Research funding blues – need for reforms and transparency

Indian science is at the crossroads. Inputs on the quality and problems in the scientific scenario, and suggestions for improvements are coming in from various sources[1–4]. Vijayan[1] has advised on the sanctioning of competitive research grants, which is one of the core components of scientific research. There are a number of bottlenecks and issues related to research proposals, from submission till the decision-making stage. These need to be addressed by those concerned with promoting scientific research, in order to remove impressions of prejudice or of obtaining grants by dint of social and professional networking, by elbowing out more meritorious proposals.

In the current procedure of handling research proposals, the acknowledgement usually reaches the principal investigators (PIs) of the proposals after a couple of months. Sometimes, proposals are lost in the labyrinth in the funding agencies. Upon enquiry by the PIs, they are advised to submit the same number of copies (usually 10–20) again. After the receipt of the acknowledgement, the PIs need to wait for as long as 6–10 months to get any update. Although some agencies have started featuring acknowledgements on their websites, others continue with their archaic procedures.

Mandarins at the funding agencies are generally rather curt (with rare exceptions) in their responses to any interim queries. Sometimes, the PIs get a response in 1–2 lines without any scientific evaluation report, saying: 'the proposal was examined and was not found suitable'. This seems like a 'summary trial' and shows disrespect to the investigators who have worked hard in preparing and submitting the proposals. It cultivates prejudice and dampens their enthusiasm. All proposals deserve a peer review by experts who are aware of the current trends in science and technology. The review reports must be sent to the PIs to apprise them of the strengths and weaknesses – for defence, rebuttals or improvements.

In some funding agencies, after the first review or screening, the PIs are invited to present their proposals before a project advisory committee (PAC). Here too, the PIs are not shown the entire feedback given by the reviewers. At this stage, the usual experience varies from unpleasant to awful. The PAC members (there are exceptions) behave like know-alls and do not show consideration for the PIs, who often travel long distances to the venue of the presentations. The whole process is antiquated, smacks of feudalism, and is often demoralizing and lacking in transparency. An important recommendation of the task force, in the Report of the Science Advisory Council to the Prime Minister, is: 'Less bureaucratic controls in government funded R&D organizations: this is a big impediment to free thinking, experimentation and innovation'[4].

It is important to bring these issues to the forefront and undertake the solutions and procedures followed in more advanced nations. They have elaborate and unambiguous guidelines for the prospective PIs[5,6]. Upon receipt of the grant application, the processing is essentially the same as that for research publications. There is well-defined credit given to experience of the team, including factors that demonstrate that the team has the threshold level of skills and technical ability to investigate the hypothesis and ideas put up in the proposal. Other criteria comprise the novelty of the proposal vis-à-vis the specific subject area and the preliminary work done on the feasibility and usefulness of the proposal.

Everything is on-line and the PIs can track the whole process. They get verbatim copies of peer reviews for defence and rebuttals[5,6]. The hallmark of the process is transparency. Further, unlike the situation in India, there is constant discussion in highly visible fora like *Nature*[7,8] on making these procedures up-to-date, unbiased and more transparent. It is important to make information, on all the government-funded research projects – money allocated, research goals and achieved target(s), available on a publicly accessible website, as done by many funding agencies such as the National Science Foundation, USA. This will enforce more transparency in the process.

H. Newell Martin of The Johns Hopkins University said: 'Science cannot for any long period advance safely in chains even if those chains be golden'[9]. Let us also recall what Isaac Newton said: 'If I have seen further, it is only because I have stood on the shoulders of giants'. Let us adopt, without delay, the well-tested and successful procedures[5,6] for processing research proposals and implementation of grants[1]. This is imperative to unleash the much talked about innovation and intellectual potential, on the individual as well as the national scales[10].

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OM P. SHARMA[1,*]
JAYANTA CHATTERJEE[2]

[1]Indian Veterinary Research Institute,
Regional Station,
Palampur 176 061, India
[2]Columbus, Ohio, USA
*e-mail: omsharma53@yahoo.com