

1 Occupational and Health Risks of Women Garment Workers in
2 Cambodia's Garment Industry: Evidence from a Field Survey
3 during COVID-19

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6

7 **Abstract**

8 International trade agreements were linked to improving labor standard in garment sector in
9 Cambodia. Workers in the garment sector are mostly female migrant workers from rural parts
10 of the country. This paper aims to answer the following research questions: How has
11 COVID-19 affected the right to health of garment workers in Cambodia? And what are the
12 risk factors for such workers? A field survey with a sample of 316 workers using purposive and
13 snowball methods was conducted between late October and mid-November through interviews
14 using a questionnaire in three different regions: Phnom Penh, the provincial town of Takeo
15 and two rural villages in Kdanh commune, Prey kabass district of Takeo province. Cambodia's
16 garment workers face a lot of occupational risks and health issues such as body pain after
17 work, flue, and traffic related accidents in addition to sanitation related health problems. Our
18 analysis of the health risks of garment workers using logistic regression suggests that buying
19 lunch at the factory gate or outside, living in rented rooms and drinking alcohol were among
20 the causes of falling sick.

21

22 *Index terms*— covid-19, garment sector, right to health, working conditions.

23 **1 Introduction**

24 The right to health is an inclusive right and is recognized as a human right in the 1966 International Covenant on
25 Economic, Social and Cultural Rights. The right to health is not only associated with access to health-care and
26 the building of hospitals, but also with the underlying determinants of health, including safe drinking water and
27 adequate sanitation, safe food, adequate nutrition and housing, healthy working and environmental conditions,
28 health-related education and information, and gender equality ??OHCHR & WHO 2008). Recent data from the
29 National Social Security Fund (NSSF) suggests that the total number of garment and footwear enterprises and
30 establishments in Cambodia in 2017 was 1,021 and the total number of workers was 696,554, of whom 82% were
31 female (National Social Security Fund (NSSF) 2017). The export value of the sector accounted for about 80%
32 of the total export value of the national economy. International trade agreements were used to improve labor
33 standards.

34 Garment workers have limited health insurance. A National Social Security Fund (NSSF) provides them with
35 an occupational insurance scheme and a health insurance scheme. The National Social Security Fund (NSSF)
36 is an organization responsible for providing the basic social security to the workers in the private sector only
37 in its initial stage of development. Later in 2018, NSSF expanded its coverage to civil servants, veterans and
38 ex-civil servants. NSSF is under the directive of Ministry of Labour and Vocational Training and Ministry of
39 Economy and Finance. NSSF has three insurance schemes: occupational insurance, health insurance and pension.
40 Currently, NSSF implemented two schemes occupational insurance scheme and health insurance scheme. Health-
41 care services in Cambodia are provided by both the public and private sectors, largely by the latter in recent
42 years. As of 31 December 2018, the number of private health facilities was 12,785 as opposed to 1,457 public
43 health facilities (MoH's annual report 2018).

7 B) COVID-19 AND GARMENT WORKERS' LIVING CONDITIONS

44 The occupational insurance insures workers against commute accident, workplace accident and occupational
45 disease. The coverage of occupational insurance scheme has expanded remarkably since the initial launch in
46 November 2008. Enterprise/ establishment with 8 workers or more are compulsory to register with and pay
47 contribution to NSSF. Fainting and traffic accidents have been the main occupational risks for garment workers
48 in recent years. Thousands of Cambodians died every year in traffic accidents. According to data for nationwide
49 traffic accidents from the Ministry of Interior, from 11 November 2015 to 10 November 2016 there were 4,029
50 accidents and 1,926 deaths, and from 11 November 2016 to 11 November 2017, 3,815 accidents and 1,913 deaths.
51 The causes of traffic accidents among workers included speeding, mechanical failure, dangerous overtaking, failure
52 to observe the right of way rules, drunk driving, failure to observe the right-hand priority and bad road surfaces.
53 Among garment and footwear workers, there were 4,451 traffic accidents and 43 deaths over the period from 1
54 January to 10 December 2016 (Report on annual achievements 2016 and action plans of the road traffic safety
55 team for workers' protection, NSSF).

