212. Reaching the People through Science Communication by Bridging the Gap between the Experts and Activists

Bhupati Chakrabarti
Department of Physics, City College, Kolkata 700 009, India
bhupati2005@yahoo.co.in

Abstract. Scientific discoveries and technological breakthroughs that hit the headlines make public curious about their implications. Experts and activists in the relevant fields have their own approaches and the public often do not get the information in the right language or with the right perspective from them. The science communicators are expected to reach people striking a fine balance between these two sections viz. experts and activists. But the lack of media encouragement and proper training remains a hurdle for quality enhancement in science communication. In a democratic set up science communicators play an important role influencing the policy framers also.

Keywords: Activists, Experts, Science communicators, Socio-cultural aspects

Introduction

India has a significant number of people trained in science and technology. But considering the overwhelming population the percentage of this people compared to the total number of people having basic education is really not that large. The society does enjoy the fruits of technology in a big way but takes interest towards science particularly the younger ones more as an attractive career option and not as an area worth knowing to take part in different social, cultural or political processes in a democratic society. People now come across newer technologies and innovations that often affect their lives with every passing day. Be it a new type of mobile phone or any other device, be it a new type of accessory fitted in a car for the reduction of emission of polluting gases or a new medicine, people get the fruits of research and adopt themselves with that. But the different aspects that include the socio-cultural and ethical as well as the commercial ones associated with the newly adopted technologies and innovations or research outcomes apparently do not attract attention of the common people. With the spreading of horizon of knowledge and fast emergence of branches and sub branches of different scientific disciplines it is becoming more and more difficult to keep track of the developments taking place in the research arena.

Newer areas are coming up where the new set of experts are taking the centre stage and are explaining newer observations and findings in a narrower field of study where vertical spread of knowledge is taking place in a big way. The experts, quite expectedly, try to stress on the rigor of the scientific information. This approach in the process does not give the people's understanding the topmost priority and the language or style of presentation often do not reach or touch the people in a big way. On the other hand we have a section of activists, not all, who know their agenda much better than the science and technology involved in the issues and often come up with a truncated or biased view particularly on the social, cultural or ethical aspects of the scientific and technological issues. The science communicator is expected to chart out her track through this by judiciously bridging the gap between the two approaches that sometimes may be referred to as contrasting.

The challenge of communicating science

A science communicator begins her work in this scenario where she finds the experts at the one end and the common people at the other. But the bridging the knowledge on one side and the views and opinions on the other side becomes a very challenging task because of several factors. It is true that the people on both sides who are interested in healthy discussion and exchange of observations not be very large. But the necessity of this exercise can only be overemphasized since whatever little information common people may collect likely to come from either of these two sources. Different innovations in science and technology nowadays affect the lifestyle, social and educational and even emotional set ups in an individual in a significant way. This may illustrated with an example. If we just look back to the introduction of the use of mobile phones in this country say about a decade back, some interesting things come to the fore. It was considered to be a rich men's 'ornament' and most of the people did not have the iota of an idea how this technology is actually going to govern the daily chore of a person however ordinary he or she might be in a very short span of time. Computers that have virtually taken an all-pervading role in our life entered the public domain barely fifteen years back. Now as it happens whenever this sort of technological innovations become parts of our lives

different perceived aspect about them are highlighted, sometimes deliberately by different interest groups. One would be able to recollect that there used to be a lot of campaign against the introduction of computers in the manpower intensive sectors where people developed an alarming feeling that the computers would become the cause for their loss of job. The way different political groups and trade unions highlighted this aspect and tried to whip up some sort of neophobia among the common people indeed created a very strong case for the science communicators. The role of science communicator in such a situation becomes so significant that they can form the public opinion with the right perspective. Now people possibly agree that computers on the one hand became the cause of a few types of jobs while nobody could anticipate the huge type of jobs that it would create. In fact with the emergence of newer software and development of hardware and cost reduction in recent years are actually making the computers integral parts of life even in a not so developed society. The benefit of introduction computers in so many sectors has now actually reached the very common man in the form of railway reservation of ATM services offered by the banks.

