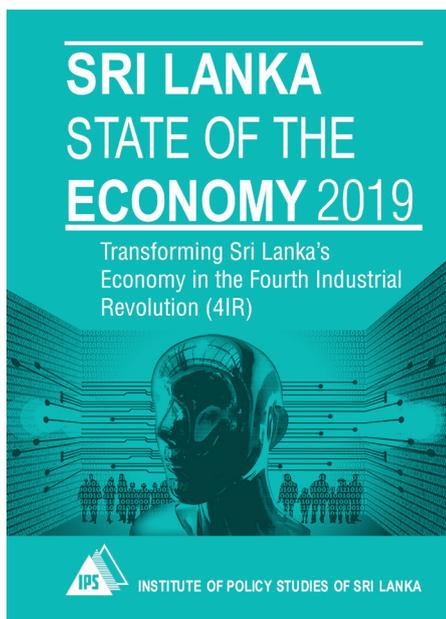




4IR AND INTELLECTUAL PROPERTY RIGHTS

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In the 4IR, unlike in the three preceding revolutions, technology and innovation can play a greater role in wealth creation and to sustain socio-political stability. A strong IPR protection regime is critical in this endeavour, allowing innovators a share of benefits of their creative activities, to further encourage innovation and creativity. However, some concerns persist with regards to IPR protection in the 4IR. Presently, the IPR provides protection for physical objects, devices, structures, physical outputs, physical systems, physical connections, etc. With the implementation of the 4IR, the focus of protection expands into intangible items such as methodologies, data ownership, configuration of virtual systems, processing algorithms, brand recognition, etc. Thus, current IP regimes may be unable to provide protection for technology and innovation as encompassed in the 4IR.

Where Does Sri Lanka Stand?

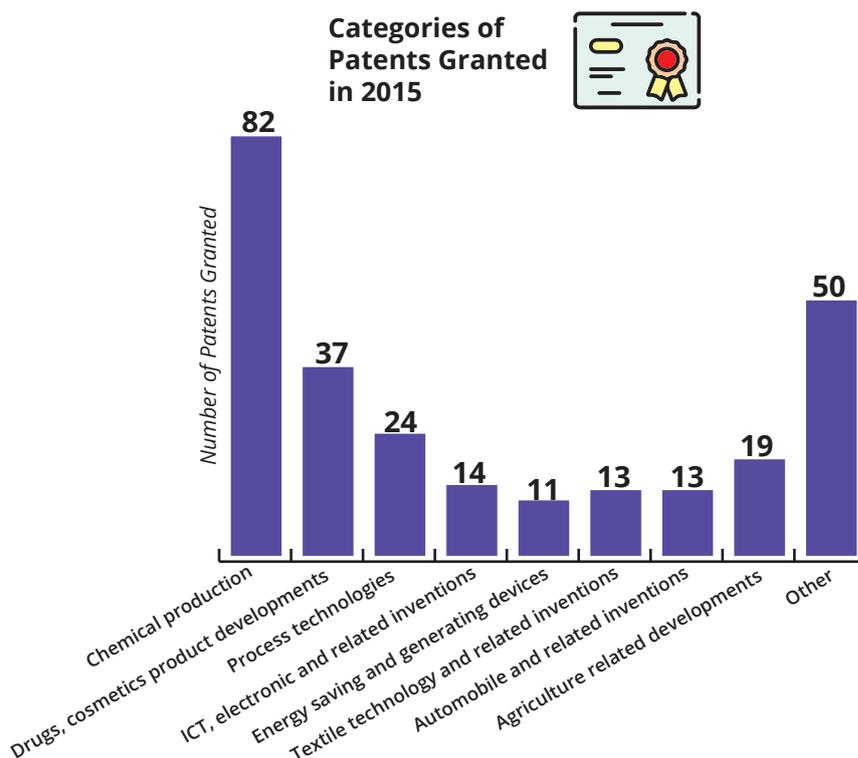
According to the global innovation index (GII) 2018, Sri Lanka ranks at a relatively weak 90th position out of 126 countries.

Several factors affect a country’s generation of innovations. Amongst them, the most important are the level of R&D initiatives in place, the stock of human capital and strategies of commercialisation of new knowledge. An effective IPR system stimulates almost all these factors and creates an environment which provides incentives for innovations. For example, strong IPRs systems can overcome the issue of private investments in R&D by facilitating effective protection for investors. It also encourages engagement of people in innovations by providing credibility for inventors and promoting commercialisation of innovations.

The expenditure on R&D is one of the main indicators to identify a country’s support for innovation. In Sri Lanka, gross expenditure on R&D (GERD) as a percentage of GDP was 0.11 per cent in 2015. A higher percentage in R&D (nearly 60 per cent) is contributed by the pub-

lic sector, 34 per cent from business enterprises, 2 per cent from foreign sources and 4 per cent from other sources. In most developing countries, the government sector provides for a higher percentage of country’s total investments. When markets fail as a result of the difficulty in assuring profits for investors, public investment is essential in R&D. In Sri Lanka, 99.9 per cent of government investments in R&D are made towards institutions in higher education (52.5 per cent) and science and technology (47.4 per cent), and a mere 0.01 per cent to the industry.

