Lessons from the Indian satellite experiment

BELLA MODY
Institute for Communication Research, Stanford University.

Bella Mody is at present Visiting Scholar at the Institute for Communication Research, Stanford University (1977-78). She was one of the first two social scientists to be hired by the Indian space agency to design and conduct a social evaluation of the Indian Satellite Instructional TV Experiment. She then designed a formative research facility for India's four rural TV stations on the Children's TV Workshop model and trained forty new formative researchers for this task.

Miss Mody's doctoral research is in Psychodrama and her Master's degree is in Communications. Her researches have been in the areas of persuasion, development communication, economic class structures, and evaluation.

The Indian Satellite Instructional TV Experiment (SITE), conducted during 1975-76, was probably the largest communications experiment of modern times. For the first time ever, a satellite transmitted programmes directly to TV sets in remote villages, and with great success. Four hours of locally made programmes were transmitted daily on agriculture, health, family planning, nutrition and education. Why was this pilot project undertaken? What were its impacts on the village system? Most importantly, what are the lessons for development communication planners?

Aims
Pilot project SITE was undertaken to help shape a development support national TV system for India that would be equally available both to urban dwellers and rural viewers. The programmes were to provide non-formal education in agriculture and health to village communities; formal education for primary school children and teachers; and, by promoting Indian culture, to create a sense of political unity and belonging among the nation's disparate linguistic groups. So the aim was to find out how to design a TV system for both economic and political ends.

The space agency hoped that SITE would provide...
general guidelines on programme content, TV forms, organizational structures, hardware, costs and project management systems for rural development. Their objective was not to achieve some hypothetical state of 'development' after villagers had been exposed to TV for a year. But the experiment was conceived in an era of optimism about the power of the mass media, and Indian advocates of TV use did not stop to ask if it was reasonable to expect the medium to shoulder such onerous responsibilities alone as if it were a magic wand. No one wondered whether such measures as the improvement of teaching methods could ever lead to changes in the unequal distribution of wealth, power and privilege, which is at the root of the development problem. Unwittingly, the glamorous media may have helped distract attention from the need for more basic economic changes in the opportunities available for the have-nots.

Organization

SITE was a totally indigenous collaborative project conducted by several ministries of the Government of India. Production of TV programmes was primarily undertaken by All India Radio in the Ministry of Information and Broadcasting. Programmes were videotaped for six SITE states in four languages at specially set up SITE studios in Delhi, Cuttack and Hyderabad. Lists of topics for programmes were specified by the respective ministries, i.e., the Agriculture Ministry specified the agriculture topics, the Education Ministry specified the topics for the primary school broadcasts, and so on. The satellite was NASA responsibility. ISRO handled all hardware ground systems for transmission and reception. ISRO was also responsible for village TV receiver design, deployment and maintenance. Each SITE state government was responsible for electrifying the building which housed the TV set, paying the electricity bills, and appointing a paid caretaker to switch on the TV set and lock it up at the end of the day.

General co-ordination of all agencies in India and contacts with NASA was the responsibility of ISRO. A SITE Management Office was set up to perform this function, staffed by systems analysts trained in CPM and PERT. Detailed milestone charts were submitted to this office by each project unit for nightly monitoring, and support in the case of stoppages. Day-to-day co-ordination of specific operations across ministries was handled by setting up groups of working level people rather than high-level committees—the high-level SITE inter-ministerial Committee of the Secretaries of each involved ministry got bogged down by petty bureaucratic concerns and rarely met constructively after the first few meetings.

Programming

With the intention of reducing programming costs, an attempt was made to dub two sound tracks on to a
single programme meant for paired neighbouring states that spoke different languages, viz., Andhra Pradesh and Karnataka in South India (see map).

Four hours of programmes were transmitted daily during the SITE year. A typical weekday consisted of 22½ minutes of morning school programmes: one utility item, one entertainment item, and one information item, according to the producers. On two mornings a week, science education capsules especially prepared by the space agency's experimental software group were transmitted. Evening transmission time of 2½ hours was divided into four slots and was shared between three separate regional language broadcasts. The fourth time slot was for the national programme that would reach all the satellite-direct reception states (vertically shaded on the map) and re-diffusion areas like Delhi, Amritsar and the villages of Kheda in Gujarat (horizontally shaded).

**Viewing situation**

Six backward states within range of the satellite beam were selected for direct reception. (Vertical shading on the map). Within these states, those districts were selected that had a good chance of continuity of TV service by ground transmitters after the ATVS satellite's one year was up for India, so the villagers would not feel deprived after the experiment. In the selected districts, small towns with electricity, petrol pumps and a large number of electrified villages around them were chosen as maintenance centres, each one looking after 100 sets distributed over an area of 40 kilometres round about. Special TV sets were given to villages not larger than 3000 in population, with a safe public building for the TV set, approachable roads throughout the year, and within 40 kms of the maintenance centre. 150 battery-operated sets were installed in one state, to experiment with a different means of reception. They were found to have fewer breakdowns because they were not victim to the power fluctuations that affected the mains-operated sets. A total of 2338 special receivers was installed, the majority in village schools. Each one was entrusted to a school teacher who was paid to switch it on and off.

In the first month of SITE (August 1976) only 70 per cent of sets were operational because of unexpectedly violent monsoon winds and floods that cut off approach roads. However, the situation improved rapidly and by the fourth month 94 per cent of sets were in operation. This figure subsequently stabilized at around 90 per cent, which is higher than in the metropolitan cities of India.

**Social evaluation plan**

Social scientists were hired by the Indian space agency to conduct a summative evaluation of the project, in accordance with a clause in the Memorandum of Understanding that they signed with NASA in 1969. Two of us (an anthropologist and myself) were recruited less than two years before transmission started; our group grew in size to include 150 other social researchers. It was too late to contribute to the design of the experiment, but our efforts had only a peripheral impact on programme design. The SITE was made more attractive to the target audience.

*There was only noticable exception in the case of 23 hours of science programmes made by a tiny experimental science-education TV studio to which the Indian space agency had assigned 1 full-time child development researcher with experience in formative research.*

Social evaluation plan that we evolved had the following phases:

Phase One (pre-SITE) Content evaluation; Audience profiles; Needs assessments (Dec 73-Dec 74).  
Phase Two (pre-SITE) Impact evaluation: Pre-testing of prototype programmes (Dec 73-June 75).

Phase Three (During SITE) Progress evaluation: Programme feedback from the audience; in-depth studies of specific programmes (August 1976-August 1976).  
Phase Four (Before-During-After Studies) Global evaluation: Sample surveys of adults; experimental studies of children; participant-observation (holistic) studies; content analysis; in-depth studies of single processes (Jan 76-Sept 77).

**Some major village impacts**

After early curiosity wore off, the first month's average evening audience size of 200 set holders dwindled to a figure of about 100 per set - still amazingly high. This audience was composed of about 30 per cent children, 50 per cent adult males and 20 per cent adult females.

Socio-economic status was found to be inversely related to TV viewing. The small farmers and landless labourers formed the greater part of audience. After the novelty wore off, the large farmers attended only on days when they expected drama or other entertainment; the modest class of Hindi films on SITE which they could afford to see in the nearