

# **COVID-19, Global Value Chains, and the Impact on Gender:**

## **Evidence from the Garment and Electronics Sectors in Asia**

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## About this report

The K4D Emerging Issues report series highlights research and emerging evidence to policymakers to help inform policies that are more resilient to the future. K4D staff researchers work with thematic experts and the FCDO to identify where new or emerging research can inform and influence policy. This specific report is part of the K4D Evidence & Learning Initiative for the Prosperity Fund to build back better after the COVID-19 pandemic.

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## Contents

<b>Key findings</b> .....	<b>4</b>
<b>Executive summary</b> .....	<b>5</b>
<b>Introduction</b> .....	<b>7</b>
<b>Part I. Framing gender issues in global value chains</b> .....	<b>7</b>
<b>Part II. Global value chains: Garments in Asia</b> .....	<b>8</b>
Economic impacts of COVID-19 on women in the garment sector.....	8
Domestic impacts of COVID-19 on women in the garment sector .....	11
Health risks to women in the garment sector .....	12
<b>Part III. Global value chains: Electronics in Asia</b> .....	<b>13</b>
Economic impacts of COVID-19 on women in the electronics sector.....	14
Health and social risks to workers in the electronics sector.....	15
<b>Conclusions</b> .....	<b>16</b>

## Key findings

- Quantitative and qualitative data on the gendered effects of COVID-19 are still fragmented and small in scale. They also largely focus on initial surveys conducted in the early stages of the pandemic, in the first half of 2020. More evidence needs to be gathered to fully understand the impacts of COVID-19 on women in global value chains, and gender visibility must be prioritised in future data with consideration to further intersectional data such as age, geographical location, and ethnicity.
- Both garment and electronics producers in Asia suffered supply and demand shocks which had negative economic impacts on their largely female workforces, resulting in loss of wages and jobs. The demand shock was particularly pronounced in the garment sector during the initial months of the pandemic, which led to longer-term job insecurity for many despite a gradual increase in demand again. The electronics sector also felt the effects, although it benefited from a slightly stronger economic rebound after the initial supply shock.
- Many garment suppliers subcontract production to female homeworkers, often informally. These women work from their own homes and are particularly vulnerable to supply and demand shocks, losing income as a result of the COVID-19 pandemic. Additionally, many of these women in the informal sector do not qualify for government support.
- Those who continue to work in factories do so with the risk of not having sufficient protection against COVID-19. They also may have to fulfil orders with a reduced workforce due to social distancing requirements.
- There is evidence of increasing domestic responsibilities for women, since more family members are spending more time at home during the pandemic and many schools were closed/remain closed. This reduces the opportunities for those women who have been fired or furloughed from their jobs to seek alternative employment.
- There is evidence of increases in gender-based violence in domestic spheres.
- In order to better protect suppliers' workforces, buyers in both the garment and electronics value chains should be accountable for making payments to suppliers where agreed, and to take more responsibility for supporting suppliers' workforces if necessary.
- In future, data on workers in global value chains should be disaggregated by gender in order to allow for a better understanding of the gendered impacts of crises such as the COVID-19 pandemic.

## Executive summary

This report analyses the impact of COVID-19 on women in the global garment and electronics value chains, with a focus on women working in production in Asia. Building on a previous K4D assessment of COVID-19 and its implications for global value chains (Quak, 2020), this report addresses the need to understand how COVID-19 specifically impacts women in global value chains.<sup>1</sup>

The report seeks to answer the question “how have male and female workers been affected differently by the COVID-19 pandemic, particularly regarding employment and the ability to work differently?”. The review presented is based on existing evidence of the gendered impacts of COVID-19 on the garment and electronics value chains in Asia and draws on both academic and grey literature. At the time of research (March 2021), the evidence was relatively sparse, frequently relying on initial surveys completed early on in the pandemic. In addition, data disaggregated by gender is rare. Where these data are not available, our approach is to synthesise what we know about the impact of COVID-19 with what we know about the nature of gender in the garment and electronics sectors and to conclude the likely impacts of COVID-19 on gender.

The garment and electronics value chains can be characterised as “captive” value chains, with small numbers of powerful buyers as lead firms and a large number of competing suppliers. This leads to suppliers competing on price, and employing large amounts of low-paid labour, which in these value chains is predominantly women. This can lead to benefits should value-chain upgrading occur, but it also leaves low-paid workers at risk in the case of value-chain downgrading if there is competition on prices, or slowdowns in production. As a result of COVID-19, the electronics and particularly the garment value chains suffered from downgrading as a result of supply shocks reducing production capacity, and demand shocks leading to price competition.

During the early stages of the COVID-19 outbreak, lockdowns in China resulted in supply shocks across both the garment and electronics industries, leading to suppliers and manufacturers in other Asian nations being unable to access raw materials and therefore unable to continue normal levels of production. Even when China’s exports began to flow again and supply issues receded, manufacturers were affected by loss of demand from Europe and the US, as these regions’ economies suffered from lockdowns. In the garment sector, buyers cancelled orders, and delayed or cancelled payments for garments already produced. In the electronics industry, while there was an uptick in demand in some sub-sectors such as semiconductors and communications to fuel the working-from-home boom in many countries, there was also a loss of demand for consumer electronics. These shocks led to reduced income for many manufacturers, which in turn has led to reduced income for workers, and in many cases furlough or even job losses. Since the majority of those doing unskilled production tasks are women, it is women who have suffered the most from this loss of income.

This report shows that for those workers who have returned to factories, there are risks from unsafe working conditions due to the inability of producers to provide adequate protections against COVID-19 infection in the workplace and also owing to lower labour standards as manufacturers seek to maintain a competitive advantage. This is particularly apparent in the

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<sup>1</sup> For reference, please see Quak (2020) <https://opendocs.ids.ac.uk/opendocs/handle/20.500.12413/15668>

garment sector as decreased demand from buyers and excess capacity among producers leads to exacerbation of price squeezes and greater competition among producers.

These effects have been especially felt by the female informal workers who make up a large proportion of workers in the garment value chain. Economically, these workers are often affected the most, as government support schemes rarely extend to them. This loss of income, combined with restrictions on movements in many countries owing to lockdowns, has resulted in claims of increased gender-based violence as women remain at home often with perpetrators of this violence with no means of escape.

As stated, this report covers an emerging issue, for which evidence is incomplete. As such, further research based on this report should seek to understand the extent to which the short-term impacts of COVID-19 on women in value chains have translated into medium- and longer-term effects. However, based on the emerging evidence, policies should be primarily directed towards (a) ensuring that employee data in global value chains are disaggregated by gender; (b) ensuring that social protections are in place for the most vulnerable workers and include informal workers, who are predominantly women; and (c) holding buyers accountable for the impact of their actions on workers in their supply chains.

## Introduction

COVID-19 has impacted value chains across sectors, both upstream and downstream. However, the impacts have not been spread evenly across value chains (Quak, 2020). Owing to the tendency for men and women to occupy different positions in value chains and for their lives to be shaped by different societal roles, the impacts of COVID-19 are likely to affect women in these value chains differently from men. Broadly, (a) women are expected to be at greater risk of losing income as a result of being in less secure work than men; (b) while men are more likely to die of coronavirus, women's health can be put at risk by the reallocation of resources away from sexual and reproductive health facilities in favour of COVID-19 medical needs; (c) the burden of unpaid care responsibilities increases as families are forced to remain at home; and (d) gender-based violence is reported to have increased (United Nations, 2020; World Bank, 2020). In developing countries and humanitarian settings, these impacts are felt even more acutely; and women are put at even greater economic risk as their jobs are concentrated even more heavily in industries that have been hardest hit by the pandemic (CARE International UK, 2020).