The number of innovations developed by the business enterprise sector is greater than those of other two sectors, namely higher education and government. Remarkably, the higher education sector has not engaged in any commercialisation activities, and is minimal in the government sector, according to the latest

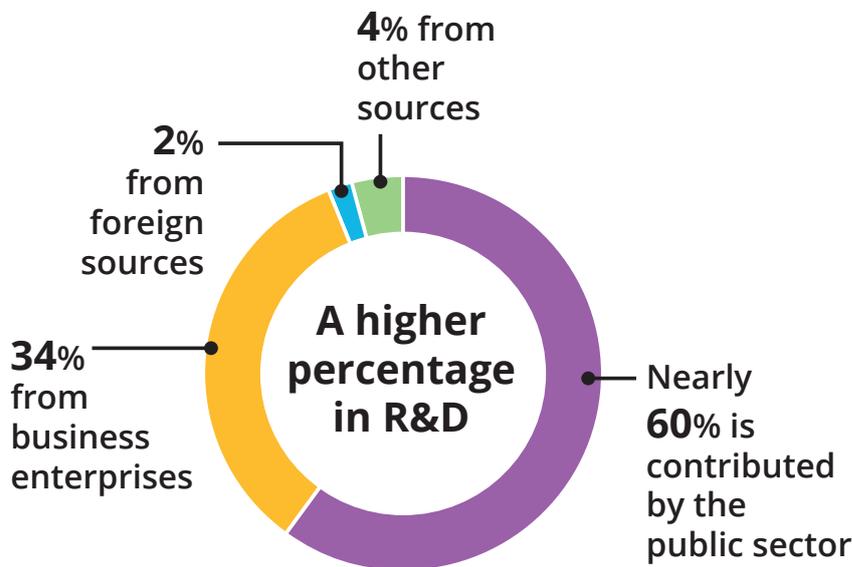


data available. This highlights the fact that Sri Lanka is not only lagging behind in the number of innovations, but also in the transferring and commercialisation of innovations. Until recently, Sri Lankan universities and government research institutes mainly focused on teaching and reported very low levels of R&D. This may be the main reason for the limited numbers in innovation developed in universities and government research institutes.

The number of patents registered in a country is another indicator to measure the level of innovation and development in technology. Since 2011, there is an upward trend in patent registration in Sri Lanka, in the case of both residents and non-residents. The highest number of patents is recorded in chemical production, drugs, cosmetics, process technologies, etc.

With the implementation of the TRIPs Agreement in 2003, Sri Lanka too provides IPR protection. Several methods are used to safeguard innovations, while the protection method depends on the type of invention. Table 15.2 indicates trademarks and trade secrets are the most popular IP protection methods in Sri Lanka.

Some of the well known 4IR technologies featured in Sri Lanka include several interconnected digital technologies, smart agriculture, smart classrooms, smart technologies, etc. However, some other technologies such as IoTs, robotics, aero science, etc., are still relatively new. To reap the benefits of the 4IR, government and industries need to take several initiatives as a whole.



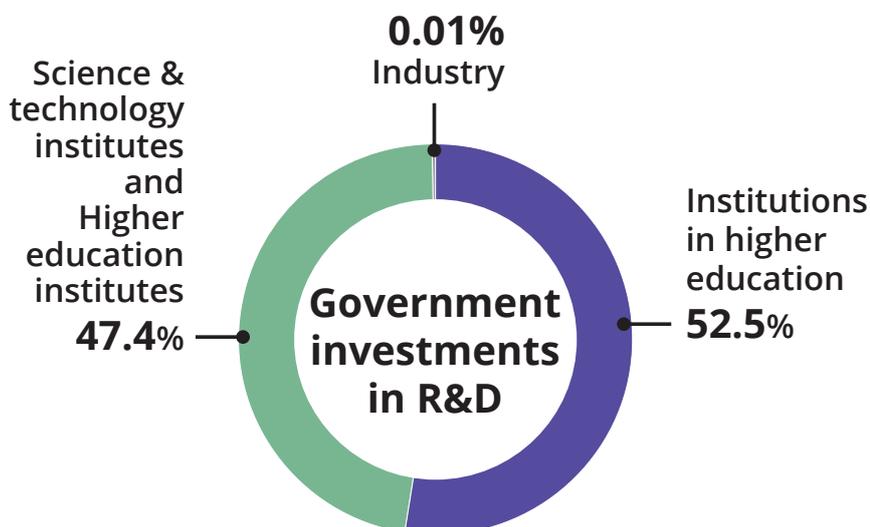
Way Forward

Sri Lanka is positioned at the middle of the 4IR. To gain its benefits, the government has to play a major role as a catalyst in fostering innovation, supporting partnerships for technology transfer and commercialisation, and providing access to infrastructure, etc. To drive the wave of innovation, Sri Lanka must have a robust IP system in place too.

To effectively use IPRs as means of stimulating innovation, Sri Lanka should explore alternatives such as integrating with regional patenting organisations, sharing information and fostering conducive relationships with other national patenting offices, as a solution to sharing the high cost of patenting. Simultaneously, it is important to create public awareness of IPR services. Especially in patenting, insights on how patents can support and encourage inventors by providing recognition and rewards, and also how to convert inventors' knowledge into

tradable assets are valuable.

Furthermore, international best practices suggest that merely being a signatory to TRIPs agreement is insufficient; the most important step is national enforcement. Effective enforcement of the existing IPR policy and also effective management of IP is also crucial. It is also important to provide IPR policy management for research institutes, universities and other higher education facilities, especially in the areas of commercialisation, research collaboration, and ownership of innovation. Modernising the existing IPR regime to address issues arising from new technology applications from the IoT, AIs and big data is needed. These include means to patent software, protect new plant varieties, strategies or guidelines to protect big data etc. Such efforts should be complemented by capacity building in the form of technically sound IP examiners (especially in patents and trademarks) to explore IP applications based on IoT and AI.



This Policy Insight is based on the comprehensive chapter on "4IR and Intellectual Property Rights": State of the Economy 2019 Report' - the flagship publication of the institute of Policy Studies of Sri Lanka (IPS). The complete report can be purchased from the publications section of the IPS.



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