

# BANGLADESH'S INNOVATION CHALLENGE

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A physicist from Shahjalal University of Science and Technology (SUST) dominated the headlines last month when she, and her team of 25, made a breakthrough discovery in cancer detection. The team, led by Yasmeen Haque, was the first to find out that cancer can be detected by a nonlinear optical method, which basically is the study of how intense light interacts with matter.

There still needs to be plenty of tests and there's a long way to go before an accurate cancer-detecting device can be made based on the current discovery. However, if successful, the discovery can drastically reduce the cost of cancer detection in the country. The team applied for a patent in both Bangladesh and the USA and it was accepted on July 9.

Going by the number of patents filed by Bangladeshi organisations every year, the above is a rarity. In 2017, only seven patents filed by local organisations were accepted by the Department of Patents, Designs and Trademarks (DPDT). The number was the same in 2016. Compare these figures with other countries in Asia and you realise that there's plenty of work needed to be done in this sector for Bangladesh.

In 2016, India saw 1,115 patents from local organisations get registered. There were 54 patents accepted from local firms in Sri Lanka, while there were 12 in Pakistan. Even the number of applications for patents shows a dismal picture. In 2017, there were just 302 patent applications in Bangladesh. Where as there were 840 in Pakistan, 573 in Sri Lanka and 45,000 in India in 2016.

Md Sanowar Hossain, DPDT registrar, admits that the number of patents are less and that there should be a policy intervention for improvement. "Considering that we are a nation of 16 crore people... and there are so many universities, from that aspect the number of patent application is not satisfactory. We need a lot more application from the research-based organisations in the country," he says.

But why bother about the number of patents filed by locals in a country? That's because researchers say that the number of registered patents in a country is one of the factors that measures the potential for innovation. A number of researches, that have come out in 2018 have suggested that as far as the innovation sector is concerned, Bangladesh isn't doing too well.

For instance, the Global Innovation Index which came out in September, ranked Bangladesh at 116, the

worst in Asia. The result was based on several parameters and while Bangladesh performed well in some of them, their rankings in some of the most crucial parameters is a matter of concern. Under the education parameter, Bangladesh was ranked 123. The report indicates that there needs to be a lot more expenditure on education for innovation. Bangladesh was also ranked 123 under the institutions

Index, based on 12 pillars, shows a similar concern. Bangladesh was ranked at 114 out of 137 countries under the innovation pillar. Some of the factors that were used to determine the level of innovation of a country were quality of scientific research institutions, university-industry collaboration in research and development, patents and capacity for innovation.

Bangladesh received some of their worst rankings for each of the above. It was ranked 130 as far as university and industry collaboration is concerned and 117 in quality of scientific research institutions.

The SCImago Journal and Country Rank, is a publicly available portal that includes journals and country scientific indicators. It's a website that helps you compare the research papers and journals from different countries. A quick comparison of Bangladesh with some of the other countries shows that the South Asian nation has a lot to catch up on. For example, there are only 18 Bangladeshi journals ranked on the website. Pakistan, on the other hand has 103, while India has 525.

In between 1996-2017, Bangladesh's scientists published 38,897 citable documents, including research articles, reviews and conference papers. This is a number which is lesser than Vietnam, Pakistan, Nigeria, Egypt and a number of other countries.

Dr Khondaker Golam Moazzem from the Center for Policy Dialogue worked with the World Economic Forum and conducted surveys for the research. He said that a large section of the respondents wasn't satisfied with the innovative skills of the graduates. He also pointed out that the lack of partnerships between universities and industries is one of the main obstacles to proper innovation.

"If you look at our neighbouring countries, both the private and the public sectors are heavily investing in research and design but that's not the case with us. We need the government to start a technology update fund, which can be used to support those who want to create new products," opines Dr Moazzem.

"These days there are companies who are willing to invest in startups who look for innovative ways to solve problems. These companies need to be further encouraged by the government," he adds.

There was a time when labor-intensive countries like Bangladesh didn't really need to focus on innovation as much, since that wasn't a priority. However, times have changed. For Bangladesh to move on to the next level it needs its innovators to be encouraged and going by the numerous numbers presented above, that doesn't seem to be happening.



parameter which focused mainly on the political, business and regulatory environments. It was ranked 116 in terms of political stability and safety and 110 in government effectiveness.

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