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### CSIR-NIIST drives State capital into top league of research

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#### Study gives it top rating for world-class papers

Kerala's capital is emerging as a hot spot of science and innovation in the country, with the National Institute of Interdisciplinary Science and Technology (NIIST), a constituent laboratory of the Council of Scientific and Industrial Research (CSIR), taking the lead, a study conducted by a U.K.-based foundation says.

The study measured the innovation output of 634 universities and institutes in the country and found that 85 had published more than 50 world-class research papers. Of these 21, including the CSIR-NIIST, had published more than 200 papers. World-class research accounted for 14 per cent of the total institutional output at the CSIR-NIIST, the highest proportion among institutes in India.

The survey, covering the period from 2001 to 2010, was carried out by Nesta, an independent innovation foundation registered in the U.K. The report, authored by Kirsten Bound and Ian Thornton, rated the institutes based on world-class papers in the top decile (top 10 per cent) of citations. Panjab University topped the list of 21 institutions, followed by the Indian Institute of Technology (IIT), Roorkee; IIT Delhi; University of Delhi; and the All India Institute of Medical Sciences.

Titled 'Our Frugal Future: Lessons from India's Innovation System,' the report was prepared by Nesta in partnership with the U.K. Foreign and Commonwealth Office (FCO) through the Science and Innovation Network (SIN) in India, Research Councils U.K. (RCUK) India, and U.K.-India Education and Research Initiative (UKIERI).

The CSIR-NIIST topped the list of 10 institutions rated on the basis of top decile papers as a percentage of institutional research output in the 2006- 2010 period. Though Delhi, Mumbai, and Bangalore continued to be India's dominant hubs of science and innovation, new centres of excellence were emerging across the country. Thiruvananthapuram was one of the cities competing for the 'rising star' sobriquet.

Suresh Das, Director, CSIR-NIIST, said the findings of the study were a morale booster for scientists at the institute "Along with us, other organisations such as the Indian Space Research Organisation, Rajiv Gandhi Centre for Biotechnogy, and the Indian Institute of Science Education and Research have played a key role in the emergence of Thiruvananthapuram as a research hub."

The report mentioned the Kerala approach to palliative care as an example of frugal innovation found throughout the Indian system. While India produced over twice as many scientific publications a year than it did a decade ago, this amounted to only 3.5 per cent of world research, and most of that was below average quality, it observed.

India's innovation spend, the report noted, was reasonably efficient when benchmarked against a selection of other BRICS and more developed countries. It produced more patents per dollar of R&D spend than China, and more scientific publications per dollar of R&D spend than the U.S.

The report recommended that India market its distinctive expertise in frugal innovation to the world. It also suggested that India and the U.K. join forces to promote frugal innovation in key sectors such as water, energy, food security, and higher education.

# Says India's innovation spend is reasonably efficient

### 'India should market its expertise in frugal innovation'

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