

S&T personnel database in India

The scientific and technological activities play a vital role in the economic, social and physical development of a country. One of the biggest stumbling blocks in the path of S&T research and development in India is the lack of a proper database, which is generally disseminated in the form of annual reports. Recently, some anomalies were observed as regards the data pertaining to the number of S&T personnel in India in natural sciences and engineering. The data available in different reports and documents prepared by premier institutions like UGC, CSIR, DST and AICTE do not tally with each other and there is a sort of mismatch. An attempt is made here to present the data pertaining to the number of doctorate degrees awarded in the fields of science and technology. A detailed description of the data variation found in different documents is discussed below.

UGC brings out Annual Reports giving the number of students/scholars being awarded higher degrees from our academic institutions. DST reproduces the data pertaining to Ph Ds produced in different fields in its publication entitled *R&D Statistics*. These documents prepare the base for S&T planning and policy-making in the country. This database is utilized and disseminated by other agencies in the form of study/project reports. In this context it is important to ensure the authenticity of the data. To illustrate the discrepancies in the database of different agencies, data from the Annual Reports of the UGC and *R&D Statistics*, are listed in Tables 1 and 2 for the years 1981–2000. CSIR and AICTE have also brought out a few publications containing data on S&T personnel in India. Their data have also been listed for comparison with those of UGC and DST.

From Table 1 it may be noticed that data pertaining to Ph D degree awarded in natural sciences, as reported in different columns, substantially differ with each

Table 1. Ph Ds produced in science

Year	Source			
	UGC	AICTE	DST	CSIR
1981	2792			2670
1982	2846			2689
1983	2892		2892	2718
1984	2890	2977	2890	2756
1985	2922	2838	2922	2793
1986	2838	2814	2838	2912
1987	2814	3038	2814	2591
1988	2790	3038	3038	3066
1989	3044	3044	3044	3011
1990	2976			
1991	3002	2950	2950	3002
1992	3226	3386		3226
1993	3386	3505	3386	3386
1994	3467	3467	3467	3467
1995	3657	3657		3657
1996	3861	3861	3861	3861
1997	3498		3498	3498
1998	3894		3894	3798
1999	3896			

UGC, University Grants Commission; DST, Department of Science and Technology; AICTE, All India Council for Technical Education; CSIR, Council of Scientific and Industrial Research.

other. This type of discrepancy creates a doubt in the mind of the users about its reliability. Similarly, glancing at Table 2, we find that DST1 and AICTE data during the period 1981–91 not only differ from those of UGC, but also are far apart (almost more than double) for the corresponding years. While UGC data show a growing trend in the number of Ph Ds being produced in engineering and technology, data supplied by DST1 and AICTE show a jump upwards/downwards following the normal trend after 1991. Further, DST1 and DST2 data for the period 1984–89 do not match with each other. On the basis of data collection, it may be concluded that only UGC data are reliable and may be used for further analysis, as these are collected from degree-awarding institutions. CSIR also collected data inde-

Table 2. Ph Ds produced in engineering

Year	Source				
	UGC	AICTE	DST1	DST2	CSIR
1981	189				281
1982	190				310
1983	160		511		337
1984	192	464	464	464	334
1985	210	559	509	559	372
1986	194	603	603	603	387
1987	224	675	603	675	356
1988	256	573	573	573	381
1989	238	560	586	560	363
1990	252				
1991	260	629	629		260
1992	299	323			299
1993	323	348	323		323
1994	329	329	329		329
1995	337	337	546	546	337
1996	374	374	374		374
1997	298		298		298
1998	744		744		709
1999	696				

pendently in the past, but now has discontinued the practice.

To conclude, we observe that data published by different agencies that are being used for science planning are not dependable. No two datasets match with each other. Besides disseminating wrong information among policy makers and researchers, they belie the public faith that their reports should be taken as authentic and reliable. It will be desirable for the agencies to take proper care while collecting and reporting information on such sensitive subjects.

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