56 Health insurance scheme under NSSF was developed from health insurance project of NGOs. This paper aims
57 to answer the following research questions: (1) how was the right to health of garment workers in Cambodia
58 during COVID-19? And (2) what are the determinants of workers' health? In addressing these questions, a field
59 survey of garment workers in three different regions: Phnom Penh, the provincial town of Takeo to the south and
60 two nearby rural villages, was conducted from the end of October to mid-November 2020 about their perceptions
61 regarding the right to health. The findings of the research are intended to provide some inputs for policy-makers
62 and development partners in improving the health-care of garment workers, as well as other low-income groups
63 in Cambodian society.

64 2 II.

65 3 Research Methodology

66 A field survey of 316 garment workers was conducted between late October and mid-November through interviews
67 using a questionnaire in three different regions: Phnom Penh, the provincial town of Takeo and two rural villages
68 in Kdanh commune, Prey kabass district of Takeo province. Our surveyors wore masks while interviewing workers,
69 but some of their respondents did not. All the interviewed workers were still working in garment factories, but
70 some of them had had their jobs suspended. Purposive and snowball sampling methods were used. After
71 collecting data using hard-copy questionnaires, a Google form was used for data entry. The traditional work of
72 the women the two sample villages is weaving traditional silk skirts, but the arrival of the garment manufacturer
73 has attracted some of weavers to abandon this work. In addition to the primary data we collected, this research
74 also uses secondary data from various sources such as the World Bank and previous research about the garment
75 sector in Cambodia. Logistic regression technique was also performed to analyse the risk factors that affect the
76 health of garment workers using the survey data.

77 4 III.

78 5 Survey Results

79 6 a) Profile of workers

80 This section and the subsequent ones use our primary survey data to explore the right to health and the working
81 conditions of garment workers during COVID-19. The survey data are also used to analyze the health risks for
82 workers. The total number of interviewees was 316, as shown in Table 1. The majority of respondents were
83 female workers, representing 88% of total respondents. The majority of the garment workers were young and
84 have low levels of education. About 76% of all respondents were below the age of thirty. 98% of respondents
85 in Phnom Penh lived in rented houses or rooms, being migrant workers from rural parts of the country. Most
86 of the workers who work in factories in Takeo, however (68.6%), were living in their own houses, though 29.4%
87 were renting houses or rooms. All the village workers lived in their own houses, but it took them a long time to
88 commute to work.

89 7 b) COVID-19 and Garment Workers' Living Conditions

90 The majority of workers who continued to work in garment factories during the pandemic said their working
91 conditions had become worse and that their working hours had been reduced. Social distancing was not widely
92 applied by workers in their workplaces as protection against COVID-19, though wearing face masks and washing
93 hands with alcohol fluid and soap were widely practiced. Of the total respondents, 97% of workers reported
94 they wore masks, 88% washed their hands with alcohol fluid or soap, 28.6% maintained social distancing, and
95 1% used other measures. COVID-19 reduced the gross salaries of some workers in each survey site. On average
96 workers earned about 13% less during the pandemic than before it: the average gross salary before COVID-19 was
97 USD 266, while during COVID-19 it fell to USD 236, a decline found in each survey site. As announced by the
98 Ministry of Labour and Vocational Training (MoLVT), some factories closed during COVID-19 and suspended
99 their workers for a period of time. Cambodia introduced digital cash transfers for suspended workers in the

100 garment sector. The Ministry of Labour and Vocational Training announced it would provide an allowance of
101 USD 40 a month to each suspended worker plus another USD 30 coming from the factory owners.

