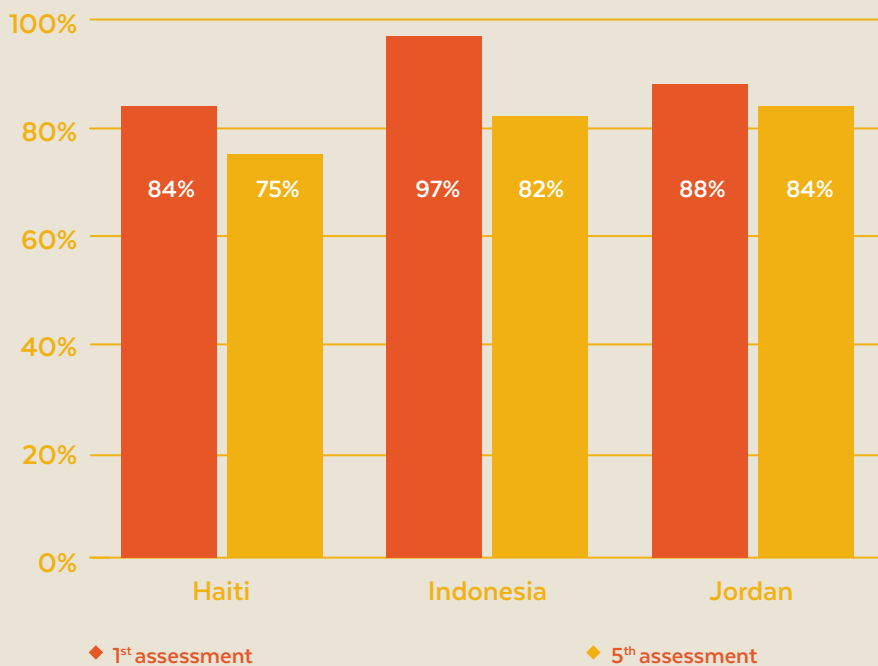
conditions from the perspective of workers will remain a critical component of Better Work’s efforts in the future.

Even with declining aggregate non-compliance rates within OSH Compliance Points, challenges remain. This is exemplified in the areas of Worker Protection and Emergency Preparedness. The Worker Protection Compliance Point covers topics related to safety from accidents and injuries, such as ensuring machine guards are in place and that workers are provided with personal protective equipment and use it properly. Although there are consistent improvements in rates of factories complying with these regulations, at least three quarters of factories are still found non-compliant with at least one question in this Compliance Point by the fifth compliance assessment

(Figure 3). Several questions within this Compliance Point have elements that require not only financial investment on behalf of the factory, but also behavioural change among all players in the factory. The complexity required to catalyze and sustain such changes may contribute to the persistently high rates of non-compliance.

Focusing examination of trends solely at the Compliance Point level, however, can mask significant movement at the question level. Although Figure 3 shows that in Indonesia the overall aggregate non-compliance rate across all factories for Worker Protection decreased from 97 per cent to 82 per cent, the proportion of factories found non-compliant on the question covering properly installed and maintained machine guards improved from a 42

**FIGURE 3: NON-COMPLIANCE RATES - WORKER PROTECTION**





*...the trend appears to be one of improvement regarding dangerous work environments with significant room for further improvement*

per cent non-compliance rate to a 13 per cent non-compliance rate in the same time period. This can occur because a factory is considered non-compliant in a Compliance Point if it is found non-compliant for a single question in that area.

