Helpdesk Research Report

The 'future of work' for women in the Indo-Pacific region

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Question

What are 'future of work' issues for women in the Indo-Pacific? Identify 10-15 issues and provide illustrative examples of how women in diverse labour contexts may be affected. Provide a list of key resources.

Contents

1. Overview

The 'future of work' is a policy concept that explores how various technological, socio-economic, geopolitical, demographic, cultural, and environmental megatrends are developing and interacting to create new types of jobs, industries, labour conditions, and business models. Balliester and Elsheikhi (2018, p.1) identify the future of work debates to include: 'the future of jobs; their quality; wage and income inequality; social protection systems; and social dialogue and industrial relations'. However, the future of work is not well-defined or critiqued as a definition, and there is no standard approach to what concepts are included (e.g. whether to include climate change), or what timeframe is being discussed by the 'future' (Balliester & Elsheikhi, 2018). As it has a forward-looking lens, the literature includes some data projections on future scenarios (e.g. on what percentage of jobs may be lost through automation), and a lot of the

literature speculates on the future based on analysis of the current context and recent trends. Thus, the literature base is very broad, is not consistent in its focus or its findings, and is explorative rather than definitive.

A wide range of megatrends and potential outcomes are identified in the broad, global 'future of work' discussions. Each one of these issues has its own wider literature base, which often does not refer to the 'future of work' discussions. Therefore, this query has used the discreet 'future of work' policy literature to identify the main issues; and it has then selected a few key texts for each issue (not within the discreet 'future of work' literature), to illustrate the current context, recent trends, and prospective future.

This query focuses on the 'future of work' issues that particularly affect women in the developing countries of the Indo-Pacific region.[1] Where this level of analysis is not available, this query includes some analysis of global 'future of work' trends that are relevant to the region. Much of the 'future of work' literature is based on OECD countries (Hill, et al., 2017), and while some studies include developing countries, they often only include emerging economies, and not low-income countries (e.g. WEF, 2016).[2] Few articles look at the gendered impacts of demographics and environmental changes sectors (Otobe, 2017, p.12). This query mostly draws on policy literature, especially by the International Labour Organisation (ILO)[3] and the World Economic Forum (WEF).

Key 'future of work' issues for women in the Indo-Pacific include:

Gender gaps in participation in the labour market in the Indo-Pacific region are expected to worsen or remain unchanged until 2021 (ILO, 2017, p.6-7). Women's labour force participation tends to be high in low-income countries, lowest in middle-income countries and high again in high-income countries; and cultural (e.g. gender norms), political and socio-economic factors are also central to shaping participation (Hill, et al., 2017). Between 1990 and 2013, women's labour participation has: increased marginally in the Philippines; remained steady in Malaysia, Sri Lanka, Indonesia, Cambodia, and Papua New Guinea (PNG); and decreased in China, Timor-Leste, India, and Bangladesh (Hill et. al., 2017, p.4). There is a wide variance within countries (Hill, et. al., 2017, p.4).

Obsolete jobs: The future of work will see new types of jobs partly or entirely displace existing jobs. Global job losses may perpetuate women's labour disadvantages. Some female-dominated industries in the Indo-Pacific are expected to undergo substantial disruption through automation and digitisation (e.g. office and administrative work, and manufacturing and production). While labour roles for women and men in the Indo-Pacific have changed in recent decades, unequal gender norms persist, and thus automation will affect women and men differently according to the different jobs women and men tend to do in the specific context. Increasing automation is one of the main drivers that is expected to make jobs obsolete. The Indo-Pacific countries expected to undergo the largest trends in automation are: China, India, Indonesia, Thailand, The Philippines, and Malaysia.

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[1] This query uses different terms depending on the term used in the literature, this includes: Indo-Pacific, Asia-Pacific, South-East Asia, Eastern Asia etc.
[2] The WEF 2016 report bases its analysis on surveys of senior executives from 371 leading global employers that represent more than 13 million employees across 9 industry sectors in 13 countries (Australia, Brazil, China, France, Germany, India, Italy, Japan, Mexico, South Africa, Turkey, UK, US) and two broader regional groupings, Association of Southeast Asian Nations (ASEAN) (combining results for Indonesia, Malaysia, Singapore, Thailand) and the Gulf Cooperation Council (GCC) (combining results for Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates) (WEF, 2016, p.51).
[3] E.g. With the 2018 Regional Conference on Women and the Future of Work in Asia and the Pacific, and numerous publications.

New jobs: Automation is expected to lead to benefits e.g. by automating some household work, increasing GDP and aggregate standards of living. Many new knowledge and digital enabled jobs will emerge. Globally, job and wage polarisation may increase in the future (Balliester & Elsheikhi, 2018, p.38). It is clear that labour redeployment and skills training will be some of the 'most important societal challenges' with automation (Manyika, et al., 2017).

Domestic work: 81% of paid domestic workers in Asia-Pacific are women (ILO, 2013 in Hill, et al, 2017). While new labour opportunities and markets are displacing old geographic boundaries (national and rural/urban), it is not displacing many gendered power structures, as women still take on most paid and unpaid domestic and care responsibilities.

Quality of work: Many women are likely to continue to experience low quality work in the Indo-Pacific region (low status, insecure, part-time, informal, and with exploitative labour conditions). Jobs and employment opportunities will continue becoming more flexible.

