Geographical distribution of Bhatnagar Laureates

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The Shanti Swarup Bhatnagar Prize for Science and Technology is conferred each year on Indian scientists below the age of 45 years. It has become the most coveted national recognition for outstanding contribution to basic and applied research in Science and Technology. A recent volume[1] brought out by the Human Resources Development Group of the CSIR compiles the biographical details and professional profiles of the 259 so-called Bhatnagar Laureates who have received this recognition from 1958 to 1991. The volume contains a wealth of detail for the sociologist or historian of science — it is truly a record of the history of recent Indian science.

To amuse ourselves on a Sunday morning, my son and I tabulated the Bhatnagar Laureates according to the state of their birth. We then divided the number for each state by the population of the state (based on the 1981 census and as recorded in the World Book Encyclopaedia for 1992) to arrive at a figure we shall call the number of Bhatnagar Laureates per million of population (BLpm).

Table 1 shows how the various states have fared. For obvious reasons, we have grouped the representation from the erstwhile parts of India apart. States without representation are not included in the list. Table 2 shows the performance on a density or 'per capita' basis. This is graphically represented using a thematic map arrangement in Figure 1.

It is evident that Tamil Nadu (0.85 BLpm) stands far above the rest in producing scientists of the highest calibre. West Bengal (0.59 BLpm) and Karnataka (0.54 BLpm) are doing extremely well too. The average for India as a whole is 0.37 (based on the 1981 census figure of 697 million). Uttar Pradesh, which figures at the top of the list in terms of raw numbers (43 BIs) drops to a modest rank when the density of Laureates is computed and this is only marginally higher than the Indian average. Populous states like Madhya Pradesh and Bihar are very poorly represented. One is particularly surprised by the very poor showing of Gujarat. In fact, Maharashtra has not done too well either — very high levels of industrialization and economic activity are obviously not conducive to fostering achievement of high order in science and technology.

A very interesting aspect that caught our eye was the role a single major urban area can contribute to distorting the figures — out of West Bengal's 32 Laureates, 26 came from Calcutta. The mofussil areas of West Bengal have contributed very poorly — so if Calcutta is removed from West Bengal, its performance goes down to less than middling (0.13 BLpm). This is not true of Tamil Nadu — the geographical spread is more uniform with only 10 originating from Madras; Tamil Nadu minus Madras gives 0.70 BI pm — an astounding achievement considering the issues that are involved. The factors contributing to this need to be investigated carefully. Table 3 shows how the major metropolitan cities have fared in a ranking

Table 1. Statewise distribution of Bhatnagar Laureates

State	BL
Uttar Pradesh	43
Tamil Nadu	41
West Bengal	32
Karnataka	20
Andhra Pradesh	18
Maharashtra	13
Kerala	11
Delhi	9
Punjab	8
Rajasthan	7
Orissa	4
Bihar	4
Gujarat	3
Haryana	3
Madhya Pradesh	3
Jammu & Kashmir	2
Goa	1
Meghalaya	1
Tripura	1
Bangladesh	17
Pakistan	13
Burma	3
Singapore	1
(undisclosed)	1
Total	259

Table 2. Statewise distribution of density of Bhatnagar Laureates — Bhatnagar Laureates per million (BLpm)

State	BLpm
Tamil Nadu	0 85
West Bengal	0 59
Karnataka	0 54
Punjab	0 48
Kerala	0 43
Uttar Pradesh	0 39
India	0 37
Andhra Pradesh	0 34
Haryana	0 23
Maharashtra	0 21
Rajasthan	0 20
Orissa	0 15
Gujarat	0 09
Madhya Pradesh	0 06
Bihar	0 06
Delhi	1 45
Goa	1 00
Meghalaya	0 75
Tripura	0 49
Jammu & Kashmir	0 34

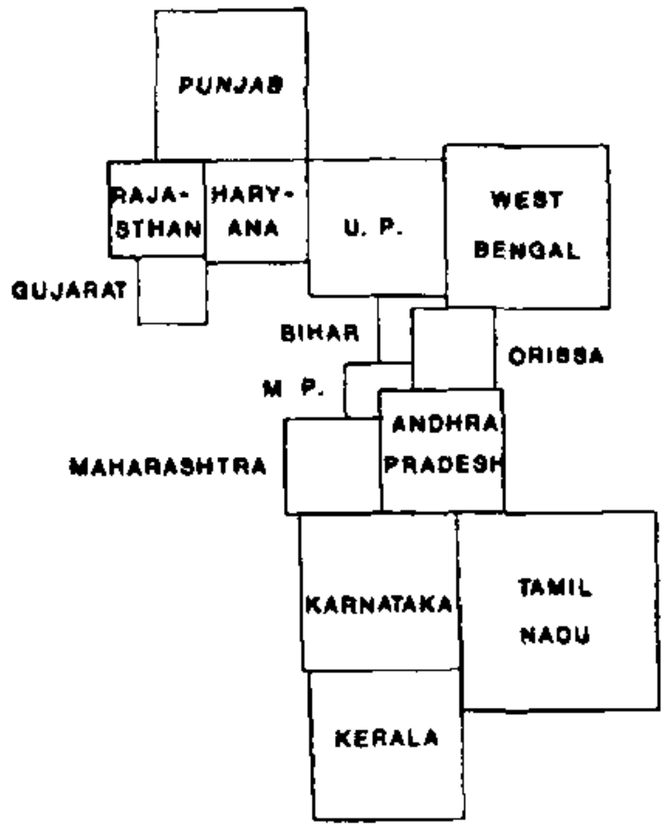

Figure 1. Thematic map showing density of Bhatnagar Laureates — area shown is proportional to the BLpm value for each state.

Table 3. Performance of major cities

City	BL	BLpm
Calcutta	26	2 83
Madras	10	2 33
Bangalore	5	1 72
Delhi	9	1 58
Bombay	3	0 37

according to BLpm. Bombay's performance is shockingly low—Bombay obviously breeds businessmen, industrialists, lawyers, accountants and cricketers; anything but scientists!

There is a mine of information in Reference 1 and with the Human Resources Development Group of the CSIR waiting to be studied. It is hoped that this modest study will encourage some sociologist of science to take up such a study in a more comprehensive form.

1. *Bhatnagar Laureates (1958–91)*, Human Resources Development Group, CSIR, Publications & Information Directorate, CSIR, New Delhi, 1992.

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