However, there are difficulties in ascertaining the specific impacts on women in global value chains owing to them often being "invisible" in data despite making up the majority of workers in value chains in sectors such as garment and electronics (World Benchmarking Alliance, n.d.; Bamber & Staritz, 2016). This leads to the risk of companies' responses to COVID-19 being gender-blind, and the subsequent recovery failing to mitigate impacts specific to women (WOW, n.d., a).

This review assesses the qualitative and quantitative data which have been gathered on the gendered impacts of COVID-19 on the garment and electronics value chains. These sectors have been selected since both of these value chains are global, with power mostly concentrated in lead firms, and both employ significant numbers of women. Geographically it focuses on Asia, where the majority of production in these value chains takes place. This report is based on a desk-based literature review conducted in March 2021 using academic and grey literature dealing with the topic of COVID-19's gendered impacts in the garment and electronics value chains.

## Part I. Framing gender issues in global value chains

The literature on women in global value chains focuses on women's fulfilment of low-paid, labour-intensive work in production, a theme which is prevalent across sectors. This can have both positive and negative impacts for women's economic and social empowerment. Barrientos (2019) and World Bank (2013) both identify women's inclusion in global value chains as an opportunity for developing countries and emerging economies to integrate themselves into global value chains by using women as a source of cheap labour, allowing companies utilising them in their workforces to compete on price. Barrientos (2019) highlights the benefits which this inclusion has brought to women, noting that work in food and apparel production previously done by women unpaid is now being remunerated. This can empower these women economically. Where countries are able to upgrade their positions in value chains, women can not only realise greater economic benefits as they see opportunities for promotion to traditionally more male-dominated management roles, but can also see greater societal benefits as they are afforded increased worker protections due to fulfilling roles which can add greater value. This can be a result of various factors including (a) increased demand, and subsequent competition for labour; (b) contestation by workers leading to better conditions, as in the case of the Kenyan flower or Nike apparel value chains; and (c) public governance, with impositions of minimum wages and labour standards, as in the Kenyan flower value chain. In such instances, increased economic empowerment can go hand in hand with societal upgrading for women in the value chain (Barrientos, 2019). However, women's inclusion in global value chains can also be detrimental to

empowerment. Barrientos, Bianchi, and Berman (2019) state that when global value chains encourage price squeezes, such as when they are dominated by a small number of lead buyers, workers' human rights can be affected as well as their income. This most severely affects those from groups which suffer systemic discrimination, in particular along lines of caste, gender, and ethnicity. Barrientos et al. (2019) consider gender discrimination to be "endemic" in global value chains, with women seen as an accessible source of low-cost labour. Barrientos (2019) notes that women are frequently in precarious positions in value chains and in the case of value-chain downgrading where producers employing women compete heavily on price, often women providing the bulk of labour-intensive low-wage labour will see their wages and workers' rights eroded. In such situations, social compliance of companies is poor, with workers lacking the power of contestation, and social audits being ineffective at picking up gender-based discrimination and harassment (Barrientos et al., 2019).

This can leave women vulnerable in times of crisis. A Work and Opportunities for Women report (WOW, n.d., a) notes that women playing a role in labour-intensive value chains are the most vulnerable in times of crisis. Forstater (2010) specifically analyses the impact on garment global value chains of the 2007–2008 global financial crisis. Dynamics in the garment sector prior to this crisis were shaped by the Multi Fibre Arrangement, which saw trends in suppliers diverge: higher value-add consolidated suppliers were differentiated from a tier of highly competitive "commodity manufacturers" competing on low costs. The crisis exacerbated existing trends, with squeezes on those low-cost suppliers leading to redundancies. This was particularly prevalent in countries which were already seeing a slow structural decline in garment manufacturing prior to the crisis, resulting in job losses, retrenchment of workers, price squeezes and, in particular, job losses among women and migrant workers. Forstater (2010) notes that women in some countries where formal work is unavailable were forced into other forms of informal work, such as sex work, demonstrating the vulnerability of women in low-cost labour-intensive work in value chains.

## **Part II. Global value chains: Garments in Asia**

The garment value chain is characterised by powerful buyers, often multinational retailers, who purchase from a diverse range of smaller captive suppliers. This leads to a power imbalance in which suppliers are forced to compete on price, leading to price squeezes (Anner, 2019b). This in turn translates into low wages for workers, and lack of job security in the event of economic shocks. Women are estimated to make up about 75% of workers in the global textile, garment and footwear value chains, and are frequently paid below the minimum wage, and often suffer from job insecurity and lack of workers' rights (Jalan, 2020). The International Labour Organization (ILO, 2020b) projects that women in the garment sector will be hit particularly hard by the COVID-19 pandemic, with risks that jobs will be lost and not return, leading to financial insecurity, widening gender pay gaps, increases in insecure informal work, greater domestic care burdens and gender-based violence as women spend more time at home.

### **Economic impacts of COVID-19 on women in the garment sector**

The economic impact on those working in the garment value chain was a result of both supply and demand shocks caused by COVID-19 (Castañeda-Navarrete, Hauge, & López-Gómez, 2020). The supply of raw materials from China was disrupted as COVID-19 cases led to lockdowns in the country, which in turn led to supply chain contagion, as countries such as Bangladesh, Cambodia, Myanmar, Pakistan, Sri Lanka, and Vietnam were unable to continue production owing to their reliance on China for raw materials and machinery (Leitheiser et al., 2020; Sen et al., 2020). In Bangladesh, for example, 93% of manufacturers said that they faced shortages of supplies during the pandemic (Leitheiser et al., 2020).



While supply from China rebounded relatively quickly as virus cases in China subsided, demand disruptions led to difficulties for manufacturing firms as demand from the US and Europe dropped following increasing virus cases and subsequent lockdowns in these consumer markets. While global textile trade increased again by 40% in Q3 2020, and 16% in Q4 2020 (UNCTAD, 2021), this drop in demand had significant consequences for the workforce in many producer countries which saw the biggest falls in demand. Different countries were affected to varying extents, with production volumes depending in part on demand but also on a country's ability to maintain production. For example, countries with lower COVID-19 case numbers were better able to serve the demand which remained: Vietnam, for example, was better able to keep cases low, and saw a maximum production fall of -18.3%. Bangladesh, on the other hand, saw a maximum drop in production of -77.6% (Castañeda-Navarrete et al., 2020). Other countries affected by demand drops were Indonesia (Yayasan CARE Peduli, 2020), Myanmar (Hall, 2020), and Cambodia (von der Dellen, 2020).

Given that women are known to perform the majority of production work, particularly unskilled work, in garment value chains, we can infer that women have been disproportionately affected by negative economic impacts on garment value chains. There is some limited information on the specific effects which women have experienced across different countries in Asia as a result of supply and demand shocks. Despite Vietnam's relative resilience to COVID-19, the garment sector was one of the hardest hit industries within the country, and has seen the weakest recovery (IMF, 2021), with 100% of garment manufacturers reporting being affected by supply and demand shocks (Giang & Hong, 2020). Both male and female workers reported income losses of between 20% and 50%, albeit in a small study of only six women and three men (Giang & Hong, 2020). ILO (2020c) shows in surveys including 57 garment workers, that in the garment sector, about 50% of workers had their pay reduced by between 20% and 50%, and around 30% of workers had their pay reduced by more than half. While this does not disaggregate the results by gender, and Giang and Hong do not report any differences in income losses between men and women, the fact that 80% of employees are women in this sector implies that women will be disproportionately affected (Giang & Huong, 2020).