Care and reproductive work: While the recent economic transformation of Asia has shifted work and care regimes significantly for women (e.g. with the growth of employment in call centres and factories; and increased opportunities available through migration); Indo-Pacific women still do, on average, more than twice the unpaid care work of men, with large regional variation (OECD, 2014 in Hill, et al., 2017). Women are considered the primary source of care in all Asia-Pacific countries, however the extent to which paid non-familial care is used to supplement this varies by country and is dependent on social norms and institutions. The automation of household tasks may help reduce the care burden.

Social security rights and protections are particularly important to women as women shoulder more care responsibilities, have less job security, are paid less, and own fewer assets. However, an expected fall in the labour supply combined with the increased health needs of ageing populations, suggest that social welfare funding will be strained.

Digital technologies: There is widespread acknowledgement that the world is undergoing a digital revolution which is changing the way people, businesses, and countries operate and develop. However, digital gender gaps persist - e.g. in the South Asia region the gender gap in mobile phone ownership is 38%, while in the East Asia and Pacific region it is 3% (GSMA, 2015, p.23). As digital technologies and skills are increasingly important in work tasks and accessing job opportunities, the digital divide is of central importance.

Demographics: Childcare and ageing are Asia-Pacific's most pressing demographic issues. There is an overall preference for familial childcare, with the burden falling on the mother or grandparents. Ageing populations will require more care, while the traditional structures and sources of care are tending to diminish. Hill, et al. (2017, p.15) highlight that while they use the word "preference", work and care patterns are 'politically determined and not solely the result of individual choice, preference or agency'. The underlying basis for these political decisions is very much shaped by social norms. The feminization of old age poverty (as women on average tend to live longer than men) is a major concern as women tend to work fewer years, tend to accumulate less social security benefits (e.g. pension), and tend to face more discrimination in access to employment (Otobe, 2017, p.12).

Climate and the environment: concerns over, and the negative impacts of, climate change and environmental degradation will continue to shape consumer trends and policy decisions, stimulating job creation in the green economy, and 'from the emerging job opportunities created in non-agricultural sectors' (Otobe, 2017, p.12). This rapid query did not find information on whether women are set to benefit

from these new jobs. Environmental degradation, climate change, and water shortages, especially in unstable regions mean migration is expected to increase (Otobe, 2017, p.12). Specific gender dimensions mean that women and girls: tend to be less physically mobile; have unequal access to resources in general; walk longer distances to fetch fuel and water in rural communities; and suffer disproportionately from natural catastrophes and climate change (Otobe, 2017, p.16).

2. Drivers of change and disruptors

The flagship WEF (2016) report is a key text that focusses on the future of work with a chapter focussed on gender. Notably, its country focus is 13 major developed and emerging economies (from the Indo-Pacific region this includes: China and India), and some analysis of four other Indo-Pacific countries (Indonesia, Malaysia, Singapore, Thailand) through a regional country analysis. Moreover, its analysis is based on surveys of senior executives from 371 leading global employers. It is thus representative of particular forms of employment and labour, but not of all forms in the diverse Indo-Pacific region.[4]
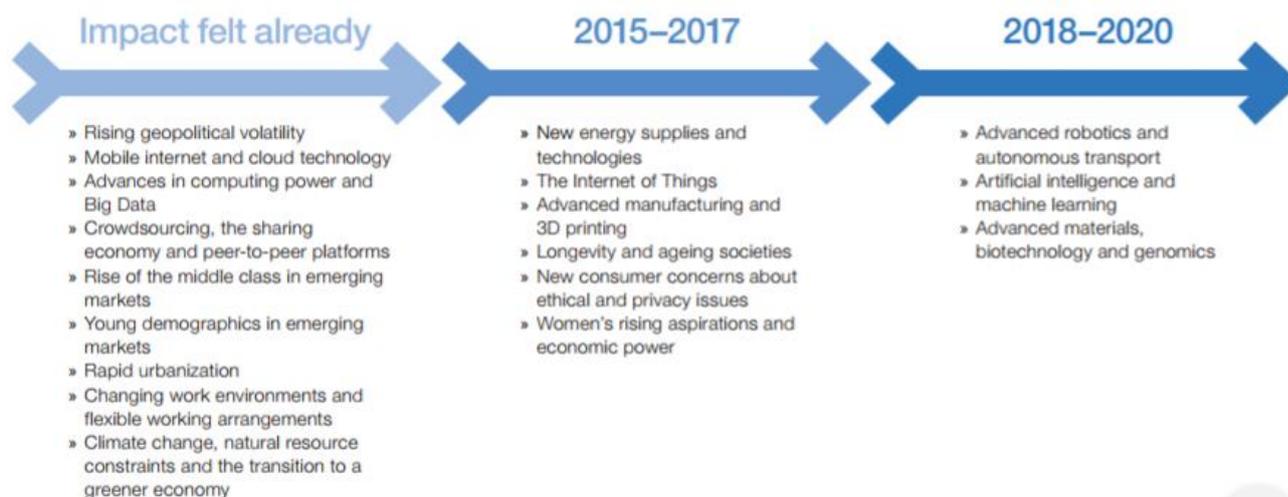
Major global industry drivers of change and disruptors to business models until 2020 identified by the WEF (2016, p.9) survey results are (in order):

1. Changing nature of work, flexible work
2. Mobile internet, cloud technology
3. Processing power, Big Data
4. Middle class in emerging markets
5. New energy supplies and technologies
6. Climate change, natural resources
7. Geopolitical volatility
8. Consumer ethics, privacy issues
9. Internet of Things
10. Longevity, ageing societies
11. Young demographics in emerging markets
12. Sharing economy, crowdsourcing
13. Women's economic power, aspirations
14. Robotics, autonomous transport
15. Rapid urbanization
16. Advanced manufacturing, 3D printing
17. Artificial intelligence
18. Advanced materials, biotechnology

These drivers and disruptors will have highly specific changes depending on the industry, region and occupation, and also depending on the 'ability of various stakeholders to successfully manage change' (WEF, 2016, p.8). The WEF's (2016) 'future' analysis is based on a four-year perspective from 2016 until 2020 - see Graphic 1:

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[4] See footnote 1

Graphic 1: Timeline for major industry drivers of change and disruptions to business models

Impact felt already

» Rising geopolitical volatility
» Mobile internet and cloud technology
» Advances in computing power and Big Data
» Crowdsourcing, the sharing economy and peer-to-peer platforms
» Rise of the middle class in emerging markets
» Young demographics in emerging markets
» Rapid urbanization
» Changing work environments and flexible working arrangements
» Climate change, natural resource constraints and the transition to a greener economy

2015–2017

» New energy supplies and technologies
» The Internet of Things
» Advanced manufacturing and 3D printing
» Longevity and ageing societies
» New consumer concerns about ethical and privacy issues
» Women's rising aspirations and economic power

2018–2020

» Advanced robotics and autonomous transport
» Artificial intelligence and machine learning
» Advanced materials, biotechnology and genomics

Source: WEF (2016, p.10)

Women in every country of the world face significant distortions and discriminations in current labour markets that lead to a range of inequalities in labour force participation, the gendered division of labour, income and pay equity, quality and conditions of labour, and career progression (Faith, 2017a). Around 54% of the world's population lives in Asia-Pacific in highly diverse conditions (Hill, et al., 2017). These global drivers of change and disruptors will have varied impacts on gender relations and gendered outcomes in paid and unpaid work in these different contexts.

3. Jobs and employment

Labour participation rates

Gender gaps in participation in the labour market in the Indo-Pacific region are expected to worsen or remain unchanged until 2021 – with the following regional variations (ILO, 2017, p.6-7. See Table 1):

Eastern Asia:

- In 2018 female participation in the labour market was 60.9% (with a gender gap of 15.7)

- In terms of trends, female labour force participation rate has declined markedly since 1997, although so have participation rates for men

- Participation rates for women in the region remains the second highest globally

- Rates are forecast to see further declines in female participation through 2021

South-Eastern Asia and the Pacific:

- In 2018 female participation in the labour market was 58.8% (with a gender gap of 22.3)

- In terms of trends, there has been a slight increase in the female labour force participation rate

- Participation rates for women in the region are the third highest globally; while the rate for men, (81.2%) is the highest globally. These high participation rates reflect the limited access to social protection in the region, particularly given that incomes are relatively low.

▪ The gap in participation is expected to remain unchanged from 2018 to 2021.

Southern Asia:

▪ In 2018, female participation in the labour market was 28.7% (with a gender gap of 50.8)

▪ In terms of trends, over the past decade, Southern Asia has experienced the largest widening of the gap of all regions.

▪ Participation rates for women in the region are the third lowest globally.

▪ A slight increase in the female rate and narrowing in the participation gap are anticipated from 2018 to 2021.

Table 1: Labour force participation rate by sex (%) and gender gap (% points), 1997–2021 in Asia-Pacific

Country/region	1997–2017		2017			2018			2018–21
	Gap	♂	♀	Gap	♂	♀	Gap	Gap
Eastern Asia		76.8	61.3	15.5	76.6	60.9	15.7	⬆
South-Eastern Asia and the Pacific		81.2	58.8	22.4	81.1	58.8	22.3	➡
Southern Asia		79.4	28.6	50.8	79.5	28.7	50.8	⬇

Source: Adapted from ILO (2017, p.6)

Women's labour force participation tends to be high in low-income countries, lowest in middle-income countries and high again in high-income countries. This is because in low-income countries, women are engaged in subsistence activities and have to work to survive poverty; while in middle-income countries men tend to take more of the industrial jobs; then in high-income countries, women work more due to higher education, lower fertility rates, and more jobs in the service sector. (Hill, et al., 2017).

Yet economic development only tells part of the story, as cultural, political and socio-economic factors are central to shaping participation - as demonstrated by the variance between India and China. India has a much lower percentage of women participating in the workforce as would be expected for a country with its per capita income. While China has a much higher percentage of women participating in the workforce as would be expected for a country with its per capita income. (Hill, et al., 2017).

If women participated 'identically to men' in paid work global annual gross domestic product (GDP) would increase by 26% by 2025, according to a widely-used statistic (McKinsey, 2015 in Hill, et al., 2017). However, as Hill et. al. (2017) point out, there would then be a gap in the unpaid care and reproductive work that is largely carried out by women.

Since the 1990s, in Indo-Pacific developing countries women's participation levels in paid work has: increased marginally in the Philippines; remained steady in Malaysia, Sri Lanka, Indonesia, Cambodia, and Papua New Guinea (PNG); and has decreased in China, Timor-Leste, India, and Bangladesh, according to data used by Hill et. al. (2017, p.4 – see Table 2). 'Within these national trends, labour force participation rates vary according to women's class, ethnic, location and religious profile, accentuating certain patterns of inequality in the region' (Hill, et. al., 2017, p.4).

Table 2: Women's Labour force participation rates by country from 1990 to 2013

	1990	2013
Malaysia	43	44.4
China	73	63.9

Sri Lanka	36	35.1
Indonesia	50	51.4
Philippines	48	51.1
Timor-Leste	42	24.7
India	35	27
Bangladesh	62	57.4
Cambodia	77	78.8
PNG	71	70.5

Source: Adapted from Hill, et al., (2017, p.6)

This suggests that China and India's recent economic growth has not been inclusive (Hill, et al., 2017). While India has historically had a significantly lower female to male labour participation ratio, recent analyses reveal it is decreasing even further – falling from over 37% in 2005 to 27% in 2016 (Joshi, 2018, p.1). 'Indian women continue to perform the bulk of unpaid work. When they are employed to do paid work, it is disproportionately in the informal sector where working conditions and wages are poor. In the formal sector, women remain glaringly absent from leadership positions and are paid considerably less than their male counterparts for the same job (Joshi, 2018, p.v). Women's participation in the formal economy has also been declining in China. Among other factors, Chen, Hao and Baird (2017) explain that this has been impacted by China's changing work/care regime whereby the central government and employers reduced their provision of care services, leaving households to provide care at home or to seek market provision (often by foreign domestic workers) (Chen, Hao & Baird, 2017).

New digital technologies may be increasing women's labour participation – e.g. by making work arrangements more flexible, connecting people to work, and generating new opportunities (in online work, e-commerce, and the gig economy) (World Bank, 2016, p.134; UNCTAD, 2017; Herbert, 2018). Yet, the quality of this work is low as it is often low-paid, insecure and ad-hoc, especially for less-skilled workers and marginalised/discriminated groups (Hunt & Sarwar, 2017, p.13). In the more distant future, it is not known to what extent the new jobs, industries and conditions that emerge will be more or less inclusive to women. 'As industries prepare to adapt to disruptive change, tackling gender gaps could also unlock new opportunities for growth' (WEF, 2016, p.35).

Obsolete jobs and new jobs

The future of work will see new types of jobs partly or entirely displace existing jobs. While some of these changes can be predicted (e.g. automation of factory jobs will replace factory-line jobs), others are not yet known (e.g. it is estimated that many children born now will later work in jobs that do not yet exist) (WEF, 2016). It is most commonly asserted in the literature that 'job destruction will accelerate' due to technological change, however there is little consensus on the extent of the changes expected, and what new jobs will be created (Balliester & Elsheikhi, 2018, p.8).

Global job losses may perpetuate women's labour disadvantages, according to one calculation by the WEF (2016, p.39). The calculation[5] finds that the burden of expected job losses globally will fall 'almost equally on women and men: 2.45 million (48%) of the expected total net job loss of 5.1 million falls on women, 2.65 million (52%) of it on men. [However,] That, in itself, indicates widening gender gaps in the workforce, as women make up a smaller share of the overall labour force. In absolute terms, men will face

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[5] The paper does this by simply translating job families' reported by their current gender composition to the expected absolute job gains and losses over the 2015–2020 period.

nearly 4 million job losses and 1.4 million gains, approximately one job gained for every three jobs lost, whereas women will face 3 million job losses and only 0.55 million gains, more than five jobs lost for every job gained'. It concludes that 'If current industry gender gap trends persist and labour market transformation towards new and emerging roles in computer, technology and engineering-related fields continues to outpace the rate at which women are currently entering those types of jobs, women are at risk of losing out on tomorrow's best job opportunities' (WEF, 2016, p.39).

Some female-dominated industries in the Indo-Pacific are expected to undergo substantial disruption through automation and digitisation, although the literature is contested on what the affects will be (see Balliester and Elsheikhi's (2018) 'future of work' literature review for an analysis of these different views). Generally, female-dominated industries – e.g. office and administrative work, and manufacturing and production – are highlighted as being at risk of automation (WEF, 2016, p.33). This would have far-reaching gendered effects in some Southeast Asian countries where in some countries women make up more than 70% of textile, clothing and footwear workers (Faith, 2017a). Other 'commentators argue that the technological revolution may actually stimulate human employment in the service and manufacturing sectors' (Balliester & Elsheikhi, 2018, p.14). And other studies highlight the Indo-Pacific's vulnerability to automation, but do not disaggregate according to gender (e.g. ILO, 2016a in Balliester & Elsheikhi, 2018, p.13). While some studies highlight that male-dominated industries are expected to see the growth in employment – e.g. architecture and engineering, and computer and mathematical related work (WEF, 2016, p.33).

Labour roles for women and men in the Indo-Pacific have changed in recent decades, however unequal gender norms persist, shaping what work women and men are seen to be capable of, and the remunerable and perceived societal value of those jobs. Gender inequality is shaped by, and shapes, work and care conditions. These work and care conditions are a reflection of the values, norms and institutions of the local and national contexts (Hill, et al., 2017).

