CHAPTER—I
CHALLENGES BEFORE MASS COMMUNICATION IN THE AGE OF INFORMATION REVOLUTION
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IN THE AGE OF
INFORMATION REVOLUTION

Mass communication plays a vital role in the development of society. It facilitates the democratic understanding by creating, collecting and disseminating information through various channels. It provides an opportunity for individuals or groups of individuals to develop their calibre for a democratic, participatory understanding. Information, education and recreation are its three objectives which help create self-confidence and determination among different sectors of society.

The growth of population has increased the information requirements of people based on their likes and dislikes. The components of mass communication have changed qualitatively as is evidenced in the evergrowing number of books produced, newspapers published and broadcasting stations established both nationally and internationally. The need for effective communication is felt by a larger number of people day by day and it is assumed that the phenomenon of mass communication will certainly meet the challenges of modern society.

In modern society, where every field of activity is influenced by the growing population every day, the challenging roles of mass communication have to be analysed. These challenges emerge from various quarters:
1. Exponential growth of information;
2. Growth of communication media;
3. Growth of information generating media;
4. Growth of information requirement pattern;
5. Growth of public taste;
6. Language;
7. Religion; and
8. Social and political set-up.

1. **EXPONENTIAL GROWTH OF INFORMATION**: The contents of information have become multi-dimensional due to the exponential growth of knowledge. The scientific discoveries, rapid development of social sciences, establishment of libraries and information centres, innovations and their growth in the industrial sectors and rapid progress in the technological advancements have all contributed a lot to the accumulation of knowledge. However, the quantitative growth of information varies substantially from science to social sciences and humanities. The number of contributions per author increased in geometric progression in scientific writings as compared to social sciences and humanities. It is becoming extremely difficult to monitor and disseminate scientific information without the aid of electronic media. It is necessary therefore to analyse the growth of scientific journals, including indexing and abstracting journals, technical reports, learned societies, books production, news
agencies and the revolution in the information technology.

Growth of Scientific Journals: The growth of scientific and technological literature is so rapid that it is very difficult even to measure it. According to a survey conducted for 1985 by Andrela, ever since the appearance of the first two scientific journals between 1660 and 1960 the volume has gone up to one million. By the middle of the 18th century there were about 10 scientific journals. During the early 19th century, there were about 1,000 journals whereas at the beginning of the 20th century the number rose up to 10,000 as surveyed by William D. Garvery and Bertit F. Comton. The series rises from 10 in 1750; 100 in 1800; 1,000 in 1850; and 10,000 in 1900 AD. Calculations based on the 'World List of Scientific Periodicals' project a total of four lakhs by 2000 AD. The 'World List of Social Science Periodicals' (Unesco) (1975) enumerates 28,000 journals. The table below will make it clear.

GROWTH OF SCIENTIFIC JOURNALS

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<thead>
<tr>
<th>Years</th>
<th>1750</th>
<th>1800</th>
<th>1850</th>
<th>1900</th>
<th>1971</th>
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<tr>
<td>Journals</td>
<td>10</td>
<td>100</td>
<td>1000</td>
<td>10,000</td>
<td>1,00,000</td>
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As of today, the number of scientific journals appearing more or less regularly throughout the world is estimated between 30,000 and 1,00,000. The survey conducted
in 1969 shows that there were 50,000 periodicals of scientific nature throughout the world and surprisingly about 30,000 of them have survived. According to D.J. Price, there are 1,00,000 scientific journals regularly brought out the world over. That means the rate of demise of periodicals is very negligible.

As OECD report published in 1968 quotes a figure of 35,000 scientific journals for 1963, including 6,800 American publications. The list brought out by the UNESCO shows these figures between 50,000 and 70,000.

There are other authorities who put the exact number of scientific journals at around 1,00,000 throughout the world.

Growth of Indexing and Abstracting Journals: Apart from journals and periodicals, the other scientific literature brought out in other forms in substantially higher quantity is not less. Hence, by the first half of the 19th century, efforts were made by the organizations concerned in the field of such literature to evolve a system whereby the bulk of this literature could be controlled. This led to the emergence of a number of bibliographical, indexing and abstracting services. Again such service agencies also grew exponentially tenfold every 50 years. The recent surveys have shown that there are about 2,800 specialised organisations in indexing and abstracting field throughout the world. The
table below shows the exact account of this growth as also the number of abstracts that appeared in the specialised field in a given period.


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<td>Abstracts</td>
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<td>757743</td>
<td>822309</td>
<td>951065</td>
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Growth of Learned Societies and their Publications: The institutions and organizations engaged in teaching and research are included as learned societies. Such societies more or less made rapid progress after World War II. There was big stress on the reconstruction of the social fabric of the countries that lost heavily in the war. The government alone could not undertake the entire job. Hence, the need for volunteers and autonomous organizations was felt. Consequently, several associations, federations, confederations, societies, congresses, chapters and clubs came up. The growth of these societies was again exponential. In just 20 years the number of these societies increased fourfold from 1,000 in 1950 to 2,000 in 1960 and 3,500 in 1968. Since the abstracting and indexing services organisations increased in exponential manner, the technical institutions were supported by the abstracted literature. This facilitated in the early production of technical
reports. But when one talks of information revolution it is presumed all kind of expressions are involved in it. The proceedings of meetings, technical reports, and pre-prints have also been marked by more or less regular exponential growth. In the field of engineering in the USA alone, the growth of such literature has doubled in just six years. Some 70,000 to 80,000 technical reports are published every year by the scientific and technical services. The UNISIST report has claimed that 2.4 lakh reports are published every year in the world. The Indian scene is entirely different. There is no controlling agency and most of the technical institutions and organizations are under the control of the government. But by a rough estimate there are about one lakh academic, research, technical, religious, social sciences, and other institutions. Therefore, one to two lakh reports of these institutions are published every year.

Growth in Book Production: With the development in other educational activities and institutions, the exponential growth was seen in the production of literature to supplement the educational information needs. The growth was in the number of titles of books and the total number of copies printed. In the 1970s, the total number of books produced of all scientific writings was 20 lakhs, i.e., 6,000 to 7,000 articles and reports produced per working day.
All types of books in science, social sciences, medicine, engineering and humanities have increased in titles and volumes by as much as 45% in almost all countries. In 1955, there were only 2,69,000 books in the world. After five years, the figure reached 3,32,000 and it kept on going up and up every five years. In 1965 it was 4,26,000 and 5,72,000 in 1970. In 1980 there were 71,55,000 titles and after seven years they touched a new height of 83,50,000. It showed an increase of 80,81,000 books from 1955 to 1987.

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<tr>
<td>Books</td>
<td>2.69</td>
<td>3.22</td>
<td>4.26</td>
<td>5.72</td>
<td>7.15</td>
<td>8.35</td>
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In the United States the number of books produced was comparatively very high. From 1955 to 1965, it was more than three fold. Asia did not lag behind, but the growth was not so impressive. The production came down from 54,000 in 1955 to 51,000 in 1960. Africa which is considered a less book produced country also witnessed considerable growth in publications. From 5,000 books in 1960 it kept on rising every year. The largest book producing region in the world was Europe. Of the 2,69,000 books published in 1955; Europe alone contributed 86,000 titles, which is 69% of the total production that year in the world.
Growth in the Newsagencies and their Output: Other agencies of mass communication engaged either in collecting information or in disseminating that information have seen an equally rapid growth. The big ten news agencies, including Associate Press, Tass, Reuters, APN, transmit about 3.4 crore words every day. There are about 140 small and big news agencies in the world. There were 9570 dailies with an estimated circulation of 553 million copies in 1986. In 1987, there were 37,850 radio stations and 87,810 television stations all over the world. As many as 2.5 lakh cinema houses in the world also create a lot of information everyday.