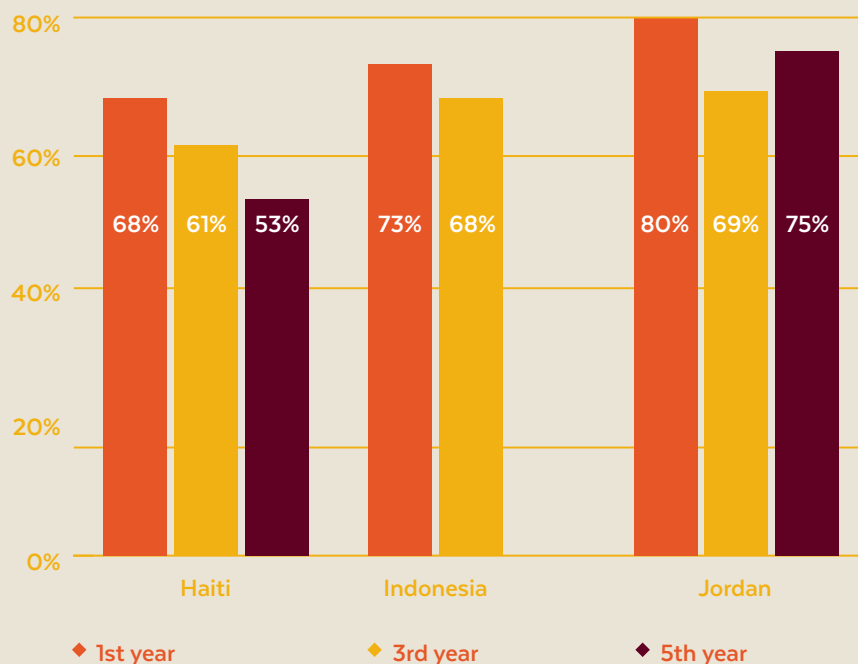
When asked directly about accidents and injuries in surveys, more than two-thirds of workers report some level of concern at the point of baseline impact assessment surveys in their factory in Indonesia, Jordan and Haiti (see Figure 4). Less than half report similar concern in Nicaragua, and there are even fewer reports in Vietnam. The trend by the third year of Better Work operation suggests concern with

accidents and injuries in the factory lessens over time, as exhibited in the figure below. Combined with the information conveyed in Figure 3, the trend appears to be one of improvement regarding dangerous work environments with significant room for further improvement.

The Compliance Point covering Emergency Preparedness (Figure 5) follows a similar pattern as the Worker Protection area. Improvement is seen over time, but non-compliance rates remain relatively high.

Nevertheless, when non-compliance trends are observed at the level of individual questions,

**FIGURE 4: % OF WORKERS WHO SAY ACCIDENTS AND INJURIES ARE A CONCERN**



improvements are again more prominent. For example, although the aggregate non-compliance rate for Emergency Preparedness in Indonesia for factories with five assessments decreases from 97 per cent to 71 per cent, the non-compliance rate improves at the question level from 43 per cent to 35 per cent non-compliance for accessible and unobstructed emergency exits, and from 70 per cent to 18 per cent non-compliance for fire detection and alarm systems in the same time period. In Haiti, non-compliance with sufficient emergency exits decreases from 36 per cent at the first assessment to only 4 per cent by the fifth assessment. In Jordan, non-compliance with conducting emergency drills was reduced from 30 per cent to 9 per cent in the same time period.

**WATER, SANITATION AND HYGIENE**

Both the Better Work compliance assessment process and independent impact assessment research include questions investigating the water, sanitation and

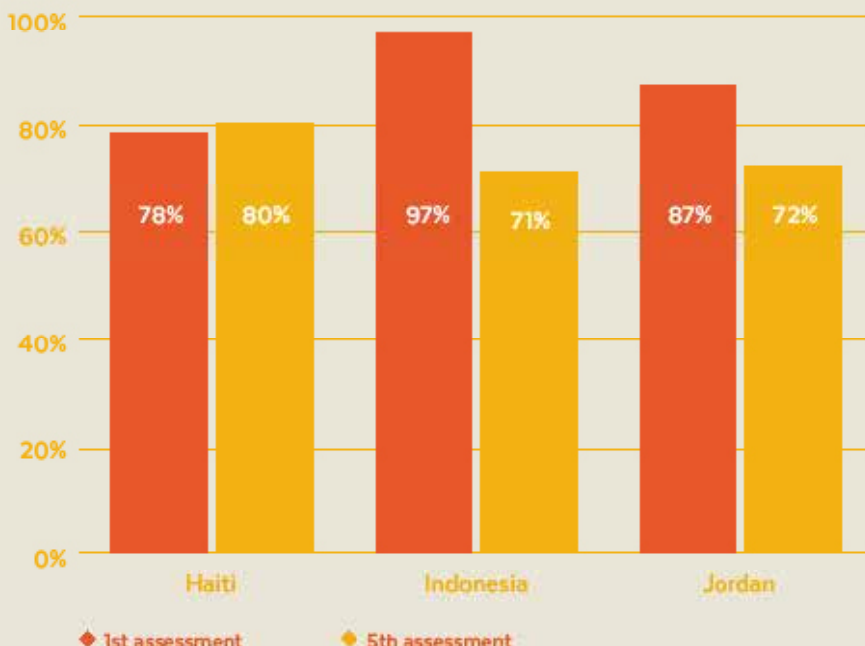
hygiene (WASH) conditions in garment factories, which are important determinants of job quality. There are three principal questions used in Better Work’s Compliance Assessment Tool tracking WASH against national legal requirements:

