



UN NEWS CENTRE

With breaking stories and
newswire products from



Emerging economies advancing rapidly in scientific research – UN



Cell laboratory in Seoul, Republic of Korea

10 November 2010 – Emerging economies are rapidly closing the gap in global research and development between the industrialized world and developing countries with China, India and the Republic of Korea devoting increasing resources to science and technology, a new United Nations [report](#) unveiled today shows.

According to the report by the UN Educational, Scientific and Cultural Organization ([UNESCO](#)), Asia's share of gross domestic expenditure on research and development (GERD) rose from 27 to 32 per cent between 2002 and 2007, while over the same period, the European Union ([EU](#)), the United States and Japan registered a decrease.

The report, released to coincide with the observance of the World Science Day for Peace and Development, shows that almost 83 per cent of research and development was carried out in developed countries in 2002, but by 2007 that share had dropped to 76 per cent.

This trend is even clearer when industry's contribution to GERD is considered. Between 2000 and 2007, the private sector share of research and development spending, as a proportion of gross domestic product (GDP), saw a sharp increase in Japan, China, Singapore and especially the Republic of Korea, while it remained stable in Germany, France, and the United Kingdom, and even saw a slight decrease in Russia and the US.

“The distribution of research and development efforts between North and South has changed with the emergence of new players in the global economy,” Irina Bokova, the UNESCO Director General, [said](#) in her foreword to the report.

“The bipolar world in which science and technology were dominated by the Triad made up of the European Union, Japan and the USA is gradually giving way to a multi-polar world, with an increasing number of public and private research hubs spreading across North and South,” she added.

The report also observes that developed countries have similarly seen their share of scientific publications drop from 84 per cent in 2002, to 75 per cent in 2008, a period when China’s share more than doubled, increasing from 5.2 per cent to 10.6 per cent, even if the citation rate of its articles lags behind those in the developed countries.

It notes that the transformation is being helped by the extremely rapid development of the Internet, which has become a powerful medium for disseminating knowledge.

However, the report also takes note of the fact that the EU, Japan and the US have maintained their lead in patents. “Of all the indicators used in the World Science report, it is the patent indicator which points most strikingly to the inequality of knowledge creation at the global level,” the report says.

The US Patents and Trademark Office, European Patent Office and Japan Patent Office claim the lion’s share, and patents filed with these bodies mean they are of a high quality, the report’s authors explain.

The report also highlights the problem of brain drain, noting that while developing countries are training more researchers and scientists, it does not necessarily mean that they will easily find jobs in their countries of origin, a factor that feeds a South-North and North-North migration of graduates.

India, Turkey, some countries in sub-Saharan Africa and Southern Asia are particularly faced with this problem. At least a third of African researchers were estimated to be working abroad in 2009.

In her forward, Ms. Bokova also highlighted the need for what she described as “scientific diplomacy.”

“I am convinced that, more than ever, regional and international scientific cooperation is crucial to addressing the interrelated, complex and growing global challenges with which we are confronted,” she said.

The theme of this year’s World Science Day is “Science for the rapprochement of peoples and cultures.”

“We seek to mobilize science knowledge and policy for sustainable development with three goals in mind – to leverage scientific knowledge for the benefit of the environment and the

management of natural resources, to foster policies and capacity-building in science, technology and innovation, and to contribute to disaster preparedness and mitigation,” Ms. Bokova said her message to mark the Day.

News Tracker: past stories on this issue

[Number of researchers rising globally but women still in minority – UN report](#)