

Science and Technology in India and brain drain – Some suggestions

Of late, there has been much concern and debate among the scientific community on research in India and the disinterest among students in selecting science as a career. An experienced researcher cannot be assured of a good and smooth career in research, where one has to wait up to the age of 40 to settle down in life. It is impossible for a person to get a good job around the age of twenty-five or immediately after getting a Ph D. The information technology acts as a good drain.

Almost all the researchers in India face problems. The future of a person choosing life sciences as a research career seems to be dark. After NET/GATE, he/she bags a Senior Research Fellowship and continues for three years till the completion of a Ph D. After this one has to necessarily apply for Research Associateship which extends up to another five years. For an Indian researcher, life starts at the age of 35 only. By the time the researcher gains confidence to apply for some post, he/she is expected to face the challenges posed by age, social status, region and other factors. Our own government policies and its approach towards research do not support all those who aspire to pursue research in India. Most of the researchers completing their research degrees are left with no alternative except to apply abroad for post-doctoral positions. Generally speaking, western countries and the US act as drains to the aspiring life sciences researchers for a good career. Technological obsolescence has not spared biological research too. While research in biotechnology, molecular biology and related areas may fetch good jobs, those involved in basic research face a grim situation.

The recruitment process also seems to be different where agencies advertise for fresh M Sc graduates with 65% marks with some relevant experience or Ph D in a related environment. In addition,

the required qualification seems to be very broad, viz. specialization in botany, zoology, life sciences, biotechnology, agriculture and, surprisingly, computer sciences too. Why not there be a discipline-wise or desirable specialization-wise selection? Recruiting post-graduate (M Sc) candidates is not over with mere selection. The agency that recruits them has to spend time and money to train them in the related fields, whereas candidates with Ph D degrees will not need such training. In addition, the in-service candidates also recruited through wide advertisements cause flutter among those persons from other institutes. The logic behind the specialization requisition in advertisements needs review.

There are many researchers waiting after Ph D, to get hold of some good opportunity. The compelling social responsibilities, viz. family, offspring and other factors also play a role in one's decision to take up other jobs after a Ph D. Most researchers in life sciences have done some crash-courses in information technology after a Ph D and have fled the country with better assignments, in search of a livelihood. Every person going out of mainstream research after obtaining a Ph D is a loss to the nation and the money incurred is taxpayers' money.

The scientific policy has to be re-drafted to lure people to science and technology development related areas and to have productive research in India. The Government should set up coordinating agencies at national, regional, state and university levels to monitor research and development in India. In addition, the agency should have powers to conduct national level entry tests for Ph D admission irrespective of the institute, university, etc. Alternatively, the UGC-NET/GATE qualified candidates only could be permitted to do Ph D. The pattern followed in the administrative service ex-

aminations can be taken as a model for placing students in various institutes and universities. Once a candidate is selected and placed in an appropriate institute, the research supervisor, Head of the Department, Vice Chancellor and the regional coordinator have to monitor the progress and growth of the researcher. National level placement can be made easily since the tracking will help build the biography of every research student. This coordinating agency can also help the candidate in selecting topics in line with national interest and in acquiring requirements to do research without too many hassles.

For employment, the selected candidates can be placed as permanent PDFs for a minimum period of time (2–3 years) and can later be appointed as scientists with probation. Immediately after joining the institute, the candidate has to prepare a short-term proposal for his research with an achievable goal. This again rests in the hands of the regional coordinating agencies to bring the candidate into the groove of national interest.

Implementation of a visionary policy keeping in mind the requirements of research for another 50 years will help science and technology to grow in India. Unless there is a major shift in the Government policies, it is impossible to stop brain drain and in due course, there will be very few takers for science in future in India.

While we were finalizing this article, we saw a letter in *Current Science* (2000, 78, 659) airing some views similar to what we have expressed here.

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