- Does the employer provide workers enough free, safe drinking water?
- Does the workplace have adequate accessible toilets?
- Does the workplace have adequate hand washing facilities and adequate soap?

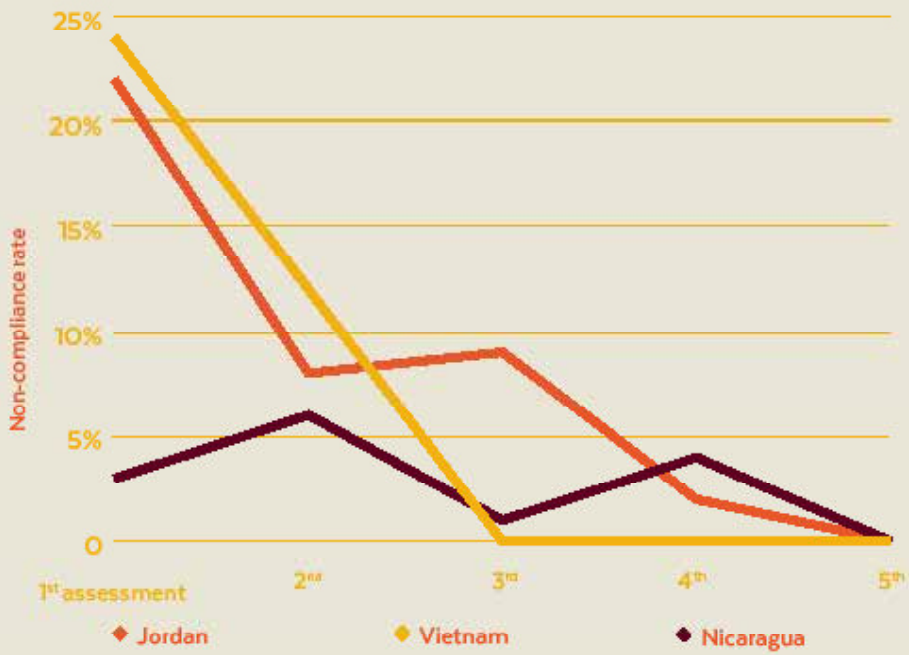
From compliance assessment data, it is evident that WASH outcomes – access to free water, adequate hand washing and soap, and access to toilets – improves over the course of several years’ engagement with Better Work, in some cases dramatically. Figures 6 and 7 present non-compliance rates. Note that a downward trend over time represents positive improvement.

