

## And now about urban langurs

Correspondence from Jayashree Datta 'Observations on urban rhesus monkeys' (*Curr. Sci.*, 1996, 71, 941) makes interesting reading and deserves further study. In the same tone here is an observation about urban langurs which probably draws our attention on another aspect of human activity, viz. cutting trees.

I observed a drastic change in the behaviour of langurs (black-faced monkeys) around my town in Dharwad district of Karnataka. They seemed to have become cleverer (?) and bolder in a short period of about 20 years. Earlier whenever a troop of langurs descended on our kitchen garden, they used to sit on the roof top and wait for an opportunity to safely enter the garden. As soon

as someone came close by or climbed the terrace they would run away and find another roof top some 100 metres or more away. They were generally timid, but they might have attacked the same garden the next day.

To my surprise I found that now they are not afraid and even sit on a neighbour's tree only 10 metres away. They skillfully avoid stones thrown at them but sit on the tree very obstinately. This behaviour is seen with several troops and is quite common. How did their behaviour change in such a short period? When I was talking to others who also had observed this change, an explanation was given and appears plausible: The forests in the area have been converted to agricultural

land. The cultivation depends on rain and hence the land is barren after harvesting. The irrigated land (mostly well irrigated) is very well protected and monkeys are driven out of such areas. The trees (usually tamarind and some neem) around the town which used to shelter these monkeys have gradually disappeared. Hence out of sheer helplessness, they have learned to sit even at a close distance and avoid stones or any other missiles thrown at them. The vacant area in town also has decreased and the monkeys have to live closer to the humans.

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## OPINION

### Impact of the new economic policy on science and technology in India

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*The implications of new economic policy and liberalization for Science and Technology in India are discussed. The result of two conditions imposed by Govt Agencies before sanctioning of financial support is highlighted and a strong plea is made for withdrawal of these two conditions. The perils of evaluating S&T based upon profit generation instead of quest of knowledge are emphasized.*

A cornerstone of the Government economic philosophy in the wake of liberalization and new economic policy is its STRONG BELIEF that the 'market' can be allowed to be the master, monitor, judge and guide of all its economic decisions. Having watched the stagnation of the last fifty years, one cannot find fault with this philosophy. Nevertheless, it needs to be pointed out that however wholesome this belief may be in the area of production, services and utilities provided by the state, blind extension of this belief to all segments of society could lead to an unmitigated disaster. This realization finds an echo in the increased allocation for health, education,

infrastructure, etc. in the last budget. A struggle is, therefore, on in the minds of policy makers of India to identify sectors, where the influence of the 'market' has to be curtailed, lest it should become detrimental to the national interest.

#### Resource crunch in S&T

It may sound as incredible if a scientist were to suggest that market forces should not be allowed to dictate the growth and development of science and technology in India. Very few realize that science has its own limitations and that it too needs careful nurturing, it needs inputs of an order that cannot be

provided by 'markets'. It is precisely for this reason that all nations stand solidly behind their S&T organizations, protecting them against the vicissitudes of market vagaries. However, under the influence of liberalization and new economic policy, the Government of India has embarked upon a strange scheme – which is designed specifically to foster S&T in India, but which ends up scuttling the very ship of S&T in India.

Critics would hardly agree. DST and DOE will be cited as examples of Government's strong commitment to S&T in India. The public at large is also impressed by financial allocations for these departments – viz. around Rs 500

crores p.a. As often pointed out, the resource crunch in Indian S&T establishment is nothing but a 'wolf's cry', with both DST and DOE returning unused crores of rupees annually earmarked to support S&T activities in India.

Why should Indian scientists complain about a resource crunch, when DST and DOE's annual grant go abegging for want of worthy project proposals – is a legitimate question that needs to be answered. A similar cry was heard last year from private sector about lack of liquidity in markets – though both Government of India and Reserve Bank vociferously denied this. This happened due to Government's decision that banks must increase their CRR, i.e. cash reserve ratio resulting in the so-called liquidity crunch making it difficult for private industry to raise short term loans from the banks, though the banks had ample money to lend. This bears a striking resemblance to the resource crunch faced by S&T in India. In our land of paradoxes, our Government is quite capable of killing a fly sitting on one's nose with a hammer and then feigning innocence and surprise at the sight of a bleeding nose.

### Flawed policy of DST and DOE

Precisely the same thing is happening in the decision-making chambers of DST and DOE. Both these departments have imposed two draconian conditions on any S&T project submitted to them for financial support. These two conditions are so heavily skewed against R&D that they nip in bud any S&T proposal even before its evaluation on scientific merit. These two conditions are:

- (i) A project proposal will be considered for financial support only, if industry is willing to put its money in the project.
- (ii) Industry must also give an advance undertaking that it will productionize the R&D resulting from the project proposal.

Both these are eminently desirable conditions. The only difficulty is that they cannot be met in practice. Why should industry put its money in any external R&D when it can as well use it internally for its own profit making? Why and how should an industry give

an undertaking that it would productionize R&D results in advance well before the commencement of a project leave alone its completion? This belies all logic, is against the very spirit of R&D and betrays total ignorance of the dynamics of R&D. Industry can never give such an undertaking nor can a scientist ever demand such an undertaking knowing fully well that the success ratio of any R&D project is well below unity. Both these conditions are impossible to meet in India. DST and DOE, privately concede this and officially insist on its fulfillment. This has resulted in virtual strangulation of Indian S&T in the last few years. These two conditions are responsible for the tragicomic situation – resulting in unused grants with DST and DOE on one hand, and unused labs and unutilized scientists on the other hand, in a large number of CSIR and defence labs. As long as these two conditions remain in force, S&T in India will continue to suffer from the resource crunch, despite plenty of money in the coffers of DST and DOE, just as industry is suffering from a liquidity crunch.

### Influence

The problem of S&T in India is, however, graver. Unlike industry, it has no lobby of its own to plead for its cause. Science as a body is much less organized. Industry can mount a campaign through CII, FICCI, CHOGAM, etc. – whether it is a question of a liquidity crunch in the market, high lending rates in banks or imposition of the new income tax, MAT. Science enjoys no such clout in India. Science is often an orphan in India. Consequently its simple plea that it is not desirable to judge a S&T project only on the basis of industrial relevance, evokes no response. Expecting industry to put its money in external R&D and giving an undertaking to productionize such R&D in advance is the surest recipe to abort S&T progress in India. It is, therefore, all the more necessary that planners and policy makers of India listen to the real difficulties of S&T in India. They must not delude themselves into thinking that space and atomic energy is all that Indian Science is about. Indian S&T is much wider and broader than ISRO and DAE.

As a short term measure, therefore, DST and DOE must not insist on these two conditions of support from industry. As a long term measure, S&T must be freed from the clutches of market and motive for profit. A hunger for profit is overtaking thirst for knowledge, corrupting young minds in S&T. Knowledge is to be venerated not because it generates wealth. This is only incidental. The magnetism of an unanswered question holds greater charm in the realm of scientists than all the treasure of the profit seekers. The grandeur of science cannot coexist comfortably with the mundane pursuit of profit. Let us not mix the unmixable. This distorted emphasis on profit and market sustainability are no yardsticks to monitor the growth of science. Science is too valuable an asset to be discarded and disparaged because it is not always profitable. Let the new economic policy and liberalization introduce profit motive where it is due, i.e. in production establishments. Let profit not encroach upon the sacrosanct areas of Science and Technology, where value is held in higher esteem than cost. In our zeal for the lure of the new economic policy and blind faith in the golden mantra of profit, let us not forget that tea is best served hot, sherbet is best served cold – and not vice versa.

### Conclusion

While it is acknowledged that all sections of society cannot be developed by dependence on market forces, it is argued in this article that science is one such sector of society. Release of grants by Government agencies only after industry agrees to put its own money in any R&D project and gives an advance undertaking that it will productionize the R&D are two conditions which are throttling Indian R&D. The component of knowledge generation must not be allowed to be eclipsed by the capacity for profit generation. Science is sustained more by the quest for knowledge and less by pursuit of profit. Funding agencies should not overlook this fact.

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