Globally, job and wage polarisation may increase in the future – whereby fewer people work more, and many people lose their jobs, or their salaries stagnate. This trend also engages with increase in flexible and precarious working, and the falling unionisation rates in many countries worldwide. This is most identified related to developed countries and emerging economies with large middle-classes (Balliester & Elsheikhi, 2018, p.38).

Automation

Increasing automation is one of the main drivers that is expected to make jobs obsolete. Automated technology is making it cheaper, more effective and efficient for robots and computers to carry-out a range of routine physical activities, and they are increasingly capable of cognitive capabilities – e.g. making judgments, sensing emotion, or driving (Manyika, et al., 2017). 'About half the activities people are paid… to do in the global economy have the potential to be automated by adapting currently demonstrated technology, according to our analysis of more than 2,000 work activities across 800 occupations.[6] While less than 5% of all occupations can be automated entirely using demonstrated technologies, about 60% of all occupations have at least 30% of constituent activities that could be automated' (Manyika, et al., 2017, p.1).

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[6] The research covers 46 countries representing about 80% of the global labour force, including developing countries as well as developed (Manyika, et al., 2017, p.20).

Due to the gendered division of labour, women may be worse affected, especially in developing countries, where two-thirds of jobs are at risk of automation (World Bank, 2016, p.23). 'Activities most susceptible to automation involve physical activities in highly structured and predictable environments, as well as the collection and processing of data' – e.g. sewing machine operators, and graders and sorters of agricultural products (Manyika, et al., 2017, p.1, 33). However, women may also benefit from an increased value on social skills, that cannot be automated – e.g. personal care aides, registered nurses and home health aides (Faith, 2017a, p.1) (see the section above on obsolete and new jobs. While labour roles for women and men in the Indo-Pacific have changed in recent decades, unequal gender norms persist, and thus automation will affect women and men differently according to the different jobs women and men tend to do in the specific context.

The Indo-Pacific countries expected to undergo the largest trends in automation are: [7]

- China - the overall automation potential is 51%, representing 395.3 million employees.

- India - the overall automation potential is 52%, representing 235.1 million employees.

- Indonesia - the overall automation potential is 52%, representing 52.6 million employees.

- Thailand - the overall automation potential is 55%, representing 21 million employees.

- The Philippines - the overall automation potential is 48%, representing 18.2 million employees

- Malaysia - the overall automation potential is 51%, representing 6.3 million employees.

Further detail on two of these countries reveals that: [8]

In **Thailand** the biggest four sectors that could face largescale automation are:
- Agriculture, forestry, fishing and hunting – 52% of this industry could be potentially automated (affecting 7.5 million employees);

- Retail trade - 57% of this industry could be potentially automated (affecting 3.5 million employees);

- Manufacturing - 68% of this industry could be potentially automated (affecting 4 million employees).

- Accommodation and food services - 67% of this industry could be potentially automated (affecting 1.7 million employees).

In the **Philippines** the biggest four sectors that could face largescale automation are:
- Agriculture, forestry, fishing and hunting – 48% of this industry could be potentially automated (affecting 6 million employees);

- Retail trade - 48% of this industry could be potentially automated (affecting 3.4 million employees);

- Manufacturing - 61% of this industry could be potentially automated (affecting 2.4 million employees).

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[7] McKinsey data on 'Where machines could replace humans — and where they can't (yet)' analysed the impact of automation across 54 countries covering 78% of the global labour market to assess the percentage of time spent on activities with the technical potential for automation by adapting currently demonstrated technology. See - https://public.tableau.com/profile/mckinsey.analytics#!/vizhome/InternationalAutomation/WhereMachinesCanReplaceHumans

[8] Ibid

- Transportation and warehousing - 55% of this industry could be potentially automated (affecting 1.6 million employees).

Automation is also expected to lead to benefits e.g. by automating some household work, increasing GDP and aggregate standards of living. Automated technology may decrease the burden of household chores and care work in the home, freeing up women to engage in more paid labour, for those who have access to and can afford this technology. Automation is expected to raise aggregate living standards and GDP (Manyika, et al., 2017). And may lead to positive outcomes if it reduces the number of jobs of poor quality and conditions e.g. in the textile, clothing and footwear industries, currently dominated by women (Faith, 2017), and as long as the poor quality jobs are replaced by better jobs for those women. The benefits automation might bring are less discussed in the literature (Balliester & Elsheikhi, 2018, p.38).

Many new knowledge and digital enabled jobs will emerge 'as machines embed intelligence and knowledge that low-skill workers can access with a little training'. E.g. the Google Saathi (friends of the internet) program currently trains rural women in India to use the internet and they then become local agents in their villages distributing products (phones, SIM cards, and data packs), collecting data, and providing technical services to help local people access internet-based services (Manyika, et al., 2017, p.113).

It is clear that labour redeployment and skills training will be some of the 'most important societal challenges' with automation (Manyika, et al., 2017). And that despite this, governments, businesses and global institutions are not preparing for these large-scale, rapid changes (Faith with Hernandez and Ramalingam, 2017, p.3).

Domestic paid work

While new labour opportunities and markets are displacing old geographic boundaries (national and rural/urban), it is not displacing many gendered power structures. Care responsibilities are moving in some contexts, but they are mostly moving from the now wealthier women to poorer women (Hill, et al, 2017). Thus, in the future we can expect social and economic outcomes to continue to be highly stratified by gender, economic development, regional development, and disability (Hill, et al, 2017).