Focusing solely on compliance improvements

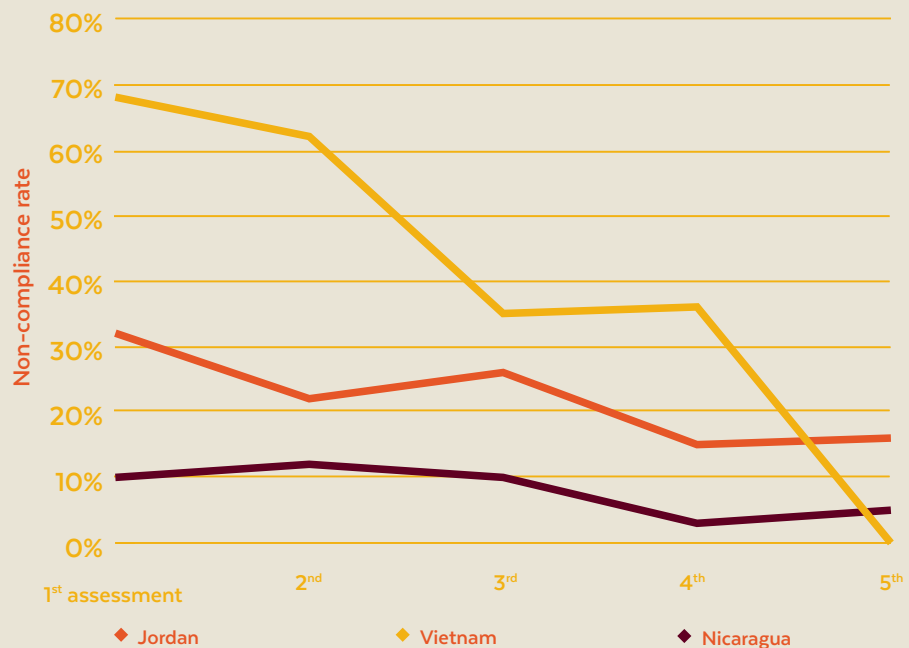
**FIGURE 5: NON-COMPLIANCE RATES - EMERGENCY PREPAREDNESS**



**FIGURE 6: DOES THE EMPLOYER PROVIDE WORKERS WITH ENOUGH FREE SAFE DRINKING WATER?**



**FIGURE 7: DOES THE WORKPLACE HAVE ADEQUATE ACCEIBLE TOILETS?**



is not sufficient, however. Independent research commissioned by Better Work shows, for example, that half of workers in Indonesia say they experience severe thirst “often or every day” despite high average compliance rates on water availability. To understand the quality of WASH conditions from workers’ perspectives, impact assessment surveys include questions on both the availability and quality of WASH facilities, and questions focusing on the deeper health impact of having proper facilities:

- How often do you get a drink of water while you are at work?
- How often do you experience severe thirst?
- How satisfied are you with the quality and availability of drinking water in your factory?
- Over the last year, have you been denied permission to use the factory toilet during work hours?
- How satisfied are you with the toilet facilities in your factory?

Positive trends are witnessed in several of these areas over the time of engagement with Better Work. The proportion of workers in Vietnam who say they “never” experience severe thirst increased ten percentage points (from 80 per cent to 90 per cent) over three years of data collection in the country. Correspondingly, more workers report more frequent access to water while at work. The proportion of workers who say they are able to get a drink of water “every two hours” increases more than two-fold – from 20 per cent of workers at baseline to 49 per cent of workers in the third annual survey.

Satisfaction with toilet facilities improves in Jordan – from 59 per cent at the baseline to 74 per cent in the latest survey of workers – as well as satisfaction with drinking water quality and availability – from 73 per cent to 86 per cent of workers reporting satisfaction.

Prior research from Better Work Vietnam has established that factories with better compliance and better working conditions tend to be more profitable factories – their profitability ratios are up to 8 per cent higher than otherwise similar counterparts. Worker satisfaction with workplace facilities – including satisfaction with toilet and water facilities – are a central component of the index measuring working conditions in this analysis.