102 **8 c) Occupational Risks**

103 From our survey, we found that 55.5% of respondents in the three survey sites commuted to work on foot,
104 23% by truck, 13.8% on their own motorcycles, 7.1% by bicycle, and 0.6% by Romork (a long cart pulled by
105 a motorcycle). Many workers who lived in Phnom Penh (74%) commuted to work on foot because they rented
106 houses and rooms located close to their places of work. Workers in the two rural villages normally commuted to
107 work in factories in towns by truck, waking up early in the morning to take the truck and returning to stay in
108 their own homes in their villages the same day. According to one worker in Prey Chambak village who commutes
109 to work in a shoe factory in Kandal province near Phnom Penh, workers paid a fare of between USD 13 and
110 USD 17 per person per month, depending on the location of their factories. It normally took about an hour and
111 forty minutes to commute one way from her village to her shoe factory. In contrast to the village workers, about
112 half of the workers in Takeo town (43%) used their own motorcycles to commute to work, followed by those who
113 travelled by truck (30%).

114 The majority of workers considered commuting to work safe. In response to our question, "Do you agree that
115 commuting to work is safe?" 74% agreed it was, 15.2% disagreed, and the remainder said they did not know.
116 Figure 1 gives responses to questions related to the occupational risks. Strikingly, 25.8% of respondents said they
117 had asked to go on sick leave, and 43.7% said they had gone to buy medicines or to have their health checked
118 in the past three months. This information on workers' health issues showed that a large proportion of them
119 needed to buy medicines or have their health checked.

120 A good work-place environment is very important for the workers' health. Although most workers said their
121 factories had enough clean and hygienic toilets, noise and chemicals were present in the factory. More than 80%
122 of respondents said their factories had sufficient clean toilets for the workers. However, about half said their
123 work-places were noisy and smelled of chemicals. Sickness or falling unconscious was often witnessed by workers
124 in factories. In response to the question, "Have you ever witnessed workers falling unconscious in recent months
125 in their factories?", 75.5% said they had never witnessed this, while 24.5% said they had. Similarly, in response
126 to the question, "Have you ever seen sick workers in their factories recently?", 43.7% said they had, and 56.3%
127 that they never had. When asked whether they had ever seen workers suffering accidents while doing their work,
128 41% said they had and 59% that they never had.

129 **9 d) Food and Accommodation**

130 The choice of foods to consume can also affect the health of workers. Foods sold at the factory gate were not
131 hygienic enough to support good health. Workers can alternatively choose to cook a meal themselves and bring
132 it to the factory to eat or buy food in the factory's cafeteria. However, very few of our respondents said they
133 bought food in a cafeteria, as most factories do not have one. Questions regarding their choice of breakfast,
134 lunch and dinner were asked in order to determine whether there is any relationship between choice of meal and
135 workers' health. In general about half of the workers in Takeo town and Phnom Penh bought breakfast (43%)
136 and lunch at the factory gate (48.7%). Very few workers obtained their breakfast from the factory. Most factories
137 provided facilities for workers to eat their meals but did not provide meals. In contrast to breakfast and lunch,
138 almost all workers, regardless of survey site, cooked their own dinners.

139 About 98% of workers in Phnom Penh live in rented houses or rooms. Most of them shared rooms to reduce
140 the rent that each person pays. In Phnom Penh, of those who rented a room or house, 16% lived alone, 44%
141 shared with another person, 31% shared with two other persons, and 9% lived in shared room of more than four
142 persons. Only about 30% of workers in Takeo town rent accommodation. Naturally the workers living in the
143 villages live in their own homes, but they become exhausted having to commute about three hours every day for
144 the round trip. Normally a rented room has a toilet inside but no kitchen. Workers therefore bought gas stoves
145 to be able to cook in their rooms. The low return on renting a room probably does not provide enough incentive
146 for owners to make changes such as installing sufficient and sufficiently good equipment for the workers who live
147 there. The average rental fee paid by a worker in Phnom Penh was almost twice that in Takeo town. An average
148 worker in Phnom Penh paid 24 USD a month, while a worker in Takeo town paid 14 USD a month.