Domestic work is a key employer of women – with 81% of paid domestic workers in Asia-Pacific being women (ILO, 2013 in Hill, et al, 2017). As the middle-class has grown in Asia-Pacific, so has the amount of paid domestic workers. Paid domestic work jobs drive internal migration flows (rural to urban), and international, with large numbers moving from Indonesia, the Philippines and Sri Lanka to the middle-east, Malaysia, Hong Kong, Taiwan and Singapore (Hill, et al, 2017). In Indonesia, domestic work is now one of the largest forms of wage employment for rural women with low levels of education (Hill, et al, 2017).

New technologies are facilitating more efficient and flexible domestic work services - with the "on-demand economy" for domestic work growing rapidly in developing countries (Hunt & Machingura, 2016, p.6). At the same time, increased automation of household chores are expected to reduce the labour intensity of such work.

Quality of work

Many women are likely to continue to experience low quality work in the Indo- Pacific region where much of women's paid work is low status, less secure, part-time, and informal work (Hill, et al., 2017). Informal workers are particularly vulnerable to poverty and exploitation as they have little job security,

representation, and low incomes. (Hill, et al., 2017). Recent trends have seen wage inequality between women and men widen in Vietnam (Urbano, et al., 2018). It is clear that 'the economic benefits of gender parity in the labour market do not rest on merely bringing more women into the workforce, but instead on bringing them into quality jobs so that their productive potential can be harnessed toward a more sustainable growth trajectory' (Joshi, 2018, p.v). While women managers, entrepreneurs and leaders are growing, gendered discrimination and stereotypes limit progression.

Women's employment by the state is unpredictable in terms of quality. In Nepal, employment in the civil service can provide a secure and high-quality job, shows a case study by Khadka and Sunam (2018). The state is Nepal's biggest employer, with around 279,000 staff, of which 83,000 are employed in the civil service (and 20% of civil servants are women). An affirmative action policy started in 2007 has been important to promoting the inclusion of women and marginalised groups in government employment in Nepal (Khadka & Sunam, 2018). However, a case study analysis of employment of Community Health Workers in India, Nepal and Pakistan found it an example of 'a system built on women's unpaid or low paid and devalued work' (Aye, 2018, p.1).

Developing economy workers will continue to experience variable labour standards. Poor and exploitative labour conditions have specifically gendered effects (Mezzadri, 2014). E.g. garment workers in India are typically 'vulnerable; highly feminised and informalised, and exposed to poor and harsh working conditions and rhythms', and 'developing regions must integrate into the global economy by way of exploiting their cheap labour (Mezzadri, 2014, p.5). While girls in Papua New Guinea are more likely than boys to be trafficked or used as indentured labour (Parker, Arrowsmith & Boyd, 2017 p.253).

New types of flexible and temporary jobs have emerged in recent decades, and this trend is likely to continue. This will have mixed impacts – it is already benefiting some women who require more flexible working conditions, so they can balance other commitments (e.g. care commitments). It is allowing remote working, and the more distant connection of people searching for work, thus benefiting those who may have been regionally marginalised before. However, by its nature, temporary work means less job security and the reduced ability of workers to organise and pursue their rights. (Balliester & Elsheikhi, 2018, p.38).

4. Care and reproductive work

In the diverse Asia-Pacific region, women do on average more than twice the unpaid work of men – with significant variance – in New Zealand the ratio is 1.7 and in India it is 9.8 (OECD, 2014 in Hill, et al., 2017). Care work is a key driver of gender inequalities as most care work is unpaid and limits women's ability to engage in paid work (the "dual burden"), while when care work is paid, it is poorly paid, with limited rights, responsibility and societal value (Faith, 2017a, p.1). Yet unpaid care work is not factored into GDP calculations, nor in forecasts of increased gender equality related to increased labour participation of women (Hill, et al., 2017). As care work is mostly unpaid, it is often 'invisible' to policymakers (Hill, et al., 2017).

The recent economic transformation of Asia has shifted work and care regimes significantly for women – e.g. with the growth of employment in call centres and factories (Hill, et al., 2017). Many have migrated towards work opportunities in their countries and abroad, with significant implications for households, childcare and eldercare (Hill, et al., 2017).

While the women is considered the primary source of care in all Asia-Pacific countries, the extent to which paid non-familial care is used to supplement this varies by country. Non-familial care is most

common in more unequal countries where richer families can afford to pay for care, and where there is an availability of cheap labour. The work regimes in the low and lower-middle income countries are least regulated, thus domestic work is more likely to be informal. Unlike many countries, Papua New Guinea's government favours the growth of the informal economy as a way to improve its work/care regime. The informal economy is seen a potential source of entrepreneurialism and wealth generation that may eventually shift towards a market-based care system (Parker, Arrowsmith & Boyd, 2017 p.253).

