

Nurturing young scientists: Role of Department of Science & Technology

This is in response to the comments of Umesh R. Desai (*Curr. Sci.* 1995, **69**, 893-894). Until the beginning of the sixth five-year plan, there was no specific programme to cater to the requirements of the young scientists who constitute a sizable population of our scientific community. The scheme 'Promotion of scientific interest in youth' was launched in 1981 by the Department of Science & Technology to provide opportunities to young scientists for:

- pursuing exciting and innovative research ideas through independent research projects
- interaction and exchange of ideas with the scientific community at national and international level
- involvement in national S&T development process.

As Desai has mainly discussed R&D projects, we would confine our comments to this aspect. On the whole, it is felt that the programme for young scientists has served its purpose well by providing R&D project support to young scientists at a very crucial stage of their career. DST has been fairly efficient in communicating decisions on the proposals within reasonable time.

The project proposals are processed through the peer review system by inviting comments from experts in the area. As experts are busy scientists, comments are obtained as per their convenience. In most cases, the experts are very prompt and DST is grateful to them for sparing their time and expertise. The projects are then placed before an inter-disciplinary Management Advisory Committee which meets 3 or 4 times a year. The Committee may recommend or not recommend a project. Projects with clear-cut decisions normally take between 2 and 6 months from the time of submission to the time of communication of decisions to the scientist (Figure 1). Projects where reformulation and resubmission or clarification is recommended, take a little longer.

Even after the communication of approval to the young scientists, the principal investigator faces a number of hurdles at his end which he has to cross before the project is finally sanctioned

and money released. These hurdles are in the form of:

- acceptance by the host institute (specially in case of investigators who are not in regular positions in the college/university/institute where they want to work).
- selection of equipment (if any) and obtaining of quotations for the same.

It was found that the above takes between 2 and 6 months by the young scientists.

Desai seems to have given considerable thought to the problems of young scientists since he has made a number of observations which in his opinion will help them. Many of his suggestions are already being implemented by DST. Our comments on some of the points raised are as follows:

- India being a very large country with many research institutions, universities and colleges, there are a number of scientists working in different areas of scientific specialization and it should be a welcome step if specialized agencies initiate programmes for young

people. It would be restrictive if only a single agency is to cater to all their needs. Any single agency may find it difficult to handle all the projects and this may itself lead to increase in processing time.

- It is not possible for young scientists to manage their own proposals as has been suggested by Desai since science management is developing as a specialized career. However, many young scientists participate in the decision-making process as referees and some have been included in expert committees as well.
- The Department follows recommendations of the referees/committee on budgetary requirements of the proposals as far as possible.
- DST has other schemes where projects for larger amounts and for longer periods are considered. Young investigators can also apply to these schemes for financial support.
- It has now been decided that a second project from young scientists may be considered after successful completion of the first project, provided other criteria are fulfilled.
- Under the young scientists scheme,