149 **10 e) Health Issues**

150 Although one of every four garment workers had asked to go on sick leave in the past three months, the majority
151 of respondents bought medicines or went to hospital because of health issues in that period. Private health
152 facilities are the main providers of health-care services to garment workers. In the past three months, as shown
153 in Figure ??, 25.8% of respondents had asked to go on sick leave, while 74.2% had never asked to do so. Private
154 hospital, clinics and private pharmacies were the main providers of health-care services to garment workers in
155 Cambodia. Of those who bought medicines or went to hospital, 37% went to private pharmacies, 24% to private
156 hospitals or clinics, 25% to health centers, 12% to a public hospital, and the remaining 2% to an NGO-sponsored
157 hospital. Public hospitals therefore played a less important role in providing health-care to garment workers than
158 private health facilities.

159 **11 Figure 2: Seeking Health Care and Health Services**
160 **Providers**

161 Body pain, headaches, having a cold and feeling dizzy were common health issues among garment workers during
162 the survey period. The majority of workers had body pain after working the whole day in the garment factory.
163 As shown in Figure 3, 71.8% of respondents said they had body pain, while 28% did not. Of the 244 respondents
164 who reported body pain, 52% had headaches, 36% had pains in the neck or back, 30.7% in the legs, 26.2% in the
165 arms, 7.4% in the eyes, and 11.9% in other parts of the body. In addition to body pain, common health issues
166 among workers include fever, diarrhoea, headaches, dizziness and colds. In response to the question, "Have you
167 ever had the following health issues?", of the total respondents shown in Figure ??, 27% responded that they
168 had not had any health problems in the past three months, while 41% had caught a cold, 37% had a headache,
169 19 % felt dizzy, 14% had fever, and 7% had diarrhoea.

170 Regarding alcohol and tobacco consumption, we find that almost all workers in the samples did not smoke,
171 though some of them drank alcohol. Of the total number of respondents, 2.5% said they had smoked in the past
172 month and 15.1% that they had drunk some alcohol. To quantify the volume of alcohol consumption, we ask
173 workers how often they had drunk in the past month. 2% said they drank every day, 5.7% a few times a week,
174 28.3% once a week, 15.1% a few times a month, and 49.1% once a month.

175 **12 Figure 4: Some Health Issues**

176 Of the total number of respondents, 55.6% said they paid for health services, while 44.4% received health services
177 for free. Almost all the workers in our samples, 91%, have a National Social Security Fund (NSSF) card allowing
178 them free health-care. Asked how easy it is to use the NSSF card, 4.2% said it was very easy to use, 16.4%
179 moderately easy, 55% easy, 14.5% difficult, and 10% very difficult. When asked how often workers used the card,
180 about 80% of all respondents said they did not use it very often. Some workers told us that for minor illness
181 they went to a hospital nearby for treatment because they heard that using the NSSF card was time-consuming,
182 and the doctors there did not take as much care of them as in a private hospital.

183 **13 f) Health Risks**

184 In this section, we examine the risk factors associated with garment workers' health. We examine the factors that
185 caused workers to (1) buy medicine or go to hospital, and (2) ask for sick leave in the past three months. In our
186 survey we found that 26% of respondents had asked for sick leave and 55% had gone to buy medicines or visited
187 a hospital in the past three months. Factors that may affect the health of workers include whether they are male
188 or female, their age, marital status, education, experience of working in a garment factory, working environment
189 and conditions, drinking or smoking habits and choice of meals. A large proportion of workers choose to buy
190 breakfast and lunch at the factory gates or elsewhere outside, meals that lack sanitation and hygiene.