In Myanmar, about 90% of the garment workforce of 700,000 people is estimated to be women, mostly between the ages of 16 and 23, and frequently migrants to Yangon from rural areas (Hall, 2020).<sup>2</sup> Around 50% of these workers are at risk of either being suspended without pay or losing their jobs permanently as a result of loss of demand for their products (Hall, 2020). Hall notes that 64% of businesses in Myanmar expect to face cashflow issues which threaten their survival with the garment industry being one of the hardest hit; qualitative evidence from interviews with 23 female and five male garment factory workers indicates that cancelled orders resulted in factories closing "immediately", with workers being given no advance notice and no pay (Hall, 2020). Citing evidence that 58,000 garment workers in Myanmar are now unemployed, of which 52,200 are estimated to be women, Hall (2020) notes that not all of these will be eligible for government support. While the government has announced that it will cover 40% of salaries for those working in factories which have been forced to close, this only covers those employees registered with the Social Security Board. Hall (2020) notes that none of the interviewees mentioned this. In addition, a 2017 study shows that only 29% of garment workers in Yangon have written contracts, with the remainder effectively being informally employed and as such, potentially ineligible for government support (Enlightened Myanmar Research Foundation and Andaman Research & Advisory, 2017).

Cambodia also saw a demand shock which affected its majority-female garment workforce. Cambodia's garment and footwear factory industry employs approximately 770,000 people, of

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<sup>2</sup> We note that this research was completed before the coup in Myanmar and as such, demographic and workforce statistics do not take any subsequent changes into account.

which 639,000 are women (83%). The Garment Manufacturers Association in Cambodia states that 60% of factories and 500,000 workers have been affected by cancelled orders (Fair Labor Association, 2020). While the Cambodian government stated that as of April, 90% of garment employees had returned to work (Fair Labor Association, 2020), von der Dellen (2020) notes that despite the rebound for garment factories, at the start of the pandemic 91,500 workers were laid off for one to two months, and up to 200,000 employees (89% women) were at risk of losing their jobs. According to the Fair Labor Association (2020), under Cambodian law, employers must get government approval to suspend workers and must pay them 40% of the \$190 per month minimum wage. However, von der Dellen (2020) notes that ultimately factories agreed to provide \$30 per month, with the government providing \$40. This resulted in many suspended workers being pushed into poverty.

Bangladesh was also affected by supply and demand shocks. Based on a survey of 316 suppliers in May 2020, Anner (2020a) states that 45.8% of suppliers reported “a lot” to “most” of nearly completed or entirely completed orders were cancelled, and 5.9% had all orders cancelled. Some 72.1% of buyers refused to pay for raw materials already purchased by suppliers; 91.3% refused to pay for production costs incurred by suppliers; and 58% of factories had to shut down most or all of their operations. More than one million garment workers in Bangladesh were fired or furloughed; 98.1% of buyers refused to contribute to furlough wages and 97.3% refused to contribute to severance pay, and there was little to no government support, leaving factories to cover these costs despite their lack of revenue. As a result, 72.4% of furloughed workers were sent home without pay. Anner (2019a) demonstrates that this all happened in the context of a price squeeze on suppliers which had been in progress for a number of years, with a combination of an oligopsonistic market and increased competition from suppliers in China and Vietnam. As such, both suppliers and their employees were already in relatively precarious positions.

As with other countries, the workers affected by this demand shock are disproportionately women. Anner (2019b) puts the proportion at 74%, and Better Work Bangladesh (2020) puts it at 61%; and as with Myanmar, these women are often young rural migrants (Anner, 2019b; Better Work Bangladesh, 2020). According to Anner (2019b), women earn less than men, with an average wage of \$77.34 per month compared with \$92.94 for men, and with only 4.3% of women indicating that their wages always covered their living expenses compared with 12.2% of men. This indicates that workers in this sector are particularly vulnerable to economic shocks, being in an already precarious position. In addition, Better Work Bangladesh (2020) notes that women are perceived to be slower and therefore less productive workers than men, and that they feature less prominently in supervisory roles, and are as such more likely to be laid off than men. This is also the case in India, where the Asia Floor Wage Alliance (AFWA, 2020b) notes that women are more likely than men to be laid off in some Indian factories, and that most women over 40 have not been called back to work.

CARE (2020) surveyed 255 female garment workers in Bangladesh in an attempt to understand the immediate impacts of COVID-19 on these women’s livelihoods. Problems they faced and worried about were predominantly fear of losing their job or not getting paid, lack of food, and fear of catching COVID-19. Fifty-six per cent were concerned about lockdowns, which would prevent them from fulfilling daily needs; 35% were uncertain whether their salary would be paid; 39% faced food shortage; and 9% reported sickness. This resulted in mental health issues, with 91% claiming to suffer mental anxiety about their job; 52% fearing that their factory would not get another order from buyers; 28% fearing losing their jobs; and 49% thinking that they would not get paid on time. While this does not provide a comparison with male workers, it indicates some of the problems faced by female garment workers as a result of COVID-19, and the fact that women make up a disproportionate amount of garment sector workers indicates that women are disproportionately affected by these problems. In addition, pregnant women are potentially a target for employers when it comes to redundancies. The ILO (2020f) cites news reports showing

that Sommilito Garments Sramik Federation has filed 50 lawsuits on behalf of pregnant garment workers in Bangladesh who have been made redundant by employers, although the ILO notes that this is disputed by the Bangladesh Garment and Manufacturers Exporters Association.

It is clear that demand shocks have affected women working in garment factories across South and South East Asia, but these value chains also include informal homeworkers, who have also been affected. Homeworkers are typically self-employed, often informally, to whom suppliers subcontract production work. This type of work is important to women in particular, for whom it offers an opportunity to combine employment with domestic and family duties. In addition, it is valuable for women who feel unable to participate in the workforce outside of their homes owing to religious or cultural gender discrimination (Von Broembsen, 2020). According to WIEGO (2020a), more than half of all factories in Asia subcontract aspects of production to smaller workshops and to homeworkers, with India alone estimated to employ five million homeworkers in the garment sector. A survey of 340 garment factories in Delhi and Bengaluru indicates that 58% of them outsource to these homeworkers (WIEGO, 2020a). In the garment sector, homeworkers have found it difficult to continue working during the pandemic since they were unable to stockpile prior to supply shocks, and were then hit by the demand shock which reduced orders (WIEGO, 2021a).

The Organisation for Economic Co-operation and Development (OECD) recognises these women as legitimate supply-chain workers, to whom the same rights should be afforded as others (WIEGO, 2021a); however, these workers will often not benefit from any formal support mechanisms (ILO, 2020a; Von Broembsen, 2020). That said, there has been some support pledged by governments to support informal homeworkers: the Indian government has promised aid to informal workers; Cambodia, Laos, and Nepal are offering reduced electricity bills to poor households although not explicitly to informal workers; and the Thai government has offered 5,000 baht (about 50% of minimum wage) as a cash grant to informal workers after lobbying from WIEGO (WIEGO, 2021a). WIEGO (2020a) has called for a “supply-chain relief contribution” to be paid by buyers, totalling 2% of all total sourcing, in order to cover support for homeworkers.

