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R&D for public good: Breaking Stereotypes

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Taxpayer's money in science will now have more accountability with equal accessibility to the outcomes.

Taking a revolutionary step towards the realization of long term goals, the department of biotechnology (DBT) and the department of science and technology (DST) under the ministry of science and technology have decided to bring an open and unrestricted access to its funded research. As one of the important scientific agencies, the function of the departments, as they mention, has been to support basic, translational and applied scientific research through the creation of suitable infrastructure, by providing funding to individual scientists, institutions and start-ups, and through any other means deemed necessary.

Therefore, the new policy if implemented is expected to lead towards new pathways of scientific exchanges.

The former science and technology minister, Dr Jitendra Singh had reiterated in the Parliament that once the policy is adopted, researchers will have an unrestricted access to the papers arising out of the publicly funded research without requiring to pay for it.

"Several concerns such as payment of publication charges, copy right issues, freedom to choose the journal, quality etc have been raised. These will be addressed while framing the open access policy, he had assured.

Since all funds disbursed by the departments are public funds, it is important that the information and knowledge generated through the use of these funds are made publicly available as soon as possible. While the recipients of funding are expected to publish their research in high quality, peer-reviewed journals, both the departments have affirmed that the intrinsic merit of the work, and not the title of the journal in which an author's work is published, would be considered in making future funding decisions," Dr Singh had said.

Talking about the impact created by open access policy for published work, Dr Pawan Dhar, senior scientist and professor, Department of Life Sciences, Shiv Nadar University mentioned, "It is a very important for unmet need of the Indian scientific

community. So, earlier the better! I don't think the OA policy will harm anyone. It is not a new concept. It has already been started, standardized and implemented in the US. In the OA model, copyright remains with the author of the publication. Using the old model, the copyright is transferred to the publisher."

Maximizing the distribution of these publications by providing free online access by depositing them in open access repository is the most effective way of ensuring that the research it funds can be accessed, read and built upon. This, in turn, will foster a richer research culture. Grantees can make their papers open-access by publishing in an open-access journal or, if they choose to publish in a subscription journal, by posting the final accepted manuscript to an online repository.

The Indian Council for Agriculture Research (ICAR) adopted the policy few years back and has been improving the process of sharing data and compliance. The institutes have been asked to deposit their research publications in a central repository. Says Dr Swapan Dutta deputy director general (crop sciences), ICAR, "Access to journals and the suggestions from public have increased since the open access policy at ICAR. The information about new varieties developed, technological interventions, government funding have benefitted the farmers and researchers alike to increase the yield."

The Council for Scientific and Industrial Research (CSIR) through its open access policy has asked for all research papers published from CSIR laboratories and supported by a grant from CSIR to be deposited via the full text and the metadata (electronically archived data) of the paper in an institutional repository. It has been one of the leading scientific agencies to first open up though it was specifically on a global project initiated in India. Dr Samir Brahmachari, former director general, CSIR who was the brain behind Open Source Drug Discovery (OSDD) initiated in 2008, says that initiative has shown tremendous scope for future. He mentioned, "The open innovation in a country like India where we have so many young minds, serves as a great platform to express ideas and partner. At present close to 6,000 people across the globe are a part of the project and we are moving towards a new direction. Already clinical trials have been initiated on a TB molecule in partnership with TB Alliance."

Boost to translational research

The outcomes of the years of sweating research in labs should defiantly mean much more than just publications. More product outcomes from the labs have to reach the common man. Then only we can really justify the funding sought for the research. The decision to open up could also pump up such efforts as the like-minded researchers can get together to build upon common ideas. Exchange of ideas and technology will surely be good for translation."

As per Dr William Selvamurthy, retired senior scientist, DRDO and now director general, Amity Directorate of Science and Innovation, "CSIR Started open access policy. Leprosy, TB bring on a single platform. Recognition gets a score. Ultimately when produced, the product recognition has to be shared. Look at Lancet papers, the 50 authors are there. While the international agencies such as Welcome Trust are promoting proposals that require sharing, we have been slow in implementing it. The problem with researchers is that they are introverts. They must open up and come out to share."

Asked about the challenges, Dr Swapan Dutta remarked, "This is a huge country with variable agriculture policies at the state level. It is important to keep the federal policies in alignment with the foresight on agricultural methods in next 11-15 years. As PM Modi had mentioned, there is need to bring awareness to farmers. Besides that I feel the IP policy and profit sharing is important. It has not been practised in India so far. Therefore, it is important to keep the guidelines clear while implementing the open access policies."

Now the question is whether the industry gets benefitted from this. Dr Pawan Dhar feels that it might help the companies at lowest level of the Pyramid, He says, "Well established industry players are already accessing the papers by paying a nominal fee. Compared to the academia, perhaps industry will not benefit more, except in case of start-ups with minimal R&D budget and small not-for-profit organizations."

A young CEO of a start up also seemed to be in full agreement with Dhar. The policy will definitely help the smaller fishes in the pond as we will not have to shell out money for this besides it could also help them to gain fresh ideas without any hassles whatsoever in the past. The big companies with huge R&D programmes might too benefit but it is not so equally bif for them as for us, he told BioSpectrum.

Besides opening up of knowledge boxes, the other steps that can be taken to increase the sharing of scientific knowledge for the overall good of society too must be done. The regular multi-disciplinary research efforts, advocacy workshops and

capacity building of scientific and technical personnel too are very important.