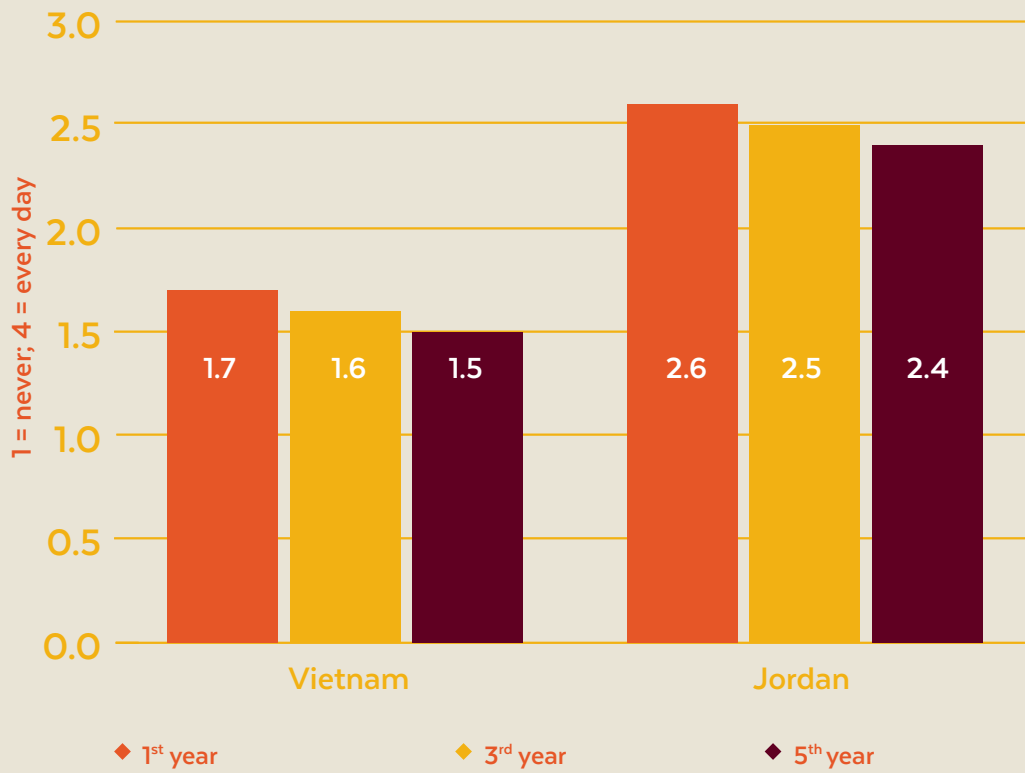
### GENERAL HEALTH TRENDS

Impact assessment surveys also focused on health conditions associated with OSH environments. Workers are asked about how frequently they experience severe fatigue, headaches, stomach pain, skin problems, dizziness, backaches, hunger and thirst, and asked to report on a scale of 1 (never) to 4 (every day).

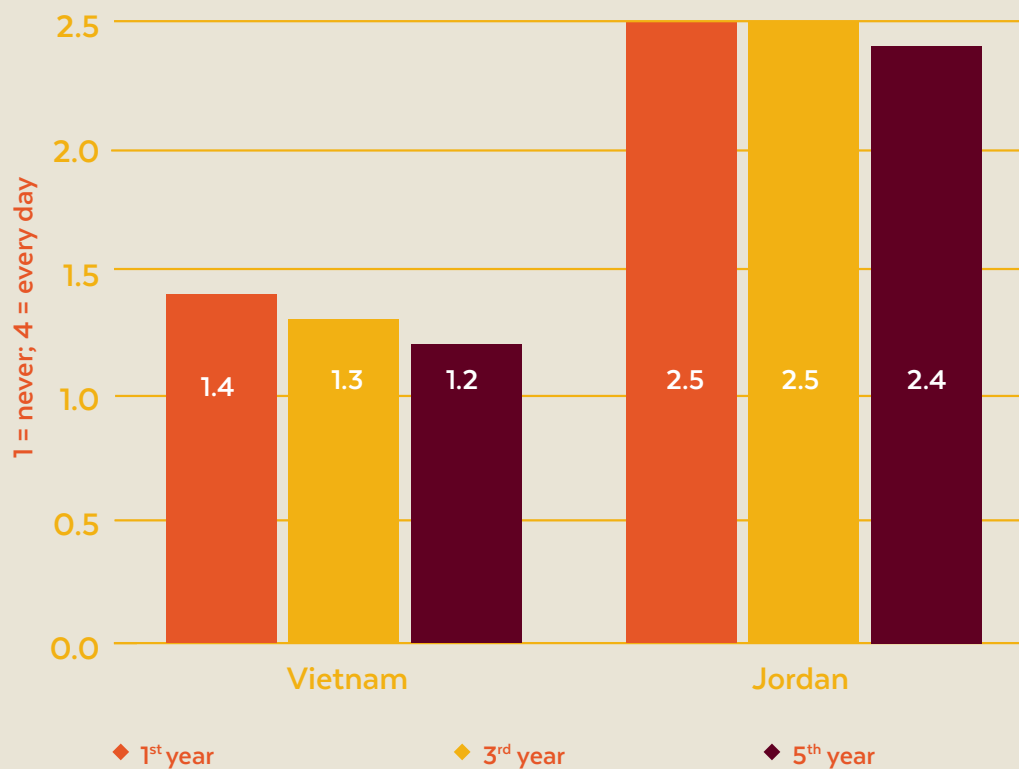
Some positive trends emerge in Vietnam and Jordan regarding the frequency at health concerns like headaches and fatigue are reported (see Figures 8-9).

