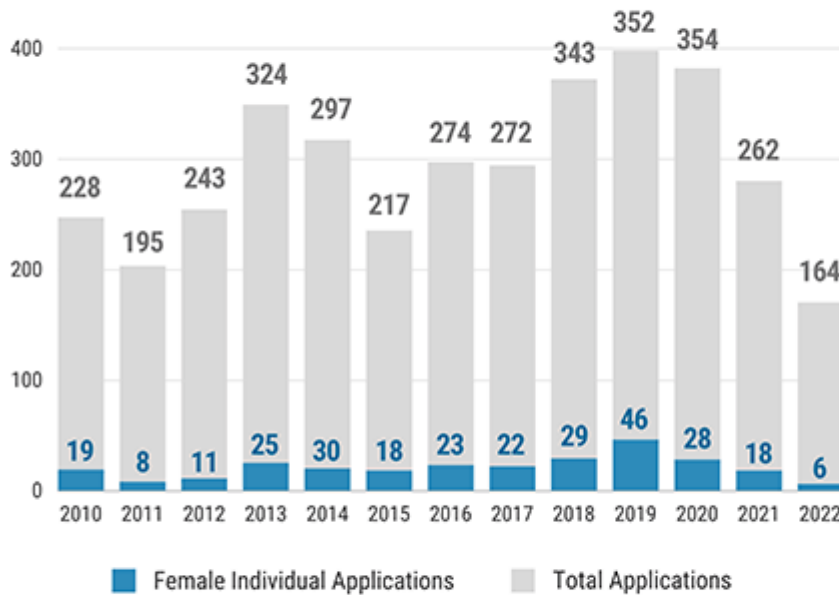


## Cracking the code: Why female innovations are lagging behind in SL

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### Gender Disparity in Sri Lanka's Patent Applications (2010-2022)



Sri Lankan women filed only **8%** of total patents from **2018-2022**, averaging **25** applications annually.

Note: The number of female individual applications is an approximate figure filtered by considering the applicant's/owner's name for single patent applications. In addition, total applications could include mixed group applications that have female members.

Source: National Intellectual Property Office (NIPO)

"I don't intend to get a patent right for my invention as I do not want to disclose my research findings and methodologies to the public domain," stated a female researcher who has claimed to have discovered a solution for dengue fever.

Like her, many female innovators are unwilling to obtain intellectual property (IP) protection and commercialise their innovations for various reasons. One of the significant issues is the insufficient understanding of IP rights and their application. Given that this year's (2023) World IP Day, observed on 26 April, focused on "Women and IP: Accelerating Innovation and Creativity", it is timely to explore the state of female innovations in Sri Lanka and consider possible strategies to promote better IP protection for the creativity and innovations of females.

#### Females in innovation

The number of patent applications issued to females is a crucial and commonly used indicator to determine their involvement in innovation. However, Sri Lanka does not have gender specific patent application data. Based on approximate calculations, the number of individual female patent

applications fluctuated between 2010 and 2022, averaging nearly 25 patent applications per year in the last five years (infographic one: gender disparity in Sri Lanka's patent applications from 2010 to 2022). This represents only 8% of the total patent applications during that period.

Globally, females' patent applications are less than those of males; in 2020, nearly 16.5% of international patent applications were filed by females. Sri Lankan females appear to do poorly, especially compared to their Asian counterparts, where females' applications represent 17.7% of the total applications, with China and India leading the way.

Why are females' innovations low in Sri Lanka?

Females' involvement in research and development (R and D) activities, one of the key components of innovation, is at a satisfactory level in Sri Lanka. According to the National R and D survey conducted by the National Science Foundation in 2020, nearly 50% of the researchers in the country are females. This figure is the highest percentage when compared with other South Asian countries. However, in total, the output indicators of R and D, such as the number of patents, journal publications, commercialisations, etc., are low in Sri Lanka. Further, the low number of female patents reveals that most females are involved in less patent intensive fields, such as the natural sciences, the social sciences and the humanities. Moreover, female researchers are uninterested in commercialising their inventions or using them for commercial purposes. There could be several reasons for this, such as a lack of awareness of IP rights and their importance, the lack of incentives and institutional support for research commercialisation, and the lack of targeted programmes to promote females' innovations.

Science, technology, engineering, and mathematics (STEM) are the core fields of innovation. Female STEM education in Sri Lanka is relatively good. According to the University Grants Commission (UGC) statistics, in 2017, females comprised 49% of undergraduate enrolments in STEM subjects in local universities. Yet, very few females work or lead in STEM related fields. This could be attributed to negative stereotypes surrounding girls' competencies in subjects like mathematics, engineering, and information technology, as well as social, cultural, and gender norms.

Moreover, females' participation in Sri Lanka's creative industry sector is nearly 36%, with significant contributions in the product, graphic and fashion design and craft sectors. Nonetheless, the Creative and Cultural Industries in Sri Lanka report reveals that females' awareness of IP rights, even within the creative industry sector, is minimal.

What needs to be done?

IP rights play a major role in encouraging innovation and creativity as they help to turn an idea or solution into a commercial opportunity. In Sri Lanka, there is clearly a need to encourage more female participation in patent intensive R and D fields (such as the medical sciences, engineering and technologies) and in commercialisation. "Technology transfer and commercialisation units" in universities and research institutes should collaborate effectively with key stakeholder organisations such as the National Intellectual Property Office (NIPO), the World Intellectual Property Office, and the National Innovation Agency to create awareness amongst female innovators and to support them in managing IP related commercial activities. Furthermore, Sri Lanka can promote gender inclusive innovation policies by introducing special programmes encouraging females' participation in R and D

activities and commercialisation, including national awards and incentive schemes in universities and research institutes.

Females' participation in STEM fields and careers should be promoted by providing scholarships and introducing mentoring and development oriented programmes. Furthermore, the importance of IP rights should be taught in secondary school and university curricula. This fact was highlighted by a young female inventor with more than 60 patent rights in Sri Lanka. She noted that "an inquisitive mind and a thirst for knowledge from the school age have encouraged me to innovate. Creativity should be encouraged at the school level".

It is of utmost importance to raise awareness and strengthen knowledge on access to IP rights amongst female innovators in Sri Lanka. This could be done by establishing female focused support networking systems, collaborations, and learnings through selected role models, and mentorship and funding programmes. Countries such as India (the Women Scientists Scheme by the Department of Science and Technology), Singapore (the Women in Science organisation), China, and South Korea have programmes and organisations tailored explicitly for female innovators.

Lastly, it is crucial to maintain an accurate and current database of females' patent applications at individual and group levels at the national database system of the NIPO. Simple modifications to patent applications could facilitate this process. In addition, having such a database would be valuable in developing policies specific to females' innovations.

***(The writer is a Research Economist at the Institute of Policy Studies. She can be contacted at [dilani@ips.lk](mailto:dilani@ips.lk).)***

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