

CORRESPONDENCE

like a Ph D is a benchmark of universities to produce quality research and skilled manpower according to the changing trends in all the sectors, including the industry.

Further, according to a Council of Scientific and Industrial Research report⁵, a premier national R&D organization which provides S&T-based services to industry and other stakeholders, among other targets, we need to produce 1200 Ph Ds in S&T each year. Albeit being the world's second populous country after China, during 2004–2006 India produced 1 research scientist for every 7100 people; China 1 in 1080, South Korea 1 in 240 and Sweden 1 in 163. The status of areas like Gross Enrolment Ratio (GER), research citations, world ranking of Indian universities/institutions, etc. is also not healthy and appreciable. In order to compete at the global level, besides applied aspects, we need to ensure transparency, quality, interdisciplinary/multidisciplinary approaches in our research so that a skilled human resource is created. India can become a leading knowledge provider in the world only when a large and technically sound S&T resource is created, where the role of Ph Ds shall be sine qua non and unavoidable. It may be true that industries mostly need/prefer graduates/postgraduates, but to nurture a quality graduate/postgraduate we need quality teachers/academicians/researchers, for which Ph Ds suit the best. So indirectly industries also rely on Ph Ds who nurture and train their human resource to earn global accreditation.

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AIJAZ AHMAD QURESHI^{1,*}
AALIA SYED²

¹Islamic University of Science and Technology,

Awantipora 192 122, India

²Government Primary School, Lokipora, Langate,

Handwara, India

*e-mail: drajibazphd@gmail.com

Response:

In an earlier correspondence, I had mentioned why a Ph D may not be enough for ensuring employability to young Indian researchers¹. The concern over the employability of Ph Ds has increased in recent times largely because of the huge increase in their number and preference of lesser degree holders over Ph Ds in industries. Of course, there are reports on the need for about 1200 science and technology (S&T) Ph Ds per year². However, such predictions are based on the fact that about 1500 new universities will be opened by the year 2015, which has been far from reality³. Although there are lesser number of Ph Ds per people in India, in comparison to countries like China, Korea and Sweden, research in these countries is funded equally by private industries as much as by the publicly funded organizations. But in India, research works are largely funded by the Union Government and there is little involvement from the industry. Again, although the funding for research and development has increased in the recent years, it is not at par with the expectations. For instance, the research budget for the year 2015–16 was Rs 419 billion (a 3–4% increase than the previous year); a large part of the fund was compensatory to the national inflation rate (5%)⁴.

The major issue for employability of Ph Ds has been the quality of the research work. As has been mentioned by

Dutta⁵, research scholars, under stressful conditions are often in a hurry to somehow complete their research work and get a degree. Such research work can have high academic significance, but finds little importance in terms of translation into a product of societal application. Again, carrying out research work through outsourcing has arisen as a major obstacle in skill development of research scholars. Also, because of outsourcing research, Ph D students are less exposed to cutting-edge technologies which leaves them less knowledgeable and consequently less employable⁶.

In such an uncertain scenario, where a little fluctuation in national economy can leave many people unemployed, those pursuing Ph D will have to find their own niche. Ph D scholars need to focus more on skill development and will have to prove their relevance and irreplaceability in the industry as well as in academia. Again, in a time when the Union Government is promoting start-ups and self-employment, Ph D scholars need to focus more on the translational potential of their research rather than to serve the purpose academic interest.

1. Mahanty, A., *Curr. Sci.*, 2015, **108**(9), 1577.
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ARABINDA MAHANTY

ICAR-Central Inland Fisheries Research Institute,
Barrackpore,
Kolkata 700 120, India, and
School of Biotechnology,
KIIT University,
Bhubaneswar 751 024, India
e-mail: mahantyarabinda1@gmail.com