CHAPTER-VI

OPERATIONAL PROBLEMS
COMMUNICATIONS

A modern communications system has been in operation in India since 1854 when the Postal Department was set up. The most important carrier of mail is the Indian railways system, which is the largest in Asia and the fourth largest in the world. Before the setting up of the railways, mail was carried on very few main routes and costs were high. The first railway line was opened in 1853, from Bombay to Thana, an important suburb today, covering a distance of just twenty-one miles. Travelling post offices started in 1870 and from 1907 the Railway Mail Service has functioned on a regular basis carrying letters and parcels throughout the country.

Between 1951 and 1977 post offices have trebled in number, telegraph offices have doubled and telephones have registered an eleven-fold increase. Trunk-dialling services now operate in 296 cities. Telex services are available between 172 cities within the country and between them have an installed capacity of 21,800 telex connections. India manufactures its own teleprinters and telephones. The microwave equipment for the second international satellite earth station set up in Dehra Dun was entirely designed and manufactured in the country.

India's external telecommunications services are operated by the Overseas Communications Services which has its headquarters in Bombay. It operates out of the country from four centres at Bombay, Calcutta, Madras and Delhi. It provides overseas telegraph, telephone, telex, radio-photo and leased telegraph channel services. It also arranges broadcast transmission and reception facilities for government news agencies and voicecasts for correspondents.
Microwave and telephone circuits for broadcasting purposes are provided by the Posts and Telegraphs Department on a rental basis. The anticipated demands of broadcasting are forwarded to this department which takes responsibility for providing circuits and meets the costs.

The electronics industry, which has made great strides since Independence, is spread over both the public and private sectors. A total ban on the import of radio sets and parts was imposed by the government in the early fifties and some twenty large scale units and several hundred small units are now producing approximately five million sets annually. Except for tubes which are still imported, TV sets, including colour sets, are being manufactured domestically. Medium-wave transmitters of low to high power are produced in India as are radar, sonar, and navigational aids, and hard-as well as software for computers.

An Electronics Commission has been set up by the government to lay down policy guidelines for the healthy growth of the industry. A Department of Electronics is responsible for executive action. To ensure the balanced growth of the industry in different parts of the country, the Electronics Commission has provided assistance to State governments to set up corporations to manufacture equipment of various kinds.

India’s first satellite earth station was commissioned in 1971. It is located at Pune and operates with the Intelsat satellite positioned over the Indian Ocean. The second satellite earth station started functioning in Dehra Dun in December 1976. Since then no less than twenty-eight additional earth stations have been set up in different parts of the country. There has been an increasing use of the Intelsat system by India since 1971. The minimum percentage of contribution for membership of Intelsat is 0.5 percent: India’s contribution today
stands at 1 per cent, twenty-third among the contributors. For comparison, it is interesting to note the contribution of Malaysia at 0.86 per cent. Indonesia at 0.75 per cent and Thailand at 0.55 per cent.

The Indian Space Research Organisation (ISRO) is the research and development organisation of the Government of India’s Department of Space. ISRO was responsible for the ground segment in the Satellite Instructional Television Experiment (SITE) conducted under an agreement with NASA for direct TV reception in 1975-76. All the equipment for this segment was manufactured in India. The software component was provided by AIR. Following the SITE experiment, under an agreement between ISRO and the Franco West German enterprise the ‘Symphonie’ satellite was made experiments. This experiment was designed as a system test of a geo-synchronous communications satellite and to improve Indian expertise in the design, development and operation of a communication system operation a geo-stationary satellite.

India’s first multi-purpose domestic satellite was launched with US assistance on the 10 April 1982. It was designed to provide meteorological data, communication channel and telecasting facilities. The satellite had problems from the start as a result of which launching had to be postponed on two occasions. After corrective action the satellite was placed in its geo-stationary orbit on 20 April and started transmitting signals three days later. After being in orbit for 150 days it finally folded up on 4 September. India’s second domestic satellite INSAT IB was successfully launched on 15 October 1983. Its use by Doordarshan to provide a network service and by AIR for news and other relays is discussed later in this book.
The Press

