

## SERB and other sources of extramural support under the Ministry of Science and Technology\*

M. Vijayan

*For decades, the Science and Engineering Research Council (SERC) of the Department of Science and Technology (DST) has been the most important source for competitive research grants in India. The Science and Engineering Research Board (SERB) which recently replaced SERC, has turned out to be less effective than SERC. An impression has gained ground that the Department of Biotechnology is shifting its emphasis from competitive research grants to organizations and institutions. The famed extramural programme of the Council of Scientific and Industrial Research appears to be in jeopardy. Except in a few islands of opulence, most of the scientific research in the country in the non-strategic sector is being carried out using competitive grants. The present crisis in the system for support of such grants bodes ill for Indian science. It needs to be seriously addressed and overcome.*

### Preamble

Extramural support, especially competitive research funding is central to normal scientific activities. This is particularly so in the case of basic research. Much of scientific research in post-independent India has been carried out using extramural grants with infrastructural support provided by the respective parent research institutions. In addition to the quantum of funding, the mechanism for the use of funds has also been a subject of much discussion. In particular, the need for autonomy in handling research grants was acutely felt. The issue became a subject of active discussion when, in 2005, the erstwhile SAC-PM recommended the setting up of a National Science and Engineering Research Foundation (NSERF). The discussion raged till 2012, when the Science and Engineering Research Council (SERC) of the Department of Science and Technology (DST) was wound up. It so happened that during this period, I was deeply involved with the DST, the Department of Biotechnology (DBT) and the Council of Scientific and Industrial Research (CSIR), the three relevant outfits under the Ministry of Science and Technology. During this period, I was also the Vice-President and then the President of the Indian National Science Academy (INSA). Therefore I have been an active participant in such deliberations. I give below my personal take on these discussions and their aftermath. In addition to putting on record my understanding of

the historical facts, I shall also outline my opinion on the current situation of extramural support and views on future course of action.

### One or several

There was real or perceived thrust towards setting up a huge monolithic organization combining the extramural mechanisms of all or many granting agencies. There was considerable resistance to and apprehension about creating such a behemoth. Many of us felt that the setting up of such a powerful and all-embracing organization is not conducive to the healthy development of science in the country. Plurality of sources of research funding is absolutely essential. Instead, many of us felt that it would be desirable to have autonomous extramural wings to different granting agencies. In any case, eventually the idea of an all embracing outfit was shelved. In the report of the Steering Committee for Science and Technology in the Eleventh Five Year Plan (2012), it was mentioned that the NSERF should function 'as an autonomous body in addition to the existing ministerial mechanisms for funding, which are being administered by the various arms of the Government'. Even this idea was not pursued. Eventually the NSERF was rechristened as Science and Engineering Research Board (SERB), which was mooted effectively as a replacement of SERC. The appropriate legislation on SERB was passed in Parliament in 2008. I personally, like many others, was not enthusiastic about the replacement of SERC by SERB, as seen from the quotation, given below, by R.

Ramachandran (*Frontline*, 28 February–13 March 2009).

'Noted biologist M. Vijayan, however, preferred to reserve his comments on the SERB. "Its functioning is yet to be seen. Among the systems we have had so far, the SERC and its system of PAC (Project Advisory Committee) certainly worked reasonably well and achieved a healthy growth and spread of basic competitive research. Admittedly, its functioning could be improved; I am not sure whether we need an altogether new body", he said.'

### SERC to SERB

Nearly for four decades of its existence DST–SERC was the backbone of extramural support in the country. I, like many others, have been intimately involved with the system. To a substantial extent, I myself and the area of science which I helped to initiate and develop in the country, are products of DST–SERC. With rigorous, but flexible procedures, the system was managed by a wonderful set of officers who exhibited a high level of sensitivity to the problems of scientists, total commitment to work at hand and great competence. During 2005–2012, I was a member of SERC and therefore privy to and contributed to the discussions on SERB. My position at INSA also was a factor in promoting my involvement in the process. A major concern of ours was how to map the positive features of SERC onto SERB. We did everything possible to ensure that.

### SERB

SERB has been in existence for several years and the broad outline of its

\*Views expressed in this note are those of the author's only.

functioning is now clear. I doubt if SERB is endowed with the kind of autonomy originally envisaged. Our major concern is to what extent SERB has retained the positive features of SERC and improved upon them.

The most important positive feature that SERB has retained from SERC is the officer corps. Most of these officers, schooled in SERC activities, continue to serve admirably the scientific community under difficult circumstances.

