China leads Asia in research: UN

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UNESCO head Irina Bokova, pictured in 2009. Asia, led by China, is fast challenging America, Europe and Japan in spending on scientific research and development but still lags on key criteria of inventiveness, according to a UN report to be published on Wednesday.

Asia, led by China, is fast challenging America, Europe and Japan in spending on scientific research and development but still lags on key criteria of inventiveness, according to a UN report to be published on Wednesday.

In its first review of world science budgets in five years, the UN Educational, Scientific and Cultural Organisation (UNESCO) found Asia accounted for 32 percent of gross domestic expenditure in research and development in 2007 compared with 27 percent in 2002.

Over the same period, the proportion of researchers in developing countries increased from 30 percent to 38 percent, it said.

China alone accounted for two-thirds of this increase, having 1.423 million researchers in 2007.

"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 multipolar world," said UNESCO Director General Irina Bokova in a foreword to the report.

Europe, the United States and China each contribute 20 percent of the world's researchers, followed by Japan, with 10 percent, and Russia, with seven percent, the report found.

From 2002 to 2008, developing countries boosted from 16 percent to 25 percent their share of studies published in scientific journals, a benchmark of scientific credibility, it said.

China's share alone more than doubled, from 5.2 percent to 10.6 percent.

However, Asia still lagged on two key measures of scientific stature and inventiveness.

Researchers from the United States, Europe and Japan were given far more "citations" -- references in published studies that denote ground-breaking work -- than counterparts from Asia.

They also claimed the lion's share of applications filed with the US, European and Japanese patent offices, which have a high quality rating.

Another worry for developing countries is the brain drain of talent to rich countries, although this may be attenuated by cutbacks there since the 2008 financial crisis.

The report swung the spotlight on the benefit of the Internet in spurring

scientists in poor countries. Access to online information "is one of the most promising new trends of the Millennium," it said.

It cited figures that the share of world gross domestic product (GDP) devoted to R&D was unchanged at 1.7 percent in 2007 compared with 2002.

In volume terms, though, there was a huge rise, from 790 billion dollars to 1,146 billion, mirroring the growth of the world's economy.

The figures comprise both public and private sector spending and cover fundamental as well as applied research in industry and technology.

The previous UNESCO Science Report appeared in 2005.