The Press in India celebrated its bi-centenary in 1980. It would be true to say that the importance which Indians attach to the freedom of the press stems from the facts that it was born in opposition to authority. Hickey’s Bengal Gazette, which made its appearance in January 1780, had for its main target Warren Hastings who was Governor-General. While Hickey’s venture closed down within the year, another journal called the Indian Gazette designed to project the viewpoint of the authorities had meanwhile come into existence. The Bengal example was soon followed in Madras and Bombay. The early newspapers, which were weeklies confined to a few pages, were all British-owned and it was not till 1816 that the first Indian-owned paper in English, also designated the Bengal Gazette, made its appearance. The first paper in an Indian language Samband Kaumudi was published around 1820 in Bengali under the editorship of the great social reformer Raja Ram Mohan Roy (1772-1833). Vidanta Martand, the first Hindi newspaper, a weekly, appeared in Calcutta in 1826. By 1833 there were over a dozen newspapers in Bengali and by mid-century there were also half a dozen each in Marathi and Gujarati. At this stage it was Raja Ram Mohan Roy who was the most progressive influence on the development and freedom of the Press, as he was on religious and social reform and in education. The first regular Hindi daily newspaper to come into existence was Samachar-Sudha-Varshan in 1854. It too was published in Calcutta.

Meanwhile the government was becoming a ware of the increasing influence of the press and armed itself with powers to control it. The first of these measures, the Press Act of 1857, was designed to regulate the establishment of printing presses. No press could be set up without the previous sanction of the government, and government could prohibit the circulation of any paper which in its view brought it into
contempt or hatred. A subsequent Act in 1908 contended that publications in the oriental languages contained matters likely to excite disaffection and to create hatred between different races, castes and religions, ‘when read by ignorant and unintelligent persons’. Other measures were taken to tighten government’s control over the press culminating in the Press Act of 1910 which gave the government the power to demand an additional security deposit if it appeared to them that the press was being misused in any manner. The Indian Press Association, which was founded in 1915 to protect the interests of the Press, pointed out that up to 1917 twenty-two papers had been called upon to furnish security, and eighteen on them had closed down rather than function in such circumstances.

In 1885 the Indian National Congress was founded through the exertions of an Englishman, Alan Octavian Hume, and thereafter the freedom and development of the Press were largely bound up with what happened in the nationalist movement and the impact of three outstanding leaders: Gopal Krishna Gokhale (1866-1915), the Moderate; Bal Gangadhar Tilak (1856-1920), the militant Hindu nationalist; and Mahatma Gandhi (1869-1948). Gokhale, who was one of the founders of the Marathi paper the ‘Sudharkar’ (Reformer) at the beginning of the twentieth century, spent his life crusading for, among other things, the freedom of the Indian press. In 1903, while opposing an amendment to the Official Secrets Act which sought to bring within its orbit civil as well as military matters, Gokhale said:

The Press is in one sense, like the government, a custodian of public interest and any attempt to hamper its freedom is bound to affect these interests prejudicially and cannot fail in the end to react on the position of the government itself.
Tilak, who also opposed various restrictions placed on the Press, was prosecuted for sedition in 1908 and sentenced to a fine of one thousand rupees and six years transportation, which he spent in Mandalay. Tilak appreciated, more than most others, the political importance of mass contact and was somewhat critical of his contemporary journalists for always wanting to play safe.

Gandhiji had used a newspaper, Indian Opinion, to express his views while he was in South Africa. Shortly after his arrival on Indian scene in 1915 he founded two papers to propagate his views. These were Young India in English, subsequently known as the Harijan and Nav Jiwan in Hindustani. Gandhiji was against advertising in the press since he considered most advertisements indecent and a form of indirect taxation. He believed further that English newspapers reached only a fringe of the population. While it was necessary to use English, especially for the south, till a national language was developed, he had no use for a paper which could not pay its way. On the freedom of the press he was emphatic. In 1920 he told editors that he hoped they would not be daunted by the Press Act. He thought that the press should become fearless, defy consequences and publicise ideas, even when it was in disagreement with them just for the purpose of securing this freedom. Two years later, referring to the government’s repressive measures on individual freedom, he wrote:

I believe that an Editor who has anything worth saying and who commands a clientele cannot be easily hushed as long as his body is left free... Let us use the machine and the type, whilst we can, to give unfettered expression to our thoughts. But let us not feel helpless when they are taken away from us by a ‘paternal’ government. But the handwritten newspaper is, I admit, a heroic remedy for heroic times.
Several important papers today are over a hundred ears old, including the *Malayala Manorama*, the *Amrita Bazar Patrika*, the *Statesman*, *The Times of India*, *The Tribune* and *the Hindu*.

