4IR AND WOMEN IN THE WORKFORCE: SRI LANKA'S APPAREL INDUSTRY
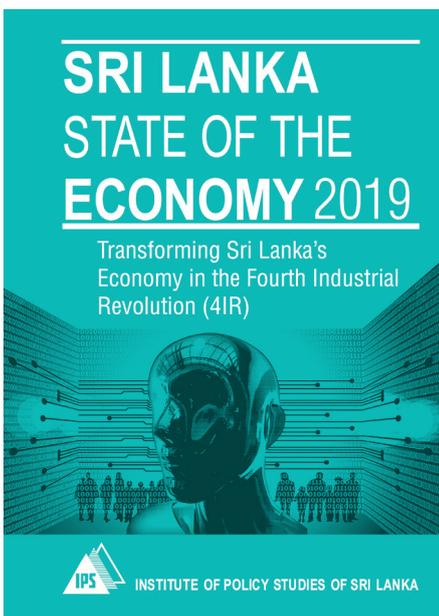
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SRI LANKA STATE OF THE ECONOMY 2019

Transforming Sri Lanka's Economy in the Fourth Industrial Revolution (4IR)

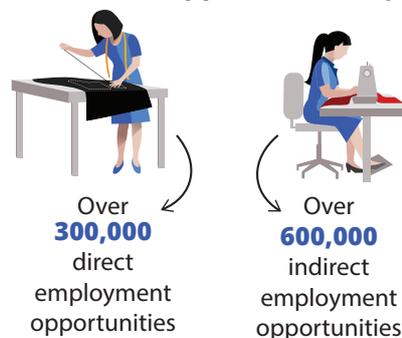**INSTITUTE OF POLICY STUDIES OF SRI LANKA**

The adoption of 4IR technology enables apparel manufacturers to cater to the rapidly evolving, demand driven global fashion market. The industry is shifting from a 'push' model, where customer demand was set by promotional campaigns of manufacturers and brands, to a 'pull' model where demand is being set by customers themselves. Today, customer demand is determined by exposure to fashion trends and customer insights through social media, while the industry has to respond rapidly to instant changes in customer demand through shorter production cycles. The automation of the apparel production process through 4IR technologies is crucial in responding to such shorter turnaround cycles. For instance, automated finishing technology cuts the finishing time of a pair of Levi's jeans made using manual processes from 20 minutes, to just 90 seconds.

Furthermore, the need to respond to

such quick production cycles, combined with speed and efficiency gains delivered by application of 4IR technology such as robotics in the production process, is making a strong case for production 'nearshoring'. 'Off-shoring' apparel production to Asia, where labour costs are low, was traditionally considered to be a competitive production strategy. However, the need to respond more quickly to demand changes, coupled with rising labour costs in Asia, has made off-shoring less competitive. Thus, the traditional cost advantages of off-shoring production to Asia can be offset in the future by introducing automation to nearshore markets. In this context, the potential for major apparel destination markets such as the US and European Union (EU) in adopting technology to automate the production process and produce more competitively in nearer markets in the long run, compared to the current practice of sourcing from off-shore markets, is gaining ground.

Female employment in Sri Lanka's apparel industry

Over **300,000** direct employment opportunities

Over **600,000** indirect employment opportunities

Women account for around **78%** of the industry workforce

## Implications for Sri Lanka's Apparel Industry Workers

In absolute numbers, Sri Lanka's apparel industry provides direct and indirect employment of around 300,000 and 600,000, respectively. Women account for around 78 per cent of the industry workforce, while other estimates suggest that the share of women in the garment sector is as high as 87 per cent. Female employment is seen to be concentrated mostly in routine categories of work; for instance, the highest proportion of female recruitments during 2015 to mid-2017, accounting for nearly a half of total female recruitments, has been in the category of 'sewing machine operators'. Thus, despite the adoption of technologies being crucial for long-term business competitiveness, it can have significant impacts on female employment in Sri Lanka. as the apparel industry has a high concentration of female labour, particularly in routine categories of work that are prone to automation.

Nevertheless, the impact of 4IR technology in changing apparel production processes, if managed effectively, presents an opportunity for women to progress towards better quality, higher paid employment. The adoption of tech-driven production processes will create new job opportunities for high-skilled workers needed for developing and operating such processes. technological upgrading can help alleviate labour shortages facing Sri Lanka's apparel industry. Changing career aspirations of young women in opting for computer-based jobs with higher social status and flexibility, competition from other sectors of work with

higher wages and pleasant working conditions have been noted as some of the causes behind the labour shortage faced by the industry. Not surprisingly, the occupational category of 'sewing machine operators' was reported to be the most difficult-to-fill occupation in the 'Labour Demand Survey of 2017' conducted by the Department of Census and Statistics (DCS). Thus, changing job profiles of garment factory workers towards technology driven production processes in the future can be an opportunity for female garment workers who are looking to progress into better quality occupations and social status.