In Vietnam, workers are also progressively reporting lower rates of dizziness while at work, which could suggest better OSH conditions in terms of air quality or ability to access water and sufficient rest breaks.

**FIGURE 8: HOW OFTEN DO YOU EXPERIENCE SEVERE HEADACHES?**



**FIGURE 9: HOW OFTEN DO YOU EXPERIENCE SEVERE FATIGUE?**





## WAGE STRUCTURE AND PERCEPTIONS OF OCCUPATIONAL SAFETY AND HEALTH CONDITIONS

Taking an in-depth look at how occupational safety and health concerns are affected by wage-setting yields multiple insights. Garment factories often pay workers by the piece, assuming that this will generate an increase in productivity. However, such productivity gains may, in fact, be offset by higher production costs if production time is lost through errors and OSH-related injuries as workers are incentivized to work more quickly.

Since payment structures vary across factories participating in Better Work Vietnam, the Tufts researchers were able to investigate the relationship between wage structures and workplace safety across a range of businesses. Some 72 per cent of workers surveyed in Vietnam are paid by the hour, 20 per cent are paid entirely by piece rate, and eight per cent report a combination of the two (a 'partial piece rate'). Furthermore, 37 per cent of workers say they have a production quota (either a daily or weekly quota).

Analyzing this pay structure in relation to workplace safety suggests that wage incentives ('piece rate' pay) consistently corresponds to increased worker concerns about their occupational environments. These workers are more likely to report concern surrounding accidents, dangerous equipment, air quality and chemical hazards. This could be because workers are less likely to take proper safety precautions, particularly those might slow the pace of work, when they are incentivized to work quickly. Another possible explanation is that 'piece rate' workers who have learnt about the hazards of workplace safety and health violations may be more proactive in reporting their concerns if they think it will impede productivity, and therefore pay.

Additionally, workers paid by the piece or subject to a production quota exhibit worse physical and emotional health than workers paid by the hour. In short, a faster pace of work may mean workers give less attention to preserving their health in the pursuit of maximizing pay.

In both cases, however, the 'partial piece rate' group is the driving force behind this dynamic, rather than the group of workers paid entirely by the piece. This makes it harder to determine clear implications. It could be that uncertainty in pay, rather than one pay incentive scheme or another, is driving poor safety and health outcomes.