At the end of 1982 the total number of newspapers published in the country was just under 20,000 of which 1384 were dailies. 30.8 per cent of the papers were published from the four cities of Delhi, Bombay, Madras and Calcutta. The largest number of papers were published in Hindi, the next largest being in English, Bengali and Urdu respectively. The total circulation of newspapers has been assessed at 50 million. The highest circulation was for papers in Hindi with English following as a close second. In 1982, 64 per cent of the papers were owned by individuals, 17.5 per cent by societies and associations and 3.4 per cent by the central and state governments. The rest are owned by public or private companies, educational institutions, international organisations, political parties and the like.

There are four news agencies in the country. The Press Trust of India (PTI) and the United News of India (UNI) provide services in English while *Samachar Bharati* and Hindustan *Samachar* are Hindi language services. The four services were amalgamated into a single service. ‘*Samachar*’, during the Emergency. The earlier position has since been restored.

Relations between the press and the government immediately after independence were cordial but various strains and stresses have developed since. The most fundamental is in regard to restrictions on the freedom of the press. For while articles 19(1) of the Constitution guarantees freedom of speech and expression, clause (2) states that:
Nothing shall effect the operation of any existing law or prevent the state from making any law, in so far as such law imposes reasonable restrictions on the exercise of the right conferred by the said such sub-clause, in the interests of the sovereignty and integrity of India, the security of the state, friendly relations with foreign states, public order, decency or morality, or in relation to contempt of court, defamation or incitement to an offence.

The working of monopolies and chains, the distribution of advertisements and Press and government relations. The Commission reported in 1954. While the government did eventually set up a Press Council which would adjudicate in disputes between the newspapers and state governments and would deal with other matters affecting the newspaper industry and working journalists, it proved to be generally ineffective, and was abolished during the Emergency (26 June 1975 to March 1977) when press censorship was imposed. The Janata government, in 1978, set up a second Press Commission to review the situation. The Congress party which gained a majority in the elections in January 1980 decided to reconstitute the Press Commission and to enlarge its terms of reference. This, known as the Second Press Commission, submitted its report in 1982. The Press Council has been revived as recommended by the Commission.

The Birth of Television

Television started in India on 15 September 1959 when AIR’s first experimental centre at Delhi was inaugurated by the President. The equipment was given to the Government of India by Philips India Ltd. Who had set up closed circuit television at an Industrial Exhibition organized in Delhi. The primary purpose of this pilot project was experimentation, training and evaluation. There were two programmes a week, on Tuesday and Friday evenings, each of one hour.
Initially twenty-one TV sets were installed in the rural areas in the neighborhood of Delhi. Subsequently UNESCO provided approximately fifty sets which were also installed in the rural areas. Tele-clubs were set up at these community viewing centres.

From 23 December 1960 to 5 May 1961 under UNESCO auspices an experiment in social education was undertaken which has been described in UNESCO’s ‘Reports and Papers on Mass Communication’ No. 38 published in 1963. It says the programmes were designed to ‘add to the information of viewers on various topics, to influence, is possible, their attitudes towards aspects of issues and to encourage follow-up group action and behavior.’ The general theme of the programmes arranged for the experiment was the ‘Responsibilities of Citizenship’ and the topics covered were traffic and road sense, community health, adulteration of food stuffs, good manners, encroachment on public property, and town planning.

Subsequently an agreement was made by AIR with the Ford Foundation to conduct an experiment in school teaching through TV. Two hundred and fifty sets were installed in higher secondary schools in Delhi and eight lessons each, of a duration of twenty minutes, were prepared. Each lesson was telecast twice a day, once in the morning and again in the afternoon for the benefit of the second shift in the schools. The subjects covered were Physics, Chemistry, Hindi, English, Current Affairs and Geography. The programmes were jointly prepared by the Education Department of the Delhi Administration and AIR.

Thus social education for farmers and educational programmes for children were the initial objectives of experimental TV in India. While the number of community viewing sets went up in Delhi’s rural areas and in schools, and AIR’s TV transmissions were slowly extended some thirteen years were to pass before AIR’s second TV centre was established at Bombay in 1972.
The basic point was that since TV is expensive it is widely considered a luxury. Jawaharlal Nehru, for example, often expressed this view and argued that India could not afford such an expensive toy. At the same time he contended that the potentialities of radio had not been fully exploited. The counter-argument was that TV could be a powerful weapon for social change and it should be used for such a purpose and not to provide yet another medium for the entertainment of the rich, thus the accepted raison d'être for the introduction and expansion of TV in India has been to provide a medium for the education of the socially deprived. Unfortunately the government has done little to provide community viewing sets in the villages. This, coupled with the high cost of a receiver, has in fact meant that the vast majority of viewers are in the middle or higher income groups in the cities and for this audience sophisticated programmes and entertainment are the prime consideration.

The second TV centre was inaugurated in Bombay on 2 October 1972 and centres were opened in Srinagar (Kashmir) and Amritsar in the Punjab, the following year. The setting up of these centres was the direct result of developments across the border in Pakistan, which had stations in Lahore and Islamabad, whose programmes were being seen by growing numbers of viewers in India! In the Kashmir valley some two hundred and fifty TV receivers were located in the villages for community viewing.

A most important year for the development of TV in India was 1975. Centres were opened in Calcutta on 9 August, in Madras on 14 August and in November a TV centre was established in Lucknow. Two of the centres were makeshift arrangements. In Calcutta an old and disused film studio was renovated and set up for use, with the equipment from an OB Van providing the control panel. In Lucknow a single studio with a control room and tele-cine arrangements was
hastily rigged up. In Madras alone was there a proper studio building with three studios, control room, tele-cine and office accommodation. Madras remains the only TV centre which is housed in a building designed and constructed for the purpose. All the others are working in old buildings which have been adapted to meet minimum needs.

In April 1976 Doordarshan, AIR’s television service, was constituted as a separate department with its own Director-General by Indira Gandhi’s government during the period of the Emergency.

The Satellite Instructional Television Experiment (SITE)

A most important event in the history of India TV was the Satellite Instructional Television Experiment (SITE) which was conducted between 1 August 1975 and 31 July 1976. In accordance with an agreement signed between the US National Aeronautics and Space Administration (NASA) and the Government of India, the Application Technology Satellite (ATS-6) was used to beam TV signals to 2400 direction reception TV receivers. These receivers were installed in six states with approximately 400 sets in each state or cluster, as it was called. The ordinary domestic receiver was modified by providing what was described as a front-end converter, and a chicken mesh antenna, rather like an umbrella to look at. This work was done by the Indian Space Research Organization (ISRO), which was also responsible for setting up and maintaining up-links at Ahmedabad and Delhi. ISRO was in addition responsible for the maintenance of the receivers.

The vast bulk of the programmes was produced by Doordarshan. The programmes were available for some four hours a day – one and a half hours in the morning for an educational programme and two and a half hours for programmes in the evening. The programmes were broadcast for the different clusters in Hindi, Oriya, Telugu and Kannada. Clusters in Bihar, Madhya Pradesh and
Rajasthan received programmes in Hindi, those in Orissa, Andhra and Karnataka in Oriya, Telugu and Kannada. There was also a half hour programme in Hindi telecast from Delhi in the evening which was common for all clusters. It included a news bulletin, some item of general interest and a cultural programme.

**SITE Continuity Centres**

Since the satellite had been loaned to India for just one year, the question as to what would happen when the satellite was removed became all important. While some preliminary thinking had already gone into this question, the matter was taken up with considerable energy shortly after the launching of SITE. In any case an Indian satellite would not be available for several years and in the interim period arrangements would have to be made to cover the SITE villages by means of terrestrial transmitters. AIR took the view that this coverage should be integrated with the overall development plans for the extension of TV. Since terrestrial transmitters were inevitable, these together with some studios, should be installed at state capitals. A terrestrial system would provide a service, not only for the community viewing in SITE villages, but also for urban viewers on domestic TV sets. Such a system, it was argued, would be in the overall interests of TV. On the other hand, ISRO argued that low-power transmitters should be set up in the rural areas themselves and they should transmit programmes exclusively for their respective rural audiences. A film recording team should be provided at each transmitter location to prepare local material which would then be sent back for processing and editing at the Base Production Centre. ISRO contended that if the transmitters and production facilities were installed at the urban centres, programme production would be diverted to serving urban interests and the entire raison d'etre of SITE would be lost.
In the end ISRO won their case and SITE continuity, as it is termed, is being provided through 100-watt transmitters set up in the rural areas. When the ATS satellite was withdrawn none of these transmitters were ready and for a few months the community viewing centres in all clusters were dead. The first continuity centre came up in March 1977 at Jaipur. Since then six such centres have come into operation and between them they cover forty per cent of SITE villages.

