



**Title:** *Bridging the Communication Gap in Science & Technology: Lessons from India*

**Publisher:** Springer Nature

**Edited by:** Pallava Bagla & V V Binoy

**Contributors:** Prominent scientists, journalists, science communicators, scholars, a politician and an activist

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*Bridging the Communication Gap in Science & Technology: Lessons from India* explores the vast gamut of science and technology communication with an analytical and critical eye.

The book provides a panoramic view of issues pertaining to science and technology communication in India that need to be better appreciated in the right context by the communicators, scientific establishments and policy makers. Science and technology communication, apart from creating scientific temper among people, also helps in democratising the policy framing exercise.

The ideas and opinions sound credible as most of the contributors have themselves been passionately engaged in one or the other form of communication modes either as media professionals like Pallava Bagla, T.V. Padma, T.V. Jayan, Hasan Jawaid Khan, etc. or scholars, activists and scientists who had a passion for communication even as they engaged in their scientific work like K. Kasturirangan, D. Balasubramanian among many other reputed names.

The book begins with a provocative article 'Responsibility of Science, Responsive to Society: A New Dialogue' penned by former Union Minister of Environment and Forest, Dr Jairam Ramesh. The article may remind Indian readers how he had ruffled feathers

of the majority of the scientific community working in the field of plant genetics and earned the reputation of being an anti-science minister criticised for blocking the release of GM technology in India. He has passionately defended his decisions taken as a minister in his article. His article generates ideas about how to create a credible science and technology communication system that can present scientific information before the science-illiterate public in a manner that they also acquire some capability to grapple with the complexity of science and technology.

Prabir Purkayastha, President of the Centre for Technology and Development, defines a clear distinction between science communication and technology communication. He says, it is assumed as if we are talking of just science when we talk of science and technology, but in reality it is not. His firm assertion is that science may be politically neutral, but technology certainly is not and it remains driven by a political agenda.

The book contains well-assorted five sections: 'The Big Picture: Communicating Science to Win the Hearts and Minds', 'The Indian Landscape of Communicating Science and Technology', 'Old is Gold: Time Tested Ways of Communication', 'The Bold New World: Using Television, Internet and Social Media for Communicating Science' and 'Bridging the Gap Between Scientists and the Public'.

Several contributors in their articles have berated the lethargy and ineptitude of the government departments and scientific organisations in not using salient feats of Indian scientists to inform people and expand their vision, thus losing an opportunity to apprise people of newer concepts, newer facts, newer ideas and their possible innovative uses. To be specific, Pallava Bagla recounts how ISRO (Indian Space Research Organisation) failed to use India's maiden Mission to Mars to 'enthuse the country's swelling student community'. He reveals that the entire programme of public outreach for ISRO was handled by just three technical persons with a meagre 'budget of Rs 15-16 million a year which was 0.000002 percent of ISRO's total budget'.

Some writers have demonstrated how outreach programmes give good returns in terms of creation of new crops of young scientists to undertake challenging sciences as well as developing

a well-informed citizenry. Ravi Kumar Gupta, an IITian, Swapnesh Kumar Malhotra, working with Department of Atomic Energy and R.S. Sundar, a nuclear scientist, have illustrated how organisations can suitably design strategies and implement them to change people's perception. Sometimes adopting them becomes a compulsion to ward off the threat of overwhelming preponderance of falsehood and myths spread by vested interests. This also underscores the fact that there always remains the risk of science and technology communication becoming a hand-maiden to serve a specific purpose rather than just entertaining with the wonder of science and technology.

### **Media is Changing**

In the West, the influence of the print media has diminished substantially, this may happen in India as well within a decade or two but currently it is pretty robust and effective. In several articles it has been mentioned that the quantum of coverage in print media is much less than desirable. The only consolation is that it is still better than in TV media. Internet-based social media and web media have opened the floodgates of new opportunities but as of now this has not been tapped sufficiently. Some articles talk about this aspect.

There is a sort of unanimity among writers that the main problem related to science and technology communication is the language. It is 'not an easy task to translate complex ideas and jargons into a language that common man can understand'. Language apart, for successful communication scientists and communicators need to know what people's understanding or views are on the particular scientific development they are talking about. Without knowing this any communication would remain one-sided and offer doubtful results. This issue has been effectively dealt with by D. Balasubramanian, President of the Indian Academy of Sciences. He tells how 'science communicators such as Jacob Bronowski, George Gamow, Arthur Clarke, Lewis Thomas and Stephen Jay Gould wrote in simple language, using analogies and no graphs, pie charts or mathematics, with humour and in conversational style'.

Communicating science in regional languages is even more challenging due to paucity of well-understood scientific terminology

in respective languages. The scenario has been presented in detail by ASKVS Sharma of the Central Food Technological Research Institute and Nimish Kapoor of Vigyan Prasar.

The section 'Bridging the Gap between Scientists and the Public' throws light on some innovative and successful experiments in science and technology communication. Vinay B. Kamble, a nuclear physicist, has narrated his excitement on the successful project 'Vigyan Rail' and Anuj Sinha, Honorary Chairman of Network for Indian Science Communicator Organizations, has written about the Children's Science Congress. Researchers like V.V. Binoy, S. Radhakrishna and A. Kurup also write about a unique Citizen Science Project carried out in Malappuram district of Kerala.

The book has successfully captured the current trends of science & technology communication in India in its various formats and dimensions including the traditional ones like fairs, science events, competitions, festivals and exhibitions. Barring one or two articles which sound like government reports, the chatty narratives of communicators' own experiences have potentially enhanced the charm of the book and saved it from becoming a drab thesis. One can safely recommend it as an essential read for media students, practising communicators, scientists, researchers, activists, politicians and policy-makers of government and non-government departments alike.

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By Vinod Varshney, freelance science journalist, earlier Editor of *Lokayat* and also the National News Bureau Chief of *Hindustan*.

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