*Davis, Mary E. (2016) "Pay Matters: The Piece Rate and Health in the Developing World," Annals of Global Health.*

### 3. The impact of Better Work on safety and health

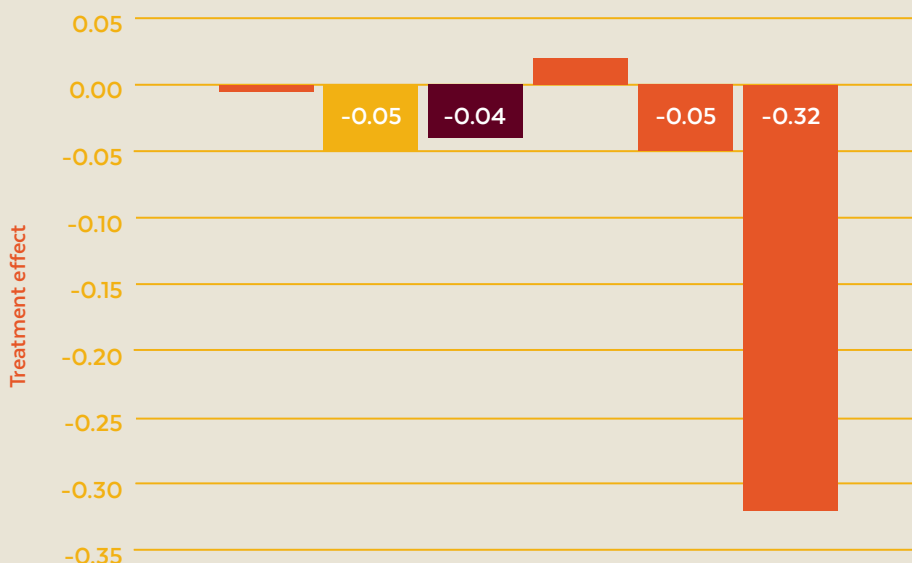
The independent impact assessment of Better Work has examined the conditions of health and safety in factories from the perspective of workers. In confidential surveys that were self-administered via tablet computers with audio recorded transcripts, workers respond to questions including whether and to what degree they or their co-workers are concerned with excessive temperatures, injuries, air quality, chemical smells or dangerous equipment. Their satisfaction level with important working environment elements is also measured, including their feedback on drinking water availability and quality, conditions of factory dormitories, and satisfaction with toilet and canteen facilities. Lastly, workers are asked about the frequency they experience health ailments that can be closely associated with work environments.

Beyond reporting on trends in these workers' responses, researchers overseeing the impact assessment of Better Work have been able to conduct analysis at an impact level, identifying effects that can be isolated and causally attributed to the Better Work programme.

#### PROGRAMME EFFECTS ON SAFETY

The strongest and most consistent programme effects related to OSH are found in Jordan and Nicaragua. Programme effect sizes by years of participation in Better Work Jordan are presented in Figure 10. By the sixth year, the proportion of workers who report that accidents or injuries are a concern for themselves or their colleagues decreases by 32 percentage points due to participation in the Better Work programme.

FIGURE 10: PROGRAMME EFFECTS ON INJURY/ ACCIDENT CONCERN



In Nicaragua, workers are asked to report how frequently they experience an injury while at work (with 1=never, and 4=often). At baseline, on average workers report an injury rate of 1.37 on this scale. A 0.32 reduction is identified as a programme effect attributable to Better Work after three years of participation in the programme, holding external factors constant. The effect is large, given the initial rate of injuries reported. Moreover, this drop appears linked to improvements workers had been reporting in impact assessment surveys between the time of the second and third year compliance assessments, which showed workers expressing fewer concerns with excessive temperatures, dangerous equipment, accidents and poor air quality.

### PROGRAMME EFFECTS ON HEALTH

Better Work has enabled positive workplace health improvements. Researchers identified statistically significant programme effects in Jordan on workers' reported experiences with fatigue, headaches, thirst and hunger. Consistent programme effects on this range of health issues linked to occupational work environments provides strong evidence that workers are experiencing healthier work environments and better health due to the Better Work intervention in Jordan. By the fourth year compliance assessment cycle, the incidence of headaches reported by workers decreased by 0.56 on a four-point intensity scale. Similarly, reports of severe hunger decreased by 0.78 on the same scale. Severe thirst also decreased – again an isolated effect attributable to Better Work – by 0.37 on a 4-point scale by the sixth year of the programme.