One issue with protecting homeworkers, though, is that even those buyers who have committed to providing support for homeworkers typically have no visibility over those workers to whom factories outsource work, and so are unable to help them directly (Von Broembsen, 2020). Von Broembsen (2020) notes that the OECD Due Diligence Guidance for Responsible Supply Chains in the Garment and Footwear Sector states that firms should keep records of homeworkers and their work, and also assist in training and formalising homework. However, this is not common practice. As a result, homeworkers are particularly vulnerable to the economic impacts of COVID-19.

As stated previously, since the initial supply and demand shocks, there has been some increase in production across many countries. Better Work (2021) also provides some evidence that individual factories have turned to the creation of personal protective equipment (PPE) in order to continue production, although it is as yet unclear whether this is a sustainable business model. Nonetheless, the initial demand drop has affected significant numbers of suppliers across Asia, and as such has affected the incomes of a significant number of female employees.

## **Domestic impacts of COVID-19 on women in the garment sector**

The dual domestic and economic role of women working in garment value chains means that their home lives are also affected by COVID-19. Better Work Bangladesh (2020) notes that while women who have had hours reduced, been furloughed, or laid off as a result of COVID-19 may have more time for domestic and care work at home, they have fewer resources to help them support dependants. Better Work Bangladesh (2020) also notes that women with care responsibilities at home are more likely to be laid off than others. AFWA says that in factories in Bengaluru, India, there have been voluntary resignations since childcare facilities in factories

have been closed, with women forced to choose between their job and their childcare responsibilities. AFWA also says that in India, young girls are increasingly forced to work to support families in difficulty. There is anecdotal evidence of girls in Tamil Nadu being sent to live and work in spinning mills in order to support families, with concerns arising that they will never return to formal education, that they are working in unsafe conditions, and that shifts can be up to 16 hours per day (AFWA, 2020b).

The trend for increasing burdens of unpaid domestic and care work is seen across countries: in Vietnam, both women and men reported increases in the amount of time spent doing domestic work, although women reported this increasing more than men (Giang & Hong, 2020). In Myanmar, the pandemic has increased demand for unpaid care work which, owing to Myanmar gender norms, is likely to fall on women (Hall, 2020). In Indonesia, CARE (Yayasan CARE Peduli, 2020) provides anecdotal evidence of women working shorter hours at garment factories filling the surplus time with more care work. Work and Opportunities for Women (WOW, n.d., a) report many instances of migrant workers returning home in the absence of work in factories following demand shocks. However, there is also a significant number of rural migrants working in the garment sector who, owing to travel restrictions, are unable to travel home in this instance, thus leaving childcare to other family members in their village. In some cases, the domestic care burden might be shared more evenly between men and women, since in many instances men are working reduced hours owing to the pandemic. Deshpande (2020) makes an interesting comment that there is evidence in India that the domestic work burden is shared more equally between women and men than before, owing to more men having also lost their jobs and thus having more time to spend on domestic work.

One consequence of women and men spending an increased amount of time at home is the increased risk of gender-based violence (GBV) (WOW, n.d., a; Tejani & Fukuda-Parr, 2021; Homenet South Asia, 2020). GBV increases as women and men spend more time together in their domestic environment with little opportunity for women to escape. It is difficult to quantify the exact impact on levels of GBV, though, not least because reports of it do not necessarily reflect the entirety of GBV instances. Hall (2020) provides an overview of evidence on GBV in Cambodia, without a clear conclusion on whether levels are increasing or not. From 82 informants interviewed, 22 people (17 women and five men) were employed in roles involving tracking or responding to cases of GBV, of whom ten had access to specific case numbers. Of these, four noted an increase, while six said that instances remained the same or decreased. Most respondents apparently did not notice or hear of any change in levels of GBV. Six people perceived an increase, whereas five people perceived a decrease. Interestingly, those women who perceived a decrease in GBV attributed it to men having less money to spend on alcohol, and bars being closed. However, they did note an increase in thefts, which disproportionately affect women, as a result of reduced incomes (Hall, 2020). However, these data should be caveated since they are based on a relatively small interview sample, and that reported instances of GBV do not necessarily correlate with actual instances.

## **Health risks to women in the garment sector**

Anner (2020b) highlights an interesting trade-off between health and economic wellbeing: suppliers are often unable to meet buyer demands in an increasingly competitive market while also adhering to social distancing guidelines, thus risking either their own and their employees' economic security or their health. Based on emerging evidence on health and safety practices of employers, it appears that there are risks that in some instances employers have not taken steps to ensure the minimisation of risks to employees' health. In instances where employers have

implemented health and safety and COVID-19 awareness procedures, there are questions over the enforcement and universal applicability of these.

In a SEDEX (2020) survey of 469 suppliers across 51 countries, of which the largest representation was from China, India, and Bangladesh, 78% had trained employees in health protection measures, 72% had implemented physical distancing measures, and 15% had increased workers' access to health insurance. ILO (2020f) reports employee communication programmes in Cambodia and Vietnam to ensure that workers are aware of the risks of COVID-19. The same document cites reports from Sri Lanka that worker temperatures are taken at transportation points, and that sewing machines and canteen seats are spaced at socially distanced intervals (ILO, 2020f). However, ILO (2020f) notes that it is important to bear in mind that any measures which are taken are not necessarily enforced across factories. In addition, measures might not apply to all workers equally. For example, 10% of suppliers responding to SEDEX's survey said that measures taken to protect employee health only applied to permanent workers, thus leading to risks to contractors and informal workers (SEDEX, 2020).

ILO (2020f) surveys in Cambodia indicate that while some measures are taken – for example, provision of PPE – others – such as social distancing – are rarer. According to the ILO (2020f), 80% of those surveyed in Cambodia reported being provided with PPE, yet only 20% said that social distancing measures were in place in communal areas such as canteens, and 12% said that work areas had been reconfigured to allow for social distancing, and only 14% said that work areas were disinfected. Reporting on another survey from Bangladesh, the ILO (2020f) states that nearly half of those surveyed had not received any PPE. Hall (2020) notes that in Myanmar, interviewees said that garment factories provided them with masks, sanitiser, and hand-washing facilities, although some said that more measures were needed. In Cambodia, trade unions initially encouraged the government to temporarily suspend garment production in order to protect workers' health, although it appears that many workers were returning to work within a few months (von der Dellen, 2020). Homenet South Asia (2020) points to homeworkers being particularly at risk, since they work in relatively close proximity to others, and often do not have access to appropriate PPE or sanitiser.

Other health issues that have arisen as a result of the pandemic are related to mental health and reproductive health. A CARE (2020) survey of women in Bangladesh garment factories shows that 91% of women were worried about their jobs. Better Work Bangladesh (2020) notes that women with less income as a result of the pandemic were less likely to be able to purchase sexual and reproductive health products.

It appears that women who have jobs in garment value chains are at risk of being exposed to unsafe working conditions should they return to factories. In addition, women may be forced to choose between returning to unsafe working conditions or foregoing income.

### **Part III. Global value chains: Electronics in Asia**

The electronics value chain is slightly different from the garment value chain: it has moved towards a model wherein it is dominated by a small number of major suppliers who are increasing their power in the value chain through carrying out higher-value activities (Raj-Reichert, 2018). However, there are still manufacturers subcontracted to these dominant firms which have a captive relationship with these main suppliers, with manufacturers competing on price and often having to deliver last-minute items to large buyers (Andriani & Assalam, 2020). As with the garment value chain, in many countries in Asia the majority of low-paid workers are women.