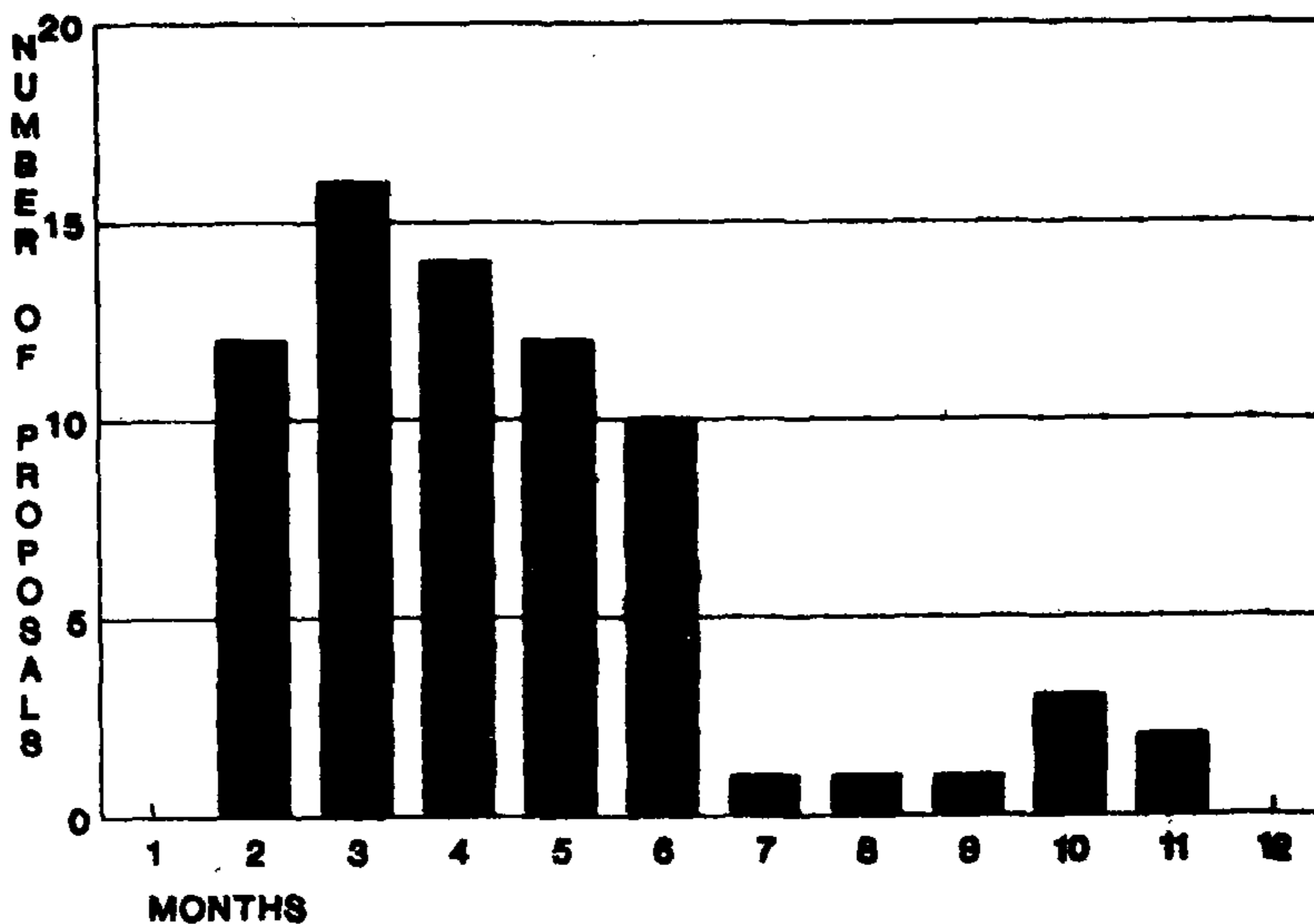


Figure 1. Analysis of 72 cases showing time taken in communicating decision to the investigator from the time of receipt of proposal.

projects from unemployed young scientists are considered and if approved, the young scientist can even draw his/her salary from the project funds.

- The suggestion that young scientists be allowed to present their project before the review committee is impractical as the committee has to consider a number of projects and other policy items. Moreover, the projects are placed before the committee along with comments from experts.

The Department is concerned that the

processing time for projects from young scientists should be reduced as much as possible. It is important that quick decisions be taken and communicated to young scientists, at an early stage of their career. This ensures that their enthusiasm for taking up research is not lost and they do not decide to leave science and take up other jobs or leave the country altogether. It is our constant endeavour to achieve this and decisions on a majority of projects are communicated within 3-4 months. This period appears very reasonable particularly when one con-

siders that there are over 500 projects from young scientists in different stages of consideration/implementation/review at any point of time. However, the present project-processing procedure is followed in order to ensure quality.

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Coping with liberalization

I am rather concerned about the tone of your editorial 'Coping with liberalization' (*Curr. Sci.*, 1996, 70, 5-6). Are there pressures building on you not to voice such open debates on issues which to my mind demonstrate a scientific attitude towards Indian science? After being a common scientist for several years, I worked as a science administrator for about two decades during a period when Indian science was getting organized. In this process of getting organized, several scientists had become science planners and science administrators and had committed themselves to the new role of promoting science and technology for national development. There were many amongst us who fought for the cause of science and made a case to the Government for enhancing support to this activity. In this process there were several critical reviews carried out by strengthening our peer review system, monitoring mechanisms introduced asking for accountability from scientists who had been given funds for specific projects and programs. No doubt even at that time questions were being asked of us science administrators as to whether we had the experience to take such decisions and whether such reviewing activities should not be left to active scientists alone. I believe that organizations like the Department of Science and Technology play a very important role in giving a sense of objectivity to the process of funding

science. In all these efforts openness, transparency, and to a certain extent accountability, were always highlighted. In my view this approach of DST did help in bringing back the credibility of scientific activity in the country. I would, therefore, urge *Current Science* to continue this objective quest for the current status of science in India.

I have always admired the new direction that *Current Science* has taken and not having an easy access to *Nature*, I have always looked at *Current Science* to educate myself on various issues of national concern involving science and technology in the country. If *Nature* can voice such policy debates simultaneously with publishing new results of interest to the scientific community, I wonder why *Current Science* cannot debate issues on the current status of science in India. Has the world scientific community criticized *Nature* for digressing from its appeal to working scientists? Are there not enough heads of scientific institutions and agencies who have not only to support science in their institutions but also to seek funds to justify their activities to Government and public at large? In my view the objective debates currently going on in your journal without personal vendetta would definitely help in educating our scientists and science administrators about the true status of science in India. I hope you will continue to air such views in your editorials and also publish selected

articles relating to new research findings, review articles and book reviews.

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Your editorial 'Coping with liberalization' made very interesting reading. Whenever I happen to read about 'Indian science' I find it difficult to think of 'Science' as something divided on the basis of national, and regional boundaries. In that case, there should be a 'Pakistani science', a 'Bangla Deshi science', a 'Sri Lankan science', and also possibly a 'Maldivian science'. Further within India there should be a 'Kannada science', a 'Telugu science' and a 'Maharashtrian science'. I think 'Science' is universal and is a truthful search for more knowledge, irrespective of space and time. The correct reference would be 'Science in India'.

Only the practice and management of science changes from place to place, and from time to time. The criticisms which appear in the 'problem sections' of *Current Science* are on the practice and management of science, and not on 'Science' *per se*. In the West, science