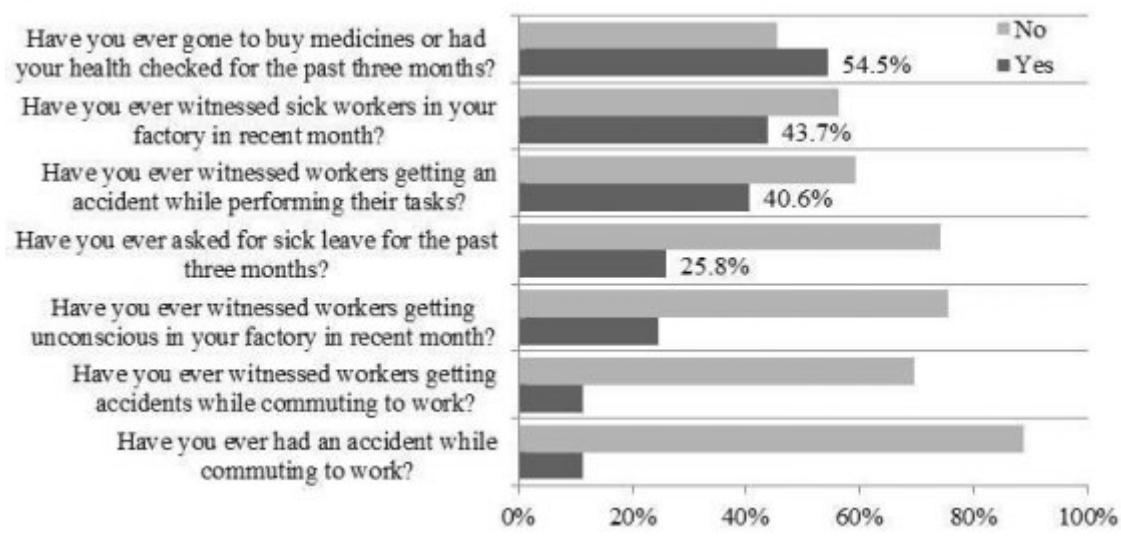
191 Logistic regression was performed to investigate the determinants of buying medicine or visiting hospital
192 recently. Column 1 Table 2 reports the result of the logistic regression when the dependent variable is a dummy
193 variable taking the value of 1 if the respondent went to buy medicines or went to hospital recently. The result
194 suggests that female workers, older workers and workers who eat dinner or breakfast outside the factory tend to
195 be significantly less likely to seek medical care than male workers, younger workers, or workers who eat their own
196 cooked breakfast or dinner. However, married workers, workers living in rented rooms or houses, workers who
197 said their workplace was noisy and workers who buy their lunch at the factory gates or outside are more likely to
198 seek medical care by going to buy medicines from pharmacies or going to hospital. These results are consistent
199 with the evidence that shared rented rooms and food sold at the factory gate are not sufficiently hygienic and
200 lack adequate sanitation. Workers who drink, smoke, or work in factories with the smell of chemicals are also
201 more likely to seek medical services than workers who do not drink or smoke, or who work in a factory without
202 the smell of chemicals.

203 Logistic regression was also performed to investigate the determinants of asking for sick leave. Column 2 of
204 Table 2 reports the result of the logistic regression when the dependent variable is a dummy variable taking the
205 value of 1 if the respondent asked for sick leave in the past month. The results suggest that older workers are
206 more likely to ask for sick leave than younger workers. However, married workers, workers living in rented rooms
207 or houses, workers who said their work-place was noisy and workers who drink are more likely to seek sick leave.
208 Conversely, workers who buy their lunch at the factory gate or outside are not more likely to seek sick leave. IV.