The science communicator is expected to identify these areas and with the help of different forms of media can try to present the right scientific idea along with their possible implications, of course keeping in mind the social perspective. Science communicators normally come with the background of one or the other discipline of science but with the addition of newer ideas, concepts and innovations practically with every passing day their background even in a field where he or she had some basic training in her student days proves to be inadequate to comprehend a number of newer aspects. We have to appreciate the daunting task of the science communicators as a group of people who are acting as a link between experts and common educated section of the society.

Quality enhancement: The role of experts

A science communicator cannot see through the interesting aspects of different branches of science. It is also not possible for him or her to keep track of the vast load of information on science that is now available. Moreover it is indeed expected that the science communication should be context based to make it attractive to the readers, viewers or listeners depending on the medium. This section of the society may be identified as educated common man with interest but not much of knowledge in science. Particularly of we keep in mind that with the spreading of knowledge horizon very fast newer branches and sub-branches of different scientific disciplines are regularly emerging.

In a huge country like India interested population spread across the country cannot access the expert opinion on different issues directly. Not a very large section has the access to Internet of other modern facilities to enrich oneself even if there is a will. An interested citizen cannot attend popular or semi-popular lectures, discussions or talks on issues they are concerned in as most of these are confined to big cities or metropolises and sometimes remain out of bounds of the experts. That in a way entrusts a big responsibility on science communicators who can really communicate the views of the experts to the common man in a form and language that people understand. Quite often lots of ideas related to S &T make round in the society that needs to be handled in the right perception. For example, people come across occasional newspaper reports on the possible link between cancer and the use of mobile phones. Lot of campaign goes on in the cyber space with the circulation of forwarded e-mails that warn people about the special significance of a particular date etc. Most of these do not have any basis but the science communicators can actually present the experts' views after consulting them. If these views are non-convergent that also common people get a message that is worth studying.

The experts normally do not want to part with the views they hold as that is normally based on scientific rigor. That often makes their language and style of communication such that the common man finds it difficult to absorb. The science communicator's role lies here. He must have the right kind of scientific input from the expert if necessary through some structured questions and try to present the matter to the general public with the right perspective. He may add on his views and predict the future implications after judicial analysis. A close connection between the science communicator and the expert is so essential that there should be an international effort for maintaining this. For example the international bodies can think of developing a large pool of scientists, technologists, researchers from all over the world and they may be accessible through e-mail and other modes for helping out the science communicators in their pursuit. These experts may put up their explanations and views on different scientific issues to be made use by the science communicators.

Activists and non-governmental organizations (NGOs)

In India like in the rest of the world the NGOs are working in large number of sectors where they are supplementing the governmental efforts for the betterment of common man's life. So these fields among other things include 'scientific awareness campaign' involving environment, energy, health, and sanitation related issues. With due respect to a section of these activists who working under different NGOs this has to be mentioned that a much larger

section of these people often try to sensationalize an issue instead of giving the right scientific input. Considering the background of these activists this is in a way is not surprising but their reach to the people particularly the younger people through school programmes cannot be ignored. They take up their work more as a routine duty and not as a commitment to the society. As such these efforts should be there to supplement what the experts or the government efforts are doing but often they tend to ignore the mainstream efforts highlighting their own. The use of nuclear power is a typical example in this context. The activists who are anti-nuke go on harping, sometimes exaggerating the evil aspects of the nuclear power. They often do not see anything positive about the nuclear power and this approach turns into a campaign and not a scientific deliberation. Let me stress that only a section of activists fall into this category. One can respect the commitment of an activist to a cause but he or she may not be the best person to learn about science from. Once again we need to look for a science communicator who on one hand may partially use the campaign materials but can come up with a balanced view with other inputs from the experts. This can then help our citizens to form what is known as informed opinion.

So a science communicator does need to maintain close link not only with the experts but with the activists as well. A science communicator needs to check what sort of inputs on a scientific issue has gone to the general public particularly to the younger generation through the campaign of the activists. Sometimes these campaigns come as some sort of a mantra or rhetoric without any explanation of the context. The campaign against the use of plastic and its different products is possibly a case in point. While the proper disposal of plastic bags or poly bags remains issue often this leads to a campaign of total elimination of plastic from the scenario. If the science communicator can actually help the activists putting more scientific content in their arguments along with their zeal a wonderful job can be done for the society.

Need for some initiatives

A few very important and relevant questions loom large particularly in the Indian context. What sort of qualification a science communicator is expected to possess since she is expected to deal with a formidable task in the present day scenario? Do the different media, electronic, print or audio employ or at least engage a science communicator? Is there any facility for imparting training to the youngsters who want to pick up science communication professionally or even as a part-time pursuit for the love of the area and work? Because of the non-availability of any satisfactory answer to question the ultimate question comes up; who would be a science communicator? Well, this is another gap that needs to be bridged if we want to have very responsible well-meaning people coming in and enriching this field.

It has been observed that a significant number of people involved in science communication are graduates in some branches of science. These people do put up efforts to upgrade them in science related information thanks to the Internet and world-wide-web. But it is also imperative that a single person cannot follow the interesting and critical developments taking place in different branches of science and technology. Or it is not possible to understand the significance of all the science related news hitting the headlines. The recent news of the LHC (Large Hadron Collider) is a case in point. And the role of experts in these situations is even more important. However we cannot deny that some basic training also needs to be arranged for the science communicators. Unfortunately in India, different Academies of sciences and engineering have not taken up this issue with the desired degree of seriousness. A few scattered efforts in a very modest scale have been observed but there need a lot of planning and once again the inputs from experts not only from the different fields of science and technology but from the people who help in developing writing and communication skills, people who can efficiently handle computers and possibly some serious readers. The exercise also demands the inputs from the policy framers who decide on the channelising the funds earmarked for the research in science and technology in the right direction.

Some well meaning organizations in different parts of the country run some training programmes for science communicators. Interestingly, they do not get enough participants who have pursued science up to the graduate level. There are commerce or arts graduates who read science up to 12th grade even occasionally up to 10th grade. Notwithstanding the seriousness and sincerity of these young people they must be put to some rigorous training so that they can take up their work of science communication in a bigger way. The database of the experts from the different fields has to be developed and maintained. These experts are expected to respond to the science communicator's queries and help them in communication the correct science. Since the profession of science communication has not emerged as a whole-time vocation with support from different sectors, the work is mostly undertaken by people who are actually associated with other professions for their bread and butter. So some support should be planned and organized for the quality enhancement of this profession.

Concluding observations

In India science communication has not been able to emerge as a whole-time vocation is spite of what is called electronic media boom. Moreover there is a reasonably large print media with wide reach that really does not much bother about science news. The English language media whatever material they publish or deal with take them directly from different international agencies and publish directly. So the Indian angle or implication to the Indian context remains unaddressed. The vernacular press does not show much interest about science. The science communicators actually work with this backdrop. So the motivation does not reach a very high level and their importance in the media sector remains somewhat tiny.

With the changing economic canvas and the impact of globalisation has brought in much better flow of money in scientific research in India. Projects involving large quantum of money is being sanctioned in different fields of research. In this democratic country the policy framers are essentially the elected representatives of the people. They actually need to gauge the people's mood while making different policy decisions including the sanction of funds for different scientific projects. Once again the science communicators can play a very important and significant role in forming the public opinion leading to the more accountability of the scientific community. This in turn makes the experts appreciate the need for communicating with the common people so that the inflow of funds remains in tune with their need. And this would lead to situation where the experts, activists and the science communicators will work in tandem supplementing each other and evolving the right environment of doing science with total involvement of the society at large.

Reference

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