**Satellite and Network Programmes**

15 August 1982 was an important date in the annals of Doordarshan. It was the first time that national coverage was provided by Doordarshan through INSAT IA and also for the first time that transmission was in colour. This transmission started in the morning with Prime Minister Indira Gandhi's traditional address to the nation from the Red Fort in Delhi. In the evening, from 8 to 10 PM approximately, commenced the network or national programme which has been telecast daily ever since. When INSAT IA finally failed on 4 September 1982, the relay was carried on with the help of microwave links till INSAT IB became operative.

**Expansion of Doordarshan Network**

In July 1983, with barely eighteen months of the Sixth Plan to go, the government sanctioned a gigantic scheme for the expansion of the network involving 680 million rupees. When the scheme was launched there were 45 TV transmitters covering 28 per cent of the population. It was planned to raise the number to 180, the new transmitters being mainly of 100 watts but a few 10-KWT transmitters were to be added. As a result the TV service is available for 52 per cent to population. All the new transmitting centres relay programmes of the Delhi centre via the satellite INSAT IB.
The Audience

Between the beginnings of broadcast and 1980 the Posts and Telegraphs Department issued licences to viewers, collected the revenue and retained 15 per cent as collection charges. It had three classes of licences—for domestic receivers, for receivers in commercial establishments, and in schools. The system applied for both radio and TV. This was much criticised. There was widespread piracy, encouraged to some extent by the cumbersome procedure which among other things required the licence to be renewed at the same Post Office where it had been originally issued. Modifying or abolishing the system altogether had been discussed for two decades, but nothing happened. Then in August 1980 the government abolished licences on single and two-band radio sets and in 1985 licences on radio and TV were completely abolished.

While this came as a relief to listeners and viewers, it made it impossible to gauge with any accuracy the total number of radio sets in the country and their distribution as between urban and rural audiences. The last complete official figures for radio licences pertain to 1979 and put the number of licences at 21 million. The current estimate in 65 million. This figure is based on the number of radio set being manufactured in the country. Relatively accurate figures can be had from the big manufactures. However, although some .7 million sets are believed to have been produced in 1982, there was a decline thereafter and production seems to have settled down at around 6.5 million. As there is no glut in the market presumably the radio sets are being sold. Starting with a base estimate, making an allowance for writing off sets which become useless and then adding a figure for the new sets produced and sold we get the current guestimate.
Because of the abolition of the licencing system, the last official figure in respect of TV licence is for 1984. At the end of that year the number of licenced TV sets was 3.6 million. Well over half of these were located in the four metropolitan cities with Bombay leading. It housed over 8,00,000; Delhi had 641,000, Madras 312,000 and Calcutta 262,000. The Directorate-General’s current estimate is 7 million TV sets at the end of 1986.

No one is prepared to hazard a guess as to the number of TV sets in the rural areas. As for community viewing sets, official figures are not forthcoming. The Joshi Working Group which enquired into TV software in 1983 said that the figure had never touched the 10,000 mark. By the end of March 1986, 3000 Direct Reception Sets (DRS) are expected to be in the villages of six states where programmes for rural audiences are to be telecast on satellite.

While the licencing system was in force there was some data about the distribution of radio sets in different parts of country. In 1979, for example there was an average of one set being shared by forty-five persons. There was, however, considerable variation from one state to another. In Karnataka there was one set for twenty-three persons, in Tamilnadu one set for twenty-five, while in Orissa and the Bihar figures were one for eighty-three and one for eighty-nine.

The vast majority of licenced radio receivers were and presumably still are in urban areas, which account for only 20 per cent of the total population. The Post and Telegraphs Department did not maintain statistics in terms of urban and rural. Precise information on the distribution of radio sets between them has not therefore been available. Estimates made by various research groups are that between 15 and 25 per cent of the total number of sets were in the rural areas.
Since then the growth of licence figures has been as follows:

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