However, female workers employed in the apparel industry across Sri Lanka and Asia, are mostly from poor backgrounds with lower levels of education, and might find it challenging to transition into different job roles in the future. Moreover, most educated women seem to be employed in other industries compared to the apparel sector (with the exception of agriculture sector workers), whereas tasks carried out by women in the apparel sector is concentrated mostly in entry level low-skilled work. New jobs in the apparel sector, such as technicians, software developers and tech engineers who are needed for

Students in National Schools 2017, Advanced Level Grades 12-13, by Stream, by Gender
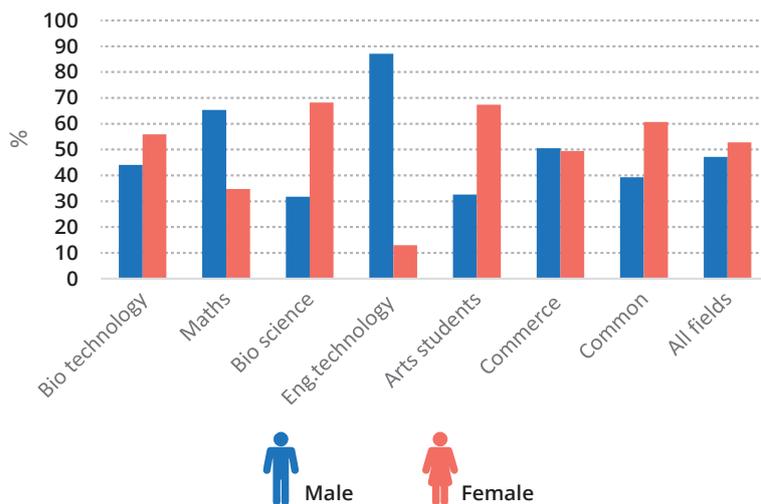
Source: Ministry of Education. (2017). Data management portal. Retrieved from https://dmb.moe.gov.lk/edu-stat-2017

developing and maintaining automated production processes, demand higher skill levels. Thus, skills development is essential to prepare women for a smooth transition into the future of work.

Preparing for Change: Investing in Education and Training

As the future of work will require more analytical and problem-solving skills, transformational 4IR technology calls for a reskilling of the workforce. Greater focus on science, technology, engineering and math (STEM) education is a requirement for new technologies and early exposure to computer science, entrepreneurship and interpersonal skills can help prepare the next generation of workers. However, women are underrepresented

in STEM education globally. Similarly, in Sri Lanka, women's involvement in STEM related fields of study is limited compared to men at both secondary and tertiary levels of education, with gender gaps being wider for certain STEM related fields such as mathematics and engineering, compared to science and technology.

To cater to STEM related skills such as analytical and problem-solving, efforts to improve and broaden women's skills across areas of technical and vocational education and training (TVET) is also important. Efforts should be taken to assess the capability of TVET courses in catering to future needs, while identifying ways of filling gender gaps in TVET. For instance, improving the range of TVET courses offered in rural TVET centers can expand women's choice in TVET, as female course selection is restricted due to limited availability of TVET courses in rural areas and preference of women to enroll in TVET centres nearest to them.

Collaboration between the government and businesses to facilitate training opportunities can also help bridge relevant skills gaps. Investing early in improving women's access to skills that will be demanded the most in the future in line with technological developments, will be crucial in securing the place of women in the future of work.

Postgraduate Student Enrolment of Higher Educational Institutions by Academic Programme, 2017
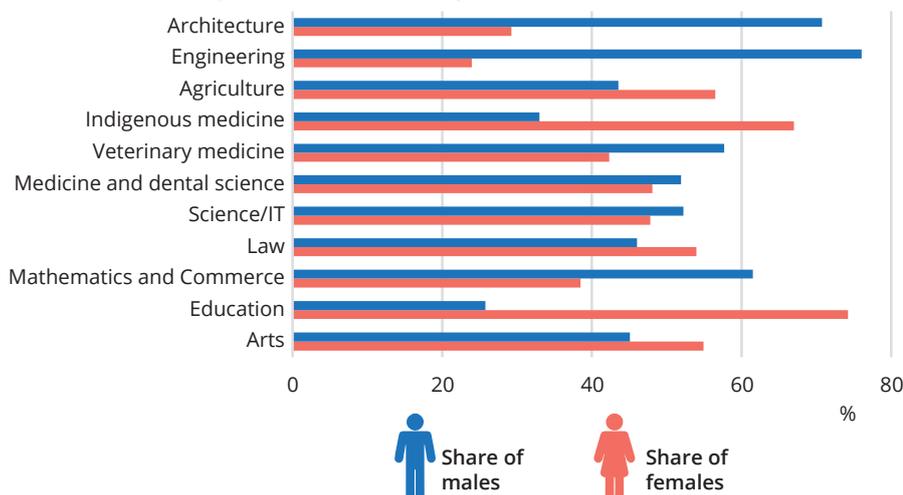
Source: University Grants Commission. (2019). Sri Lanka university statistics 2017. Retrieved from http://www.ugc.ac.lk/en/component/content/article/2029-sri-lanka-university-statistics-2017.html