209 **14 Conclusions**

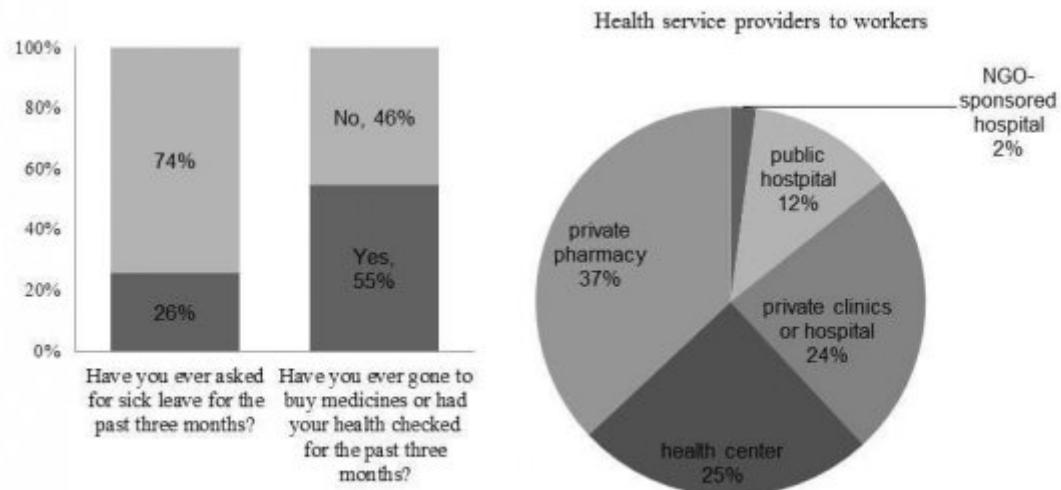
210 Despite the relatively few COVID-19 cases recorded in Cambodia, COVID-19 hit the Cambodian economy hard,
211 particularly the garment and tourism sector, the main pillars of the economy. Due to the low number of COVID-
212 19 cases, the hospitals were not overcrowded and could still function. Nonpharmaceutical interventions were used
213 to contain the spread of the virus, while cash allowance programs were used to compensate suspended workers in
214 the garment sector. The great majority of workers prevented COVID19 spreading through frequent hand-washing
215 or using a face mask, but the majority were not socially distancing. The pandemic reduced the incomes of those
216 garment workers who were still working, probably because of the reduction in overtime. As the fall in income

217 was considered likely to be temporary, this may have had few effects on expenditure for consumption, which is
 218 believed to depend largely on having a permanent income. Nonetheless the increase in the cost of living during
 219 the pandemic seems to have reduced purchasing power somewhat. Although the minimum wage for workers has
 220 continued to increase in recent years, workers still faced some health issues, such as fainting, diarrhoea, body
 221 pain after work, colds and fever. During COVID-19, workers had some health problems such as body pain, and
 222 we uncovered evidence of their buying medicines and seeking healthcare in the past three months. Our analysis
 223 of the health risks of garment workers using logistic regression suggests that buying lunch at the factory gate
 224 or outside, living in rented rooms and drinking alcohol were among the causes of falling sick. The welfare of
 225 workers can be improved by improving the sanitation and hygiene of foodstuffs and rented rooms, for example,
 226 by providing more training in how to live better, asking one's landlord to provide enough cooking facilities or
 227 improving the space of rented rooms. Policies to improve rented housing for garment workers and food safety are
 228 recommended. After the outbreak of COVID-19, Cambodia signed a free trade agreement (FTA) in the region
 with China and the Regional Comprehensive Economic Partnership (RCEP).



1

Figure 1: Figure 1 :



3

Figure 2: Figure 3 :

14 CONCLUSIONS

All employers or owners of enterprises/establishments shall be compulsory to collect contribution and pay contribution to NSSF. Contribution rate of employers or owners of enterprises/establishments is equal to 1.3% and of workers is equal to 1.3% of average wage in the classification of workers' monthly wage. In the past the health issues of garment workers were associated with a lack of nutrition, a poor work-place environment and the failure of workers to practice hygiene (World Bank 2006, Chandararoth et al. 2009, BDLINK & HRINC 2011, Mukarat et al. 2018). Jameel et al. (2019) argued that although many factories were compliant with legislation on maternity leave, breastfeeding and child-care arrangements, breastfeeding and antenatal (ANC) services were under-used, resulting in poor child nutrition.

Figure 3:

1

N Percent

Figure 4: Table 1 :

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(1) (2)

Figure 5: Table 2 :

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