## Economic impacts of COVID-19 on women in the electronics sector

The electronics sector suffered largely a supply-side shock early on in the pandemic, with supplies from China, required for manufacturing in neighbouring South East Asian countries, drying up as a result of China's lockdowns early in the pandemic. Demand remained relatively strong, particularly given the increase in working from home and the associated demand for devices (Electronics Watch, 2020b). In Vietnam, for example, electronics production was impacted by lockdowns in China disrupting supplies of raw materials and electronic components, as well as delaying delivery of final products to customers (De Nicola, Timmis, & Akhlaque, 2020).

The economic impacts are nuanced: there were still some demand shocks, with demand for consumer electronics, in particular, falling despite increased demand for other devices and components, especially those relating to datacentres and homeworking equipment (Industri-all, 2020). Anecdotal evidence from a migrant worker in Vietnam states that orders were cut by 30–50% in their factory, with workers' pay cut by 50–60% (Electronics Watch, 2020c). The Responsible Business Alliance (n.d.) shows that countries experienced the early stages of the pandemic differently in terms of the productivity of their electronics sectors. We note that these data are based on a survey of 309 electronics factories completed in early 2020, and as such might not be representative of the entire sector. Nonetheless, it gives a useful sense of production trends: in the months of March, April, and May 2020 they show that in general, revenue was negatively impacted in March, dipping in April, and then rising again in May, with the hardest hit countries being Nepal, Indonesia, Malaysia, and Thailand. Production capacity followed a similar trend across most countries except for Indonesia, which saw an initial hit then a consistent rise. Workforce availability again tended to dip in April and then rebound, with the exception of Indonesia, which peaked in April before dipping again. China stood out as being ahead of all other countries, having been hit harder earlier.

The initial lockdowns in China saw many firms pause activities, although the Chinese government issued a notice mandating that employers provide sick pay and prioritise job security for employees rather than making redundancies (Electronics Watch, 2020a). However, there is little evidence on how effective this was, or the extent to which these issues affected men and women differently. Electronics Watch (2020b) highlights potential risks to workers as excessive hours to keep up with demand as return-to-work ratios drop; economic hardship as employers have difficulty paying workers on time; job insecurity; and travel restrictions as a result of COVID-19 making migrant workers less able to return home or leave situations in which they are engaged in forced labour.

The current evidence surrounding the extent to which these risks have been realised is unclear, and the extent to which they affect women in particular is considerably less than the evidence available on the garment sector, and is frequently qualitative rather than quantitative. However, given that we know where women make up a significant proportion of the electronics production sector, we can infer some of the impacts which will disproportionately affect them, as well as using qualitative evidence.

Villadiego (2017) notes that in the Thai electronics industry, women performed 85% of unskilled tasks, and earned 16% less than male colleagues in 2013; and in 2015, 85% of women were shown to be doing unskilled labour, with 76% of "elementary" occupations filled by women, and only 28% of managers being women (Errighi & Bodwell, 2017). Industri-all (2020) reports that unions of electronics workers around the world report cases of COVID-19 being used as an excuse to dismiss workers and cancel wage increases, specifically citing an instance of a Thai union filing a grievance when 12 subcontracted women were laid off. This is an example of women in lower-skilled work being laid off, possibly as a result of lack of revenue for production companies. The Responsible Business Alliance (n.d.) shows that in March–May 2020, Thailand

returned relatively quickly to 90% production capacity and workforce availability, but saw large revenue impacts in April and May.

In Vietnam, women make up about 80% of the electronics workforce, and the industry has overtaken the garment industry as Vietnam's largest source of exports (IPEN, 2017). Although the sector rebounded strongly from an initial shock in the early months of COVID-19 (IMF, 2021), it did suffer a supply shock in Q1 2020 (ILO, 2020c): while exports of phones and computers and associated components increased between 2–16% year-on-year in Q1 2020, exports of consumer electronics dropped 52%. In the electronics sector, as in the garment sector, workers who retained their jobs missed out on overtime pay, which accounted for about 50% of normal pay. The majority of workers in the sector had their overall pay reduced by 20–50%, and more than 30% of workers had their pay reduced by over 50% (ILO, 2020c). While there is little direct evidence on how women have been impacted, the fact that women are 80% of the workforce implies that they will be disproportionately affected by reduction in income. As with garments, qualitative evidence from interviews also indicates that workers perceive that the initial supply shock and subsequent economic difficulties for producers was used by employers as an excuse to fire less productive workers. Some 2.4% of those surveyed by the ILO said that this was predominantly targeted at pregnant women and women with young children (ILO, 2020c). This preference for younger women without childcare responsibilities is supported by a 2019 report by Electronics Watch, which stated that 28.6% of women surveyed had “non-pregnancy” clauses in their contracts, while many were kept on short-term contracts so that employers could refuse to renew their contract should they become pregnant.

Malaysia's electronics sector also contains a disproportionate number of women, with the Centre for Research on Multinational Corporations (SOMO, 2013) estimating that 70–80% of employees are women. Verité (2014) agrees, adding that foreign workers from Vietnam and Indonesia are a significant part of the workforce and are predominantly female. Additionally, women tend to work in lower-skilled positions on the production line, often for low wages (Andriani & Assalam, 2020). Compared to other countries, Malaysia's electronics sector had a medium level of revenue impact, and a quick return to high levels of production capacity and workforce availability in the early months of the pandemic (Responsible Business Alliance, n.d.). Nonetheless, it did suffer from an initial supply shock much as other countries such as Vietnam did (ILO, 2020e). The ILO (2020d) notes that in general women in Malaysia are in a more precarious position than men, with systemically lower pay, and as such are likely to suffer more if their incomes drop. In addition, the ILO (2020d) reports that women have found it harder to find alternative work in Malaysia owing to increased childcare responsibilities as families spend more time at home due to restrictions, and also face increasing levels of domestic abuse as a result. While the report does not link this directly to the electronics sector, any drop in production in this sector could result in women losing income and jobs, and facing these issues.

## **Health and social risks to workers in the electronics sector**

In an interview, Omana George of Electronics Watch commented that the health risks which have been apparent in global electronics value chains for years have become more pronounced as a result of COVID-19 (George, 2021). This is the result partly of lack of social distancing measures in factories, and also due to the longer hours for many workers and lower labour standards as factories attempt to make up for lost production early in the pandemic, and to meet increasing demand for electronics goods. The risks to which women are exposed, and which have been increased as a result of the pandemic, have been reported across multiple countries in the past. Typically, women are systemically at greater risk than men in many instances owing to the nature of their work.

Villadiego (2017) cites qualitative evidence from Thailand of women being exposed to chemicals and also having to work shifting day and night work patterns, which can have implications for

health. Errighi and Bodwell (2017) also note that overtime and excessive workloads are significant risks to women in electronics factories in Thailand. Kim, Kim, and Lim (2015) have shown that reproductive hazards exist for women in the microelectronics industry, showing that there is a statistically significant increased chance of menstrual aberration and spontaneous abortion among female workers in the South Korean electronics industry. Qualitative evidence from Vietnam notes that women are exposed to adverse conditions impacting their health including excessive noise, standing up for 9–12-hour shifts (including for pregnant women), and four-day work patterns alternating between day and night (IPEN, 2017). Women who are mothers rarely see their children. Pregnant women are allowed more breaks, but they can still be punished for taking too many breaks and spending too much time not working. Andriani and Assalam (2020) give similar examples from Malaysia and Indonesia, noting that women are exposed to risks of excessive work, chemical exposure, and physical injury. In the cases they observed, they also noted that the women were unionised and working in factories which were primary suppliers to buyers, and as such likely had much better conditions than those in other factories to which work was outsourced. Electronics Watch (2019) notes that excessive hours are the norm in Vietnam, with employers making it deliberately difficult to unionise so that workers cannot act against harsh working conditions. While there is little evidence of the direct impact which COVID-19 has had on the health of female employees in the electronics sector, any relaxing of labour laws, protections for workers, or inspections of factories, combined with more time spent in the factory, risks exacerbating the difficult conditions and health risks to which women are already exposed.