Whether care and reproductive work are funded or supported by the state, private sector, charity sector, community, or the family is dependent on social norms and institutions. E.g. whether the state mandates paternity pay, or whether employers offer flexible working. The state provides little support to care and reproductive work in the Asia-Pacific, and there are 'policy vacuums' in both the care and work sectors (Hill, et al., 2017). This means that it is often left to households to provide or manage it. In wealthy Asian countries, part-time work is less common, and so the middle-classes and wealthy tend to employ foreign domestic workers for care work (Hill, et al., 2017). This thus has implications for migration flows, and knock-on effects for the caring responsibilities of those foreign workers. (Hill, et al., 2017). Meanwhile, in poor contexts, the type of care needed varies greatly – e.g. in Papua New Guinea high levels of ill health and domestic violence, and low levels of healthcare services, intensify the care burden (Parker, Arrowsmith & Boyd, 2017 p.253).

The automation of household tasks may help reduce the care burden (Manyika, et al., 2017, p.1). Yet while care work 'often appears in debates about automation in terms of the potential for humanoid robots to be used as personal assistants and companions', this raises important questions about ethics and the limits of technology (e.g. in jobs that require empathy) (Faith, 2017a, p.2).

Social security rights and protections are particularly important to women as women shoulder more care responsibilities, have less job security, are paid less, and own fewer assets. However, an expected fall in the labour supply combined with the increased health needs of ageing populations, suggest that social welfare funding will be strained (Balliester & Elsheikhi, 2018, p.38). Additionally, as developing countries have fewer social protections than developed countries, women may suffer more from job losses from automation (Faith, 2017a). Faith (2017a) highlights how social security provisions like a Universal Basic Income (a salary distributed to all citizens) may be an important way to mitigate the challenges of wide-scale unemployment, or labour polarisation, following automation.

5. Digital technologies

There is widespread acknowledgement that the world is undergoing a digital revolution[9] which is changing the way people, businesses, and countries operate and develop. While the potential gains from digital technologies are high, the impact is mixed, and uneven and therefore often unrealised, finds the World Bank (2016, p.5). The extent and speed of digital development is unequal and is contributing to

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[9] What WEF calls the 'Fourth Industrial Revolution' (WEF, 2016). WEF (2016, p.7-8) explains this as 'Developments in previously disjointed fields such as artificial intelligence and machine learning, robotics, nanotechnology, 3D printing and genetics and biotechnology are all building on and amplifying one another. Smart systems—homes, factories, farms, grids or entire cities—will help tackle problems ranging from supply chain management to climate change. Concurrent to this technological revolution are a set of
broader socio-economic, geopolitical and demographic developments, each interacting in multiple directions and intensifying each another'.

unequal development trajectories. This mixed picture suggests that digital development is not only disrupting development pathways, but is also continuing traditional development challenges and divides.

Digital gender gaps persist. In the East Asia and Pacific region, 54% of women do not own a mobile phone; while in South Asia, 72% of women do not own a mobile phone[10] (GSMA, 2015, p.23). While the gender gap in mobile phone ownership in the East Asia and Pacific region is only 3%, it is 38% in the South Asia region (ibid). GSMA (2015, p.23) finds that 'the East Asia and Pacific region has the second highest number of unconnected females across low- and middle income regions. For example, Papua New Guinea is home to 7.1 million people, nearly 70% of whom have no access to mobile phones. Women at the base of the pyramid are even worse off: with only 16% reporting that they own a mobile phone'.

In terms of internet penetration rates, in 2017, 39.7% of women in Asia-Pacific used the Internet (as a percentage of the total female population) compared to 47.9% of men (ITU, 2017, p.4). However, the gender gap in internet access has narrowed in Asia since 2013 (ITU, 2017, p.4). The gender gaps in access, ownership and usage of technology are driven by a complex set of socio-economic, social norms and cultural barriers that negatively affecting women and girls – e.g. even when women own mobile phones, there is a significant gender gap in usage (GSMA, 2015, p.6). Digital harassment is a particularly gendered problem (Faith, 2017a).

As digital technologies and skills are increasingly important in work tasks and accessing job opportunities, the digital divide is of central importance (Herbert, 2018). Without digital skills women are unlikely to benefit from the more senior technological jobs that will increase in the future. While women are likely to benefit from a shift in employment toward non-routine occupations, and away from physical work, the rate of women's participation in ICT specialist occupations is low (UNCTAD, 2017).

6. Demographics, climate and the environment

Childcare and ageing are Asia-Pacific's most pressing demographic issues. Varying trends in the Indo-Pacific region see Timor-Leste and Papua New Guinea with high fertility rates and very young populations (Hill, et al., 2017). While, Singapore and China have ageing populations.

In relation to childcare, there is an overall "preference" for familial care – falling on the shoulders of the mother or grandparents. Grandparent primary care is particularly common in Sri Lanka, Bangladesh, Indonesia, and the Philippines (Hill, et al., 2017). Hill, et al. (2017, p.15) highlight that while they use the word "preference", 'patterns of women's work and care are indeed politically determined and not solely the result of individual choice, preference or agency'. They are determined by the availability and affordability of other options. And the underlying basis for these political decisions is very much shaped by social norms.

Ageing populations will require more care, while the traditional structures and sources of care are tending to diminish (Parker, Arrowsmith & Boyd, 2017, p.253). Thus, additional employment in the health and care sectors will be created (Balliester & Elsheikhi, 2018). While globally on average women tend to live longer than men, meaning 'a larger number of women will be among the older people in the world', 'in China and India where families have a preference for boys, the feminization of older age groups will slow down and could even turn into dominance of older men in the old-age groups' (Otobe, 2017, p.11).