Evidence shows that access to maternity health care also improves in factories over the course of engagement with Better Work. Nearly eight in ten workers across all factories enrolled in Better Work are women. Better Work has expanded access to pregnancy-related healthcare, a vital service for many young women working long hours in the garment sector. In Haiti, only six per cent of female workers reported having access to prenatal check-ups at the outset of the programme. This increased to 26 per cent after five years. In Vietnam, Better Work's

impact in improving prenatal care was apparent within the first two years of participation in the programme. In this area, research results suggest the compliance assessment process drives improvement. Similar results were observed for Indonesia, and the programme achieved an even greater impact on both pre- and post-natal healthcare in Jordan. By the fourth year, the probability of having access to both types of pregnancy care increased significantly, driven both by compliance assessments and engagement with Better Work's advisory services in between assessments.

### THE IMPORTANCE OF DIALOGUE

Addressing occupational safety and health challenges can be framed as an opportunity. These issues are frequently cited as the areas first addressed in bipartite worker-management committees facilitated by Better Work in participating factories, as they serve as consensus building areas that further establish trust and dialogue to address other workplace challenges.

The impact assessment of Better Work provides evidence that dialogue mechanisms that maintain certain aspects of quality are positively correlated with better worker health. The analysis suggests the most important characteristics include whether workers are freely chosen to the committee and whether the gender composition of the committee is reflective of the workforce. Where these characteristics are present in a factory's bipartite committee, workers in the same factories tend to report lower levels of fatigue, dizziness, aches and thirst. The link suggests that where workers have a genuine space to address workplace health and safety issues, action is taken that results in better workplace OSH conditions.





## IMPROVING CONDITIONS AT WORKPLACE AND IMPROVED LIVES OUTSIDE THE FACTORY: CASE STUDY EVIDENCE FROM LESOTHO

Working long hours and suffering from the stress associated with poor labour conditions, garment workers in Lesotho often faced a challenging home life. They may lack the knowledge or time to manage the household budget effectively, or take care of seriously ill family members.

Better Work offers workers 'workplace cooperation' and financial literacy training in order to help them gain communication and practical skills that they can use at work and at home. By transferring these skills to their households, workers have been able to improve communication with their relatives about budgeting and resolve conflicts more easily. Workers also report that they have transferred the knowledge gained from safety and health training to their homes, thereby improving the health and safety of their families.

Additionally, due to improvements in communication and relationships with supervisors in the factory, workers feel less stressed when they arrive home, which has also has a positive effect on communication and relations among family members.

Focus group discussions and in-depth interviews with workers in Better Work Lesotho factories shine a light on how Better Work has benefited workers' lives beyond the factory.

*"Even at home, I think Better Work has really improved our lives. We now share responsibilities. Even our community is cleaner because we apply whatever we learn from the Better Work training courses. For example, as we both are working, if I arrive home early, I cook, I clean the house. She [my wife] finds everything in a good space. I do laundry also. We help each other. [Before Better Work] I seldom did it. Now I do it often."* - Garment worker, Lesotho

In regard to worker health, the 2015 focus group discussions at the end of the study saw nearly half of workers who mentioned Better Work's influence on their home life highlight the impact of Better Work's HIV/AIDS training. Workers who undertook this training felt better equipped to help prevent or treat the disease in themselves or others, and more comfortable addressing the topic generally. They discussed how their improved knowledge has led to a greater sense of empowerment in their lives.

*"Since the Better Work training, when we come back from the clinic and we are told that we're HIV positive, before it was going to be difficult to tell my partner that I'm infected. Now we are able to discuss this illness openly. And we have learnt that we can even have a child when we are both positive. And we have taught our other siblings about this disease, explaining that you can eat the food that has been prepared by an HIV positive person."* - Garment worker, Lesotho

Pike, Kelly and Godfrey, Shane, "Two Sides to Better Work: A Comparative Analysis of Worker and Management Perceptions of the impact of Better Work Lesotho," International Labour Office. Geneva: ILO, 2015. Better Work discussion paper no. 20.

**Progress and Potential thematic briefs** present a focused look at particular topics from the impact assessment of Better Work.

#### **CORE DONORS TO BETTER WORK**

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