Growth in Information Technology: The information storage and retrieval technology has seen many changes. Those were the days when every work was done by hands. And now super computers are in full use. Several types of computers, micro computers, personal computers, graphic computers, publishing technology, desktop publishing techniques, and many others like video, videotext, teletext, have developed at a very rapid pace. There is a flood of software computers. With the development of the information technology, the paperless society has emerged. This is seen more in the world of journalism in Western countries. This has put the information revolution, throwing more and more challenges for mass communication.
2. GROWTH OF COMMUNICATION MEDIA: The exponential growth in information brought in its wake first radio and then television. The application of computers in our day-to-day life has also influenced the information scenario in the field of offset printing, photo technology and satellite-based printing technology. In the present day context nothing seems impossible with the introduction of super computers.

The development of newer means of communication has no doubt brought revolution in many fields as mentioned above, but there are certain areas where these means have not been as effective as desired. Traditional media are becoming more useful and popular even in modern environment. The "Festivals of India" opened the floodgates of knowledge of the Indian culture and traditions on the people of the USA, Japan, France, and the Soviet Union. The success of the Indian experiment in cultural communication influenced the countries mentioned above so much so that they also organized their festivals in India and other countries for the same purpose.

Through protocols, one country shares its knowledge with the other. Consequently, delegations representing varied interests exchange visits to countries and share their experiences. Thus, other forms of communication which are not generally in use are fast becoming a challenge for mass communication.
3. GROWTH OF INFORMATION GENERATING MEDIA: The growth in science and technology led to the establishment of research organizations, foundations and laboratories, which regularly publish their research findings in science journals. The growth of market-research organizations, survey agencies, and industrial supported research activities contribute a lot to scientific information compared to underdeveloped countries, the generation of scientific information is more in the developed countries. Since information is an input to development, the role of planners in underdeveloped countries becomes more vital for the development of more and more generating media.

With the establishment of the United Nations, more than 100 sub-organizations have come up during the last 40 years. These organisations have their regional offices spread all over the world where many supported organizations have developed. Each organization has several projects and plans which become information generating agencies in their respective fields. UNESCO is such a large organization that publishes its reports and programmes in six major languages. These are further translated in other languages which means more and more excitement for mass communications.

GROWTH OF INFORMATION REQUIREMENT PATTERN: The right to information is the basic ingredient of a democratic society.
It is only through information that the citizens in the democratic countries are able to perceive the process of development. There may not be much difficulty for the literate urban people to know about the progress of their governments but the problem lies with the people in the rural sector in the underdeveloped countries who are largely illiterate and cannot perceive the progress through the print media. The information requirements of these two categories of masses differ entirely. Historically, towns and cities are much better equipped with educational and cultural facilities than the rural areas. The urban people are more informed about the latest developments and policies than the rural people. Thus, there is a need to bridge this gap between the rural and the urban as far as the information context is concerned. Besides, there are other segments of society who need latest information in their fields of activities so far as the underdeveloped countries are concerned. Mention may be made of planners, medical specialists, educationists, scientists, engineers, and managers. Each group may have different information requirement. Undoubtedly any one medium of communication cannot meet the diversified information requirements of the masses. Multiple ways and means are required to satisfy the information needs of the people.

GROWTH OF PUBLIC TASTE: With the increased means of communication the world has become very small and we now talk,
of global village. The idea of universal brotherhood is gaining momentum. Joy and sorrow of the people of one country are equally shared by the people of other countries. That is why we find the decline of colonialism and emergence of democratic nations. The quest for democratic sentiment even in the day-to-day life is very high. People become interested in each other's problems and want to know more about things around them.

It is not only the type of information which has changed but also the way in which the people receive information. Instead of going through newspapers, a section of the population is more interested in listening to radio or watching television for news bulletins. This is also compulsory for those who cannot read and write. The traditional medium of classroom lectures are supplemented by video, documentaries and other aids. Information is successfully disseminated with visual aids, films and other performing arts. Reading habits of the people have undergone many changes. Bulky books and encyclopaedias are not liked and instead a 15 minute documentary is preferred. Electronic media is becoming so powerful that it is feared we may forget even the print media. If things continue like this the emergence of a paperless society is not far off.