## Conclusions

The consensus in the available literature is that the garment sector has been hit hard by demand shocks, and that this is likely to have disproportionately impacted women, owing to their over-representation in garment production. The impacts have been largely economic in the form of loss of income, but this, along with job losses and increased time spent at home, has knock-on effects with respect to women's domestic care duties, their ability to provide for their families, their physical, mental, and reproductive health, and on risks of suffering GBV.

However, one issue with the garment sector literature to date is the lack of gender-specific data on the impacts of COVID-19. There is some qualitative data which can give insights into the lived experiences of women in garment value chains during COVID-19, and we can infer impacts from what is known about the makeup of garment workforces, but data on COVID-19 impacts specifically disaggregated by gender are rare. The World Benchmarking Alliance (n.d.) and Work and Opportunities for Women (WOW, n.d., b) note that this is a problem more generally in global supply chain data, with suppliers only very rarely providing gender-disaggregated data on their workforces. As such, more gender-specific quantitative data must be collected to substantiate the qualitative information on the impacts of COVID-19 on women in the garment workforce.

The literature on the electronics sector is sparse, but the trend of women in precarious, low-paid work continues in this sector. These women are more likely to be affected by supply and demand shocks resulting in loss of income and redundancies. In the electronics industry there is already significant evidence for the exposure of women in electronics manufacturing factories to health risks, and there is a risk that a crisis such as COVID-19 entrenches low labour standards as suppliers attempt to remain in business.

There is a clear need to focus on collecting more data disaggregated by gender and further intersectionalities on workers in global value chains to provide better understanding of the gendered impacts of future crises and thus better formulate responses to address these. This



can also help with holding buyers accountable for their actions in crises. Much of the income insecurity felt by women in garment production was the result of buyers cancelling or refusing to pay for orders which had already been completed, or for which supplies had already been purchased. Only with sufficient data on the impacts that these actions have can buyers be held accountable.

Buyers in both the electronics and garment value chains must also be held accountable for conditions in their supply chains. It is clear that even before COVID-19, there were significant issues regarding health and safety in the electronics value chain, which risks being exacerbated by the crisis. This feeds into the increasing debate around the assessment of private sector firms' environmental, social, and governance (ESG) practices and risks to businesses resulting from these, and the extent to which firms' relationships with suppliers should be monitored in this context. It is clear that many buyers' practices have had negative social impacts during the COVID-19 crisis, and as such this should be considered as a key part of any ESG metrics associated with the company. Given the increasing importance of these metrics to investors when making investment decisions, it is important that they capture issues in supply chains which buyers might be contributing to or perpetuating. As such, the key insights for policy based on this review are:

- There is an increased need to focus more on collecting data about workers in global value chains disaggregated by gender, age, ethnicity, and income quintiles so that we can better understand the gendered and intersectional impacts of events like COVID-19 in future, and thus better formulate responses to address these.
- There is a need for improved social protections for vulnerable workers, particularly those who work informally and as such are not eligible for the same level of social protection as formal workers. This should also include protections for pregnant workers or mothers, who are at greater risk of losing income or jobs.
- Buyers in the garment and electronics global value chains need to be held accountable for their actions in crises. Much of the income insecurity felt by women in garment production was the result of buyers cancelling or refusing to pay for orders which had already been completed, or for which supplies had already been purchased.
- Buyers in both the electronics and garment value chains must be held accountable for conditions in their supply chains. COVID-19 has also led to women in production in these value chains being forced to work in unsafe conditions in order to meet demand, as return to work ratios are lower.
- When assessing buyers' ESG practices, their relationship with suppliers should be taken into account, and any actions taken to mitigate issues with decent working practices in their supply chains, including but not limited to their timely payment of suppliers during the pandemic and measures taken to enforce appropriate working standards among suppliers.

## References

- AFWA (2020a). *Brands' responsibility in COVID-19 humanitarian crisis: Contribute to garment workers' relief*. Asia Floor Wage Alliance. Retrieved from <https://asia.floorwage.org/wp-content/uploads/2020/04/Brand-SRC-for-Garment-Workers-Impacted-by-COVID-19.pdf> (accessed 23 March 2021).
- AFWA (2020b). *Garment supply chains in the time of pandemic* (The Emperor Has No Clothes Issue II). Asia Floor Wage Alliance. Retrieved from <https://respect.international/wp-content/uploads/2020/06/THE-EMPEROR-HAS-NO-CLOTHES-GARMENT-SUPPLY-CHAINS-IN-THE-TIME-OF-PANDEMIC.pdf> (accessed 23 March 2021).
- Andriani, A. & Assalam, R. (2020). *Offshoring the risks: Gendered occupational hazards in Malaysian and Indonesian electronics factories*. Hong Kong: Asia Monitor Resource Centre.
- Anner, M. (2019a). Predatory purchasing practices in global apparel supply chains and the employment relations squeeze in the Indian garment export industry. *International Labour Review*, 158(4): 705–727. Retrieved from <https://doi.org/10.1111/ilr.12149> (accessed 30 April 2021).
- Anner, M. (2019b). Squeezing workers' rights in global supply chains: Purchasing practices in the Bangladesh garment export sector in comparative perspective. *Review of International Political Economy*, 27(2): 320–347.
- Anner, M. (2020a). *Abandoned? The impact of Covid-19 on workers and businesses at the bottom of global garment supply chains* (PennState Center for Global Workers' Rights Research Report). 27 March.
- Anner, M. (2020b). *Leveraging desperation: Apparel brands' purchasing practices during COVID-19* (PennState Center for Global Workers' Rights Research Report). 16 October.
- Bamber, P., & Staritz, C. (2016). *The gender dimensions of global value chains*. Geneva: International Centre for Trade and Sustainable Development (ICTSD).
- Barrientos, S. (2019). *Gender and work in global value chains: Capturing the gains?* Cambridge: Cambridge University Press.
- Barrientos, S., Bianchi, L., & Berman, C. (2019). Gender and governance of global value chains: Promoting the rights of women workers. *International Labour Review*, 158(4): 729–752.
- Better Work (2021). *From clothing production to PPE manufacturing: Companies pivot during the pandemic*. Retrieved from <https://betterwork.org/2021/01/18/from-clothing-production-to-ppe-manufacturing-factories-pivot-during-the-pandemic/> (accessed 12 April 2021).
- Better Work Bangladesh (2020). *Better Work Bangladesh gender strategy 2020–2022*. Retrieved from <https://betterwork.org/wp-content/uploads/2021/02/Better-Work-Bangladesh-Gender-Strategy-2020-2022.pdf> (accessed 23 March 2021).
- CARE (2020). *Rapid analysis: How are female garment factory workers during COVID-19?* Retrieved from [http://careevaluations.org/wp-content/uploads/COVID-19\\_Rapid-Analysis-infograph.pdf](http://careevaluations.org/wp-content/uploads/COVID-19_Rapid-Analysis-infograph.pdf) (accessed 23 March 2021)

- CARE International UK (2020). *COVID-19 could condemn women to decades of poverty: Implications of the COVID-19 pandemic on women's and girls' economic justice and rights*. London: CARE International UK. Retrieved from [https://www.care-international.org/files/files/CARE\\_Implications\\_of\\_COVID-19\\_on\\_WEE\\_300420.pdf](https://www.care-international.org/files/files/CARE_Implications_of_COVID-19_on_WEE_300420.pdf) (accessed 23 March 2021).
- Castañeda-Navarrete, J., Hauge, J., & López-Gómez, C. (2020). COVID-19's impacts on global value chains, as seen in the apparel industry. *Development Policy Review*. Retrieved from <https://doi.org/10.1111/dpr.12539> (accessed 30 April 2021).
- De Nicola, F., Timmis, J., & Akhlaque, A. (2020, 10 September). How is COVID-19 transforming global value chains? Lessons from Ethiopia and Vietnam [World Bank blog]. Retrieved from <https://blogs.worldbank.org/voices/how-covid-19-transforming-global-value-chains-lessons-ethiopia-and-vietnam> (accessed 23 March 2021).
- Deshpande, A. (2020). *The Covid-19 pandemic and lockdown: First effects on gender gaps in employment and domestic work in India* (Ashoka University Department of Economics Working Papers 30). Sonipat: Ashoka University.
- Electronics Watch (2019). *Regional risk assessment: Electronics industry, Vietnam*. Retrieved from [https://electronicswatch.org/regional-risk-assessment-electronics-industry-vietnam-august-2019\\_2564000.pdf](https://electronicswatch.org/regional-risk-assessment-electronics-industry-vietnam-august-2019_2564000.pdf) (accessed 23 March 2021).
- Electronics Watch (2020a). *Protecting Chinese workers' rights during the 2020 epidemic: Guidance for public buyers*. Retrieved from [https://electronicswatch.org/en/covid-19-tools-by-electronics-watch\\_2575244](https://electronicswatch.org/en/covid-19-tools-by-electronics-watch_2575244) (accessed 23 March 2021).
- Electronics Watch (2020b). *Human rights due diligence and COVID-19 assessment of public buyers' ICT supply chains*. Retrieved from [https://electronicswatch.org/en/covid-19-tools-by-electronics-watch\\_2575244](https://electronicswatch.org/en/covid-19-tools-by-electronics-watch_2575244) (accessed 23 March 2021).
- Electronics Watch (2020c, 20 May). Vietnam: Electronics workers face non-payment of wages, inability to return home, and lack of subsistence. Business & Human Rights Resource Centre. Retrieved from <https://www.business-humanrights.org/en/latest-news/vietnam-electronics-workers-face-non-payment-of-wages-inability-to-return-home-and-lack-of-subsistence/> (accessed 23 March 2021).
- Enlightened Myanmar Research Foundation and Andaman Research & Advisory (2017). *The young women from rural villages powering an urban industry: A baseline survey of Yangon's garment sector workforce*. Retrieved from <https://www.emref.org/en/publication/young-women-rural-villages-powering-urban-industry-a-baseline-survey-yangons-garment> (accessed 23 March 2021).
- Errighi, L., & Bodwell, C. (2017). *Electrical and electronics manufacturing in Thailand: Exploring challenges and good practices in the workplace* (ILO Asia-Pacific Working Paper Series). Bangkok: ILO Decent Work Technical Support Team for East and South-East Asia and the Pacific.
- Fair Labor Association (2020, 12 October). Country-specific updates on provisions for workers in response to the COVID-19 pandemic. Retrieved from <https://www.fairlabor.org/blog/entry/country-specific-updates-provisions-workers-response-covid-19-pandemic#SouthE> (accessed 23 March 2021).

- Forstater, M. (2010). *Sectoral coverage of the global economic crisis: Implications of the global financial and economic crisis on the textile and clothing sector*. International Labour Organization (ILO) Sectoral Activities Programme. Geneva: International Labour Office.
- George, O. (2021). *Helping electronics workers improve conditions* [Restart Podcast Ep. 60]. Retrieved from <https://therestartproject.org/podcast/electronics-watch/> (accessed 23 March 2021).
- Giang, L. T. H., & Huong, N. T. T. (2020). *CARE rapid gender analysis for COVID-19: Vietnam*. CARE International. Retrieved from <https://philpapers.org/archive/GIACRG.pdf> (accessed 23 March 2021).
- Hall, G. (2020). *CARE rapid gender analysis of COVID-19 in Myanmar*. CARE International. Retrieved from [https://insights.careinternational.org.uk/images/in-practice/RGA-and-measurement/GiE\\_Learning\\_RGA\\_Myanmar\\_COVID-19\\_June2020.pdf](https://insights.careinternational.org.uk/images/in-practice/RGA-and-measurement/GiE_Learning_RGA_Myanmar_COVID-19_June2020.pdf) (accessed 23 March 2021).
- Homenet South Asia (2020, 31 March). *COVID-19: Impact on home-based workers in South Asia, charter of demands by HomeNet South Asia*. Retrieved from <https://hnsa.org.in/blog/covid-19-impact-home-based-workers-south-asia-charter-demands-homenet-south-asia> (accessed 23 March 2021).
- ILO (2020a). *The COVID-19 response: Getting gender equality right for a better future for women at work* (Policy Brief). Geneva: International Labour Organization.
- ILO (2020b). *Gendered impacts of COVID-19 on the garment sector* (ILO Brief). Bangkok: International Labour Organization.
- ILO (2020c). *Quick impact assessment of COVID-19 pandemic on the key economic sectors: Responses, adjustment and resilience of business and workers*. Geneva: International Labour Organization.
- ILO (2020d). *The socioeconomic impacts of COVID-19 in Malaysia: Policy review and guidance for protecting the most vulnerable and supporting enterprises*. Geneva: International Labour Organization.
- ILO (2020e, 26 May). *Government, workers and employers discuss COVID-19 impact on Malaysian supply chains*. Retrieved from [https://www.ilo.org/asia/media-centre/news/WCMS\\_746339/lang--en/index.htm](https://www.ilo.org/asia/media-centre/news/WCMS_746339/lang--en/index.htm) (accessed 23 March 2021).
- ILO (2020f). *The supply chain ripple effect: How COVID-19 is affecting garment workers and factories in Asia and the Pacific* (Research Brief). Geneva: International Labour Organization.
- IMF (2021). *Vietnam staff report for the 2020 Article IV consultation* (IMF Country Report No. 21/42). Washington, DC: International Monetary Fund
- Industri-all (2020). *Facing challenges in the ICT, electrical and electronics sector*. Retrieved from <http://www.industriall-union.org/facing-challenges-in-the-ict-electrical-and-electronics-sector> (accessed 23 March 2021).
- IPEN (2017). *Stories of women workers in Vietnam's electronics industry*. Hanoi: International Pollutants Elimination Network. Retrieved from

[https://ipen.org/sites/default/files/documents/FINAL\\_Stories%20of%20Women%20Workers%20in%20Vietnam%27s%20Electronics%20Industry%20FINAL%20Nov%202017.pdf](https://ipen.org/sites/default/files/documents/FINAL_Stories%20of%20Women%20Workers%20in%20Vietnam%27s%20Electronics%20Industry%20FINAL%20Nov%202017.pdf) (accessed 23 March 2021).

Jalan, S. (2020, 26 October). What COVID-19 means for women in global supply chains – and how companies can take action [United Nations Foundation blog]. Retrieved from <https://unfoundation.org/blog/post/what-covid-19-means-for-women-in-global-supply-chains-and-how-companies-can-take-action/> (accessed 23 March 2021).