The philosophy of SERC and the associated committees was to support all worthwhile activities. Now I learn that there is a formal or informal understanding that only a certain percentage of the total number of proposals would be funded. This is unwise and militates against the approach that SERC used to follow. Such arbitrary cut-offs should be removed.

SERC used to fund projects adequately, but not extravagantly. Now when I examine the level of funding to projects in areas which I understand, I suspect that the financial support is often sub-critical. One additional feature which SERB introduced was in terms of clubbing all recurring expenses into one head. This gives the investigator a much needed flexibility. Unfortunately, I understand that this flexibility has now been withdrawn to a substantial extent. It needs to be restored.

SERB was supposed to achieve quick disposal of project proposals. This implied that recommended/approved projects would be sanctioned and money released quickly. However, this has not happened. Often sanction and release of funds are delayed much more than what used to happen under the SERC system.

Under the SERC-PAC system, the relation between investigators and PACs used to be highly interactive. At least in the PAC I have been associated with, most investigators used to be asked to present their proposals before the committee and other investigators gathered at that time. It was rarely that a proposal was turned down without providing adequate opportunity to the investigator to present his/her case. Budgetary details also used to be finalized on the basis of discussions with the investigator. The presentations often used to be made use of as a mentoring exercise. I doubt if such interactive relationship exists between SERB-PAC and investigators.

## DBT

DBT has made a difference to Indian biology primarily on account of its extramural programme, although the impact would have been greater had the delivery been more efficient. I have had the privilege of being associated with DBT from its very inception. In fact, I have been associated with the National Biotechnology Board (NBTB), which was the incipient form of DBT. Recently, an impression has gained ground that the emphasis of DBT is shifting from extramural research to organizations and institutions. I hope that this is a false impression.

## CSIR

CSIR is a great organization which has served the country with distinction for more than 75 years. It is a highly underrated organization. Its extramural programme has touched the lives of many Indian scientists, including myself. Its laboratories straddle the strategic and non-strategic scientific activities in the country. I deem it a privilege to have worked closely with CSIR, including as a member of the CSIR Society and its Governing Body. Unfortunately, the extramural programme of CSIR is now only a pale shadow of what it was originally. CSIR itself appears to be under constant unfair attack.

## The way ahead

SERC used to be a jewel in the crown of DST. In the present scheme of things, is DST expected to have the same commitment for SERB as it had for SERC? Is SERB empowered to act on its own, especially in financial matters, including receiving funds, independent of DST? Are there mechanisms to ensure that SERB is not orphaned in difficult situations? Perhaps answers to these questions exist or clarity on them are yet to emerge.

The immediate task is to raise the functioning of SERB to the level that existed in the case of SERC. It should be ensured that all worthwhile projects are funded adequately. This would not involve spreading the butter thin, as there are not that many good projects available in the country. This can be done perhaps through an additional outlay of a couple of hundred crores of rupees, which is very small in the overall context of S&T expenditure. The interactive mode invol-

ving the PACs and investigators as well as the mentoring role of the PACs need to be restored. Not only that the funding mechanism should be as flexible as that of the erstwhile SERC, new flexibilities should be introduced. The clubbing together of all the recurring expenses into one head would be a step in the right direction.

The primacy of extramural funding, including competitive research grants, in the activities of DBT needs to be maintained and further strengthened. Perhaps the procedures used earlier by SERC could be profitably adopted by DBT. In any case, the system should be made more efficient.

CSIR should be protected and strengthened. Its extramural support programme needs to be restored to its old glory.

The outlay for S&T research in the country is very low. It is a little over 0.8% of the GDP as against around 2% in China, a country which in many ways is comparable to India. Furthermore, the GDP of China is much higher than that of India. Out of the total S&T outlay, the amount set apart for extramural activities, including competitive research funding, constitutes a small portion. Very often, in difficult situations, even the small outlay for extramural research funding is reduced. This is unfortunate. We need to design or devise measures to maintain at all times support for extramural research at a reasonable level and to enhance it periodically.

## Concluding remarks

My intention in writing this note is not to find fault with anybody. I am fully conscious of the constraints under which our colleagues associated with the government work. In fact, my hope is that this note would be of some small help to them. Except in a few islands of opulence, much of the research in the non-strategic sector is carried out using extramural support from granting agencies. Therefore, measures to maintain and enhance the level of extramural funding are urgently called for. All of us need to work towards this end.

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*M. Vijayan is in the Molecular Biophysics Unit, Indian Institute of Science, Bengaluru 560 012, India.  
e-mail: mv@iisc.ac.in*