6. LANGUAGE: The task of planning of mass communication in multi-language and multi-religious countries has become very
difficult. The communication process is facilitated only if there is one language in the country, but it creates problems when there are a number of languages, both written and spoken. With different dialects; the choice of one language for the purpose of communication becomes problematic. Each distinct language group would demand communication in its own language. Providing information to all groups at the same time becomes difficult and costly. The language facilitates small countries like Pakistan, Sri Lanka, Nepal, Burma, Thailand, Bhutan and Bangladesh which have only one language but countries like the USSR and India face enormous difficulties.

7. RELIGION: Multi-religious groups in a country provide bottlenecks in the process of communication. If the country is non-secular, there is little difficulty. But in a secular country, the communication system should be provided by the state in such a manner that it should not create distrust among other religious groups. Keeping in view the religious sentiments of Muslims in India, the government decided to ban the book entitled 'Satanic Verses' by Salman Rushdie. In case of communal riots and social tension the problem of mass communication arises. It is very difficult to serve all the sections of society belonging to different religions at the same time.
SOCIAL AND POLITICAL SET-UP: The social and political set-up of a country also has its effects on mass communication. The form of government decides about the form of information the citizens would have. In a dictatorial system of government, the right to information is suppressed and the censorship is imposed on the newspapers and other media. Keeping the citizens completely in the dark. Even in the democratic countries the channels of information may not be so democratised. The non-government media may be considered more authentic than the government-controlled media. The controlled media always want to impose information on the people. Autonomy given to the press, radio and television may be restricted. It would be ideal, if the country should have a communication policy. The communication media generally follow the communication policy laid down by the country.

LIMITATIONS OF MASS COMMUNICATIONS: The information revolution or information explosion and increasing dangers facing the world have limited the scope of mass communication. Every thing bad or good should be communicated, but keeping in view certain ethics of communication everything cannot be communicated. There are certain limitations where even if permitted by the law, communication is not possible. Here are certain situations where mass communication is limited to the public.

GOVERNMENT CONTROL AND AUTONOMY: The media in most countries of
the world is under the direct control of the governments. Even in the so-called free countries, the mass media is not free. The press is of course free in certain countries but it is in the hands of big industrial houses who use the press for their own interests. The radio and the television are in the hands of the governments. These are widely used by the rulers for their own political benefits. The fact is that the mass media cannot be a free media and therefore it cannot be said that the communication is not biased. Even distortion sometimes is done at the government level. Good programmes, if they do not suit the government, are not allowed to be communicated to the public. The BBC is full of such stories.

COMMUNICATION POLICY: Every government has a policy on mass communication. Therefore, mass communication cannot cross the boundaries of this policy. If the communicator is not bound by the policy he or she can communicate whatever one wants but the communication policy restricts the communicator from misusing the media. Foreign relations, international agreements and protocols have to be kept in mind before framing a policy on mass communication.

COMMUNICATION TECHNOLOGY: Communication technology is the main factor in mass communication. If right technology is available, communication becomes more effective and if the technology is not available or if it is obsolete, mass communication will lack in
quality. 'Channel 9' is famous for sports coverage because it uses the latest technology for communication. International events are covered by the television and the press because they are equipped with the latest communication technology. News coverage by the Indian television is poor since our equipments are not very advanced. So is the case with our sports coverage.

CONCLUSION: Mass communication in today's world performs an essential democratic function. It is the need of the public and also the duty of the government. Exponential growth of communication and information generating agencies and also an improvement in the public taste have greatly influenced mass communication. The problems of language, religion, information technology and the geographical environment and political set-up have challenged the mass communication scene. The problems and limitations of government control, autonomy, communication technology, and communication policy have restricted the communicator. No doubt that with the new communication technology, mass communication will be better equipped to face the challenges.

References as serially cited in the text:


