

More Quality Ph.Ds

Introduction

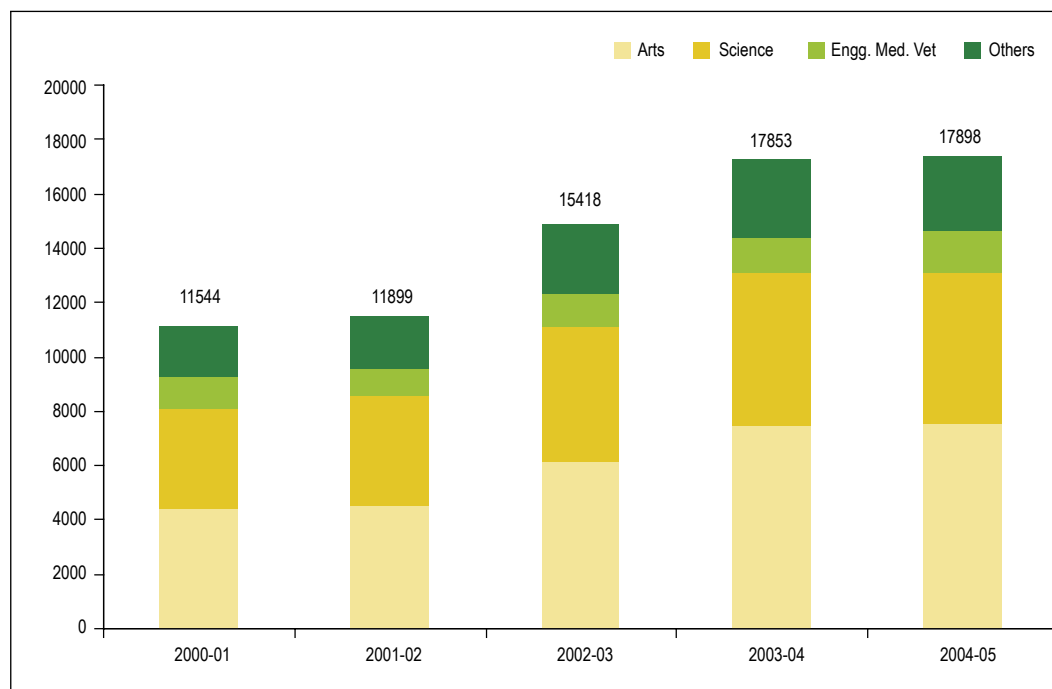
As India seeks to transform itself into a knowledge society, reviving the culture of research and innovation becomes all the more important. High quality research in all frontiers of knowledge is essential to achieve long term competitive advantage. However, the growth in higher education in India has not been accompanied by an equivalent growth in doctoral students. The declining quality of research work and deteriorating research standards and infrastructure in the country are a cause of concern. Inadequate infrastructure and lack of strong incentives to practice quality research are major causes of decline in interest towards research work. Administrative hurdles add to the already unfavourable environment for research.

Current Scenario

The current quantum of research happening in India is insufficient. Of the 11 million students enrolled in higher education in 2005-06, only 0.64 per cent were enrolled in research programs. Further, out of the 17898 of doctorate degrees awarded in 2004-05, the Faculty of Arts awarded 7532 degrees and the Faculty of Sciences had 5549 degrees. Thus, these two faculties together accounted for 73 per cent of the total number of research degrees awarded. There are also wide disparities within states in the number of doctoral degrees granted.

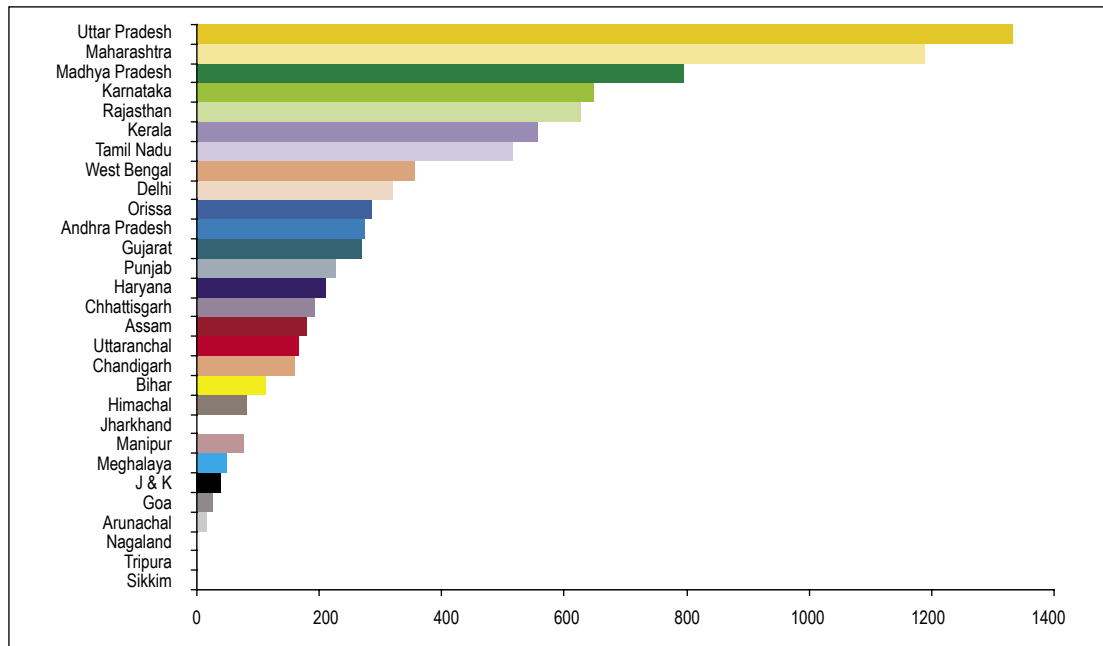
India's poor performance in research is also highlighted by comparisons with other countries. In 2002, USA had 4373, Japan had 5084, Germany had 3208 and even

Figure 46: Growth of doctorates: Faculty-wise number of doctorate degrees awarded



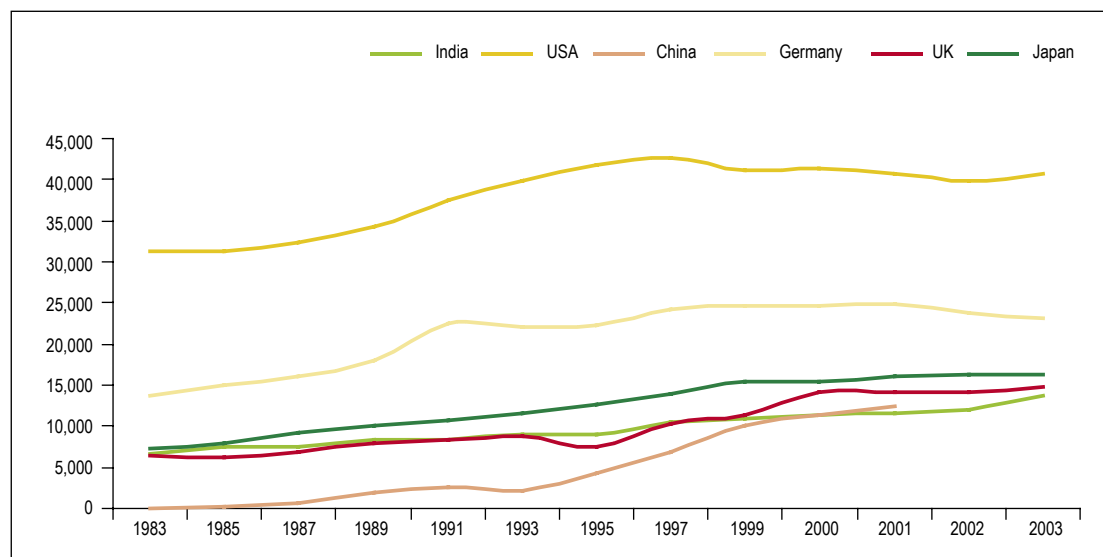
Source: Annual Report, 2005-06, University Grants Commission

Figure 47: State-wise distribution of Ph.D degrees awarded



Source: MHRD, Selected Statistics, 2004-05.

Figure 48: Growth in number of doctorates compared to other countries



Source: NSF, Science and Engineering Indicators 2006, Appendix Tables 2.42 and 2.43

China had 633 researchers per million inhabitants while India had only 112. Similarly, while the number of doctorates increased by only 20 per cent in India, China showed a spectacular growth of 85 per cent in Ph.Ds, Taiwan 57 per cent and Japan 48 per cent between 1991 and 2001.

Further, according to National Science Foundation, USA, the number of Indians who received US

doctorate degrees in 2003 in science and engineering is approximately 14000, a figure roughly double for Indian science and engineering doctorates who received degrees in India. Indians also earned by far the largest number of U.S. doctoral degrees awarded to any foreign group in computer and information sciences. This points out to the absence of a conducive research environment in India.