Kim, I., Kim, M. H., & Lim, S. (2015). Reproductive hazards still persist in the microelectronics industry: Increased risk of spontaneous abortion and menstrual aberration among female workers in the microelectronics industry in South Korea. *PLOS One*, *10*(5). <https://doi.org/10.1371/journal.pone.0123679>

Leitheiser, E., Hossain, S. N., Sen, S., Tasnim, G., Moon, J., Knudsen, J. S., & Rahman, S. (2020). *Early impacts of coronavirus on Bangladesh apparel supply chains* (RISC Briefing No. April). Retrieved from [https://research-api.cbs.dk/ws/portalfiles/portal/60550960/Risc\\_report\\_impacts\\_of\\_coro](https://research-api.cbs.dk/ws/portalfiles/portal/60550960/Risc_report_impacts_of_coro) (accessed 23 March 2021).

Quak, E. J. (2020). *The Covid-19 pandemic and the future of Global Value Chains (GVCs)* (K4D Helpdesk Report No. 874). Brighton, UK: Institute of Development Studies. Retrieved from <https://opendocs.ids.ac.uk/opendocs/handle/20.500.12413/15668> (accessed 30 April 2021).

Raj-Reichert, G. (2018). The changing landscape of contract manufacturers in the electronics industry global value chain. In *Development with global value chains: Upgrading and innovation in Asia* (pp. 20–62). Retrieved from [https://www.researchgate.net/publication/323749821\\_The\\_Changing\\_Landscape\\_of\\_Contract\\_Manufacturers\\_in\\_the\\_Electronics\\_Industry\\_Global\\_Value\\_Chain](https://www.researchgate.net/publication/323749821_The_Changing_Landscape_of_Contract_Manufacturers_in_the_Electronics_Industry_Global_Value_Chain) (accessed 30 April 2021).

Responsible Business Alliance (n.d.). *COVID-19 impact at a glance* (RBA Brief). Retrieved from <http://www.responsiblebusiness.org/media/docs/COVID19Survey3.pdf> (accessed 23 March 2021).

SEDEX (2020). *COVID-19 impacts on businesses* (SEDEX Insights Report). Retrieved from <https://www.sedex.com/wp-content/uploads/2020/05/Sedex-Insights-Report-COVID-19-Impacts-on-Businesses.pdf> (accessed 12 March 2021).

Sen, S., Antara, N., Sen, S., & Chowdhury, S. (2020). The unprecedented pandemic “COVID-19” effect on the Bangladesh apparel workers by shivering the apparel supply chain. *Journal of Textile and Apparel, Technology and Management*, *11*(3): 1–20. <http://dx.doi.org/10.2139/ssrn.3598542>

SOMO (2013). *Outsourcing labour: Migrant labour rights in Malaysia’s electronics industry*. Centre for Research on Multinational Corporations (SOMO). Retrieved from <https://www.somo.nl/wp-content/uploads/2013/01/Outsourcing-Labour.pdf> (accessed 23 March 2021).

Tejani, S., & Fukuda-Parr, S. (2021). *Gender and Covid-19: Workers in global value chains* (Working Paper 04/2021). New York NY: The New School for Social Research.

- UNCTAD (2021). *Global trade update: February 2021*, Geneva: United Nations Conference on Trade and Development.
- United Nations (2020). *The impact of COVID-19 on women* (Policy Brief). Retrieved from <https://www.unwomen.org/-/media/headquarters/attachments/sections/library/publications/2020/policy-brief-the-impact-of-covid-19-on-women-en.pdf?la=en&vs=1406> (accessed 23 March 2021).
- Verité (2014). *Forced labor in the production of electronic goods in Malaysia: A comprehensive study of scope and characteristics*. Retrieved from <https://verite.org/wp-content/uploads/2016/11/VeriteForcedLaborMalaysianElectronics2014.pdf> (accessed 23 March 2021).
- Villadiego, L. (2017, 22 December). The gender gap in electronics factories: Women exposed to chemicals and lower pay [Equal Times blog]. Retrieved from <https://www.equaltimes.org/the-gender-gap-in-the-electronics?lang=en#.YE8zwmj7Q2w> (accessed 23 March 2021).
- Von Broembsen, M. (2020, 21 April). The world's most vulnerable garment workers aren't in factories – and global brands need to step up to protect them [WIEGO blog]. Retrieved from <https://www.wiego.org/blog/worlds-most-vulnerable-garment-workers-arent-factories-and-global-brands-need-step-protect> (accessed 30 April 2021).
- Von der Dellen, K. (2020). *CARE rapid gender analysis for COVID-19 Cambodia*. CARE International. Retrieved from [https://insights.careinternational.org.uk/images/in-practice/RGA-and-measurement/GiE\\_Learning\\_RGA\\_Cambodia\\_COVID-19\\_July2020.pdf](https://insights.careinternational.org.uk/images/in-practice/RGA-and-measurement/GiE_Learning_RGA_Cambodia_COVID-19_July2020.pdf) (accessed 23 March 2021).
- WIEGO (2020a). *SEWA's appeal submitted to the Minister of State (IC) for Labour and Employment & Union Minister of Finance for helping informal sector workers during COVID 19 crisis*. 23 March. Retrieved from <https://www.wiego.org/sites/default/files/resources/file/SEWA%27s%20Appeal%20for%20helping%20informal%20workers%20during%20COVID19g.pdf> (accessed 23 March 2021).
- WIEGO (2021a). Home-based workers face a new kind of isolation. Retrieved from <https://www.wiego.org/home-based-workers-face-new-kind-isolation> (accessed 23 March 2021).
- World Bank (2013). *Global value chains, economic upgrading, and gender case studies of the horticulture, tourism, and call center industries*. Washington, DC: World Bank Group. Retrieved from <https://openknowledge.worldbank.org/bitstream/handle/10986/16976/832330WP0GVC0G0B0x0382076B00PUBLIC0.pdf?sequence=1&isAllowed=y> (accessed 23 March 2021).
- World Bank (2020). *Gender dimensions of the COVID-19 pandemic* (Policy Note). Washington, DC: World Bank Group. Retrieved from <http://documents1.worldbank.org/curated/en/618731587147227244/pdf/Gender-Dimensions-of-the-COVID-19-Pandemic.pdf> (accessed 23 March 2021).
- World Benchmarking Alliance (n.d.). *Gender data is invisible*. Retrieved from <https://www.worldbenchmarkingalliance.org/publication/gender/key-findings/Gender-data-is-invisible/> (accessed 23 March 2021).

WOW (n.d., a). *Building back equitably: Spotlight on Covid-19 and women workers in global value chains*. Work and Opportunities for Women. Retrieved from [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/925778/Building-back-equitably.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/925778/Building-back-equitably.pdf) (accessed 23 March 2021).

WOW (n.d., b). *Hidden in plain sight: Why we need more data about women in global value chains*. Work and Opportunities for Women. Retrieved from [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/924704/Hidden-in-plain-sight.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/924704/Hidden-in-plain-sight.pdf) (accessed 12 April 2021).

Yayasan CARE Peduli (2020). *Indonesia rapid gender assessment in response to COVID-19*. Retrieved from [https://insights.careinternational.org.uk/images/in-practice/RGA-and-measurement/GiE\\_Learning\\_RGA\\_Indonesia\\_COVID-19\\_June2020.pdf](https://insights.careinternational.org.uk/images/in-practice/RGA-and-measurement/GiE_Learning_RGA_Indonesia_COVID-19_June2020.pdf) (accessed 23 March 2021).