

SCIENTIFIC LITERACY AND DEVELOPMENT

MANOJ PATAIRIYA*

Introduction

Developmental changes emerge within specific economic, social, and ideological contexts, and in turn reshape the thinking and working of institutions as well as individuals. Literacy and more precisely, the scientific and technological literacy can bring about these positive changes in an appropriate manner. The last two decades have been characterized by the rapid development of new scientific and technological advancements across a wide range of fields. Access to these advancements is distributed very unevenly within the country. Even people in far flung areas often lack access not only to leading edge technologies and modern scientific knowledge, but also basic concepts of science and technology confronting their day-to-day lives.

Overcoming problems of access to these technologies and knowledge is important for economic and social development, but this may not be seen in isolation. Unless the "transfer of technology" is amalgamated with "communication of science and technology" or in other terms "scientific and technological literacy", the overall socio-economic development cannot be ensured. Concerted and focussed efforts of science and technology communication among various segments of people are needed to achieve scientific and technological literacy speeding up the pace of developmental process in a desired form. This is an issue which scientists, communicators and the public have to take seriously.

Literacy Scene in India

Before attempting on scientific literacy, let's have an overview of literacy scene in the country. The present literacy among the population of seven years and above

stands 65.38%. The corresponding figures for literacy among males and females are 75.85% and 54.16% respectively. Hence, an increase of 13.17% from 52.21% in 1991 has been recorded. The increase of literacy among males and females is 11.72 and 14.87% respectively. It is a matter of great satisfaction that the gap in the rates of males and females literacy has minimized from 28.84% in 1991 to 21.70% in 2001. One of the most significant aspects is that for the first time since independence the absolute numbers of illiterates have recorded a decline. The decline is as large as 31.96 million during last decade (1991-2001). This decline was 21.45 million and 10.51 million among males and females respectively. Kerala continued to lead with 90.92% literacy rate followed by Mizoram 88.49% and Lakshadweep 87.52%, while Bihar has been at the rear with lowest literacy rate of 47.53%.

The credit of these improving results goes to the countrywide campaigns run by large number of government, non-government organizations and programmes like education for all are likely to add to these efforts enormously in near future as well. Illiteracy has been a great impediment on the way to achieving scientific literacy and now since the fight against illiteracy has been partly won, we can hope a literate and scientifically literate India in the years to come. Programmes like Bharat Jan Vigyan Jatha (BJVJ), Bharat Jan Gyan Vigyan Jatha (BJGVJ) and Mass Action for National Regeneration (MANR) have significantly contributed to the cause of improving literacy and scientific literacy in the country.

Defining Scientific and Technological Literacy

It is felt that for a self-respecting citizen in today's world, merely being literate is not enough. He or she needs to be scientifically and technologically literate as well. However, unlike a universal definition of literacy, no such definition of scientific literacy is available. Even though work in this direction has been going on in India and abroad for over two decades or so.

* National Council for Science & Technology Communication, Department of Science & Technology, Government of India, New Mehrauli Road, New Delhi-110016. Phone : 011-26537976, Fax : 011-26960207. E-mail : mkp@nic.in