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[10] GSMA (2015, p.23) uses the term "unconnected" to mean females who do not own a mobile phone, but may borrow one.

'Feminization of old age poverty, even in advanced industrialized countries, is a major concern given that women tend to work fewer years in the labour market and, thus, accumulate less social security benefits, such as pension. Older workers also tend to face discrimination in access to employment, as well, which is even worse for older women workers (Otobe, 2017, p.12).

China has a rapidly ageing population while its underdeveloped eldercare and health services mean that policy reforms are urgently needed to meet future demands (Hill, et al., 2017). China currently has a largely working population, but that is set to change quickly as its population ages and begins to retire (Chen, Hao & Baird, 2017). It also has a gender imbalance with 51% of its population male, and 49% female (Chen, et al., 2017). Thus, its population will soon need more eldercare, and there will be fewer women to provide it. China's acute rural-urban divides also shape labour opportunities and experiences of women and men (Chen, et al., 2017).

Concerns over climate change and the environment will continue to shape consumer trends and policy decisions, stimulating job creation in the green economy (e.g. the renewable energy sector), and job destruction in polluting industries (Balliester & Elsheikhi, 2018). The geographical impacts of climate change and environmental degradation are forecast to have serious economic costs, with particular geographic impacts (e.g. on Pacific countries). 'Particularly for women in developing countries, the future of work depends on how countries manage to diversify their economies, and how women can benefit – on an equal basis with men – from the emerging job opportunities created in non-agricultural sectors' (Otobe, 2017, p.12).

Migration is expected to increase with increased 'environmental degradation, climate change, and water shortages' especially in 'geopolitically unstable regions' (Otobe, 2017, p.12). Specific gender dimensions mean that women and girls: tend to be less physically mobile; have unequal access to resources in general; walk longer distances to fetch fuel and water in rural communities; and suffer disproportionately from natural catastrophes and climate change (Otobe, 2017, p.16).

7. List of resources

Useful publications

Balliester, T. & Elsheikhi, A. (2018) The Future of Work: A Literature Review. Working Paper 29. ILO
https://www.ilo.org/wcmsp5/groups/public/---dgreports/---inst/documents/publication/wcms_625866.pdf

WEF (2016) The Future of Jobs: Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution. Global Challenge Insight Report. WEF
http://www3.weforum.org/docs/WEF_Future_of_Jobs.pdf

Baird, M., Ford, M., & Hill, E. (Eds.). (2017). Women, Work and Care in the Asia-Pacific (Vol. 50). Taylor & Francis. https://www.routledge.com/Women-Work-and-Care-in-the-Asia-Pacific/Baird-Ford-Hill/p/book/9781138119048

Case studies

Aye, B., Goss, J., Lappin, L., Whaites, K., Barria, S., Montufar, V. (2018) Decent work for Community Health Workers in South Asia: A Path to Gender Equality and Sustainable Development. ILO

http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_616210.pdf

Guelich, U. (2018) The importance of perceptions in promoting women's entrepreneurship in Thailand. ILO http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_616212.pdf

Joshi, R. (2018) Does gender diversity improve firm performance? Evidence from India. ILO http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_616213.pdf

Khadka, M & Sunam, R. (2018) Workforce diversity and reservation policy in Nepal: A strategic approach to strengthening women's voice and visibility in formal employment sector. ILO. http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_616209.pdf

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Videos

The ILO organised a conference in 2018 on the opportunities and challenges of the future at work for women in Asia and the Pacific.[11] It was sponsored by the Australian Government Department of Jobs and Small Business. Here are videos of the sessions:

- Women and the Future of Work in Asia and the Pacific: Introduction remarks - https://www.youtube.com/watch?v=Xq0nqK6ZFPU&index=1&list=PL2D54FCE4F85FAC6A

- Tell it like it is: Women from around the Asia-Pacific region share their views on what they want to see for the Future of Work and what they think helps women to succeed - https://www.youtube.com/watch?v=3NmzKH1H80Y&list=PL2D54FCE4F85FAC6A&index=1

- Skilling women & girls for the Future of Work: Promoting STEM (sciences, technology, engineering & mathematics) - https://www.youtube.com/watch?v=PBUUM3SBeUk&list=PL2D54FCE4F85FAC6A&index=1

- Amplifying women's voices, representation & leadership - at work & into society - https://www.youtube.com/watch?v=AOcrBQ0deoc&index=4&list=PL2D54FCE4F85FAC6A

- Generating decent jobs in the care economy & the importance of supporting work & family balance - https://www.youtube.com/watch?v=uTIhh1l5rDo&list=PL2D54FCE4F85FAC6A&index=1

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[11] http://www.ilo.org/asia/events/WCMS_577522/lang--en/index.htm

- Women in business & management driving inclusive growth & more sustainable enterprises - https://www.youtube.com/watch?v=ySs9-P8q3bM&index=3&list=PL2D54FCE4F85FAC6A

- Closing the pay gap: What actually works? - https://www.youtube.com/watch?v=J_ldjwk9atI&index=2&list=PL2D54FCE4F85FAC6A

- Interactive Breakout Session and Conclusions - https://www.youtube.com/watch?v=NPLsGUQjzog&index=1&list=PL2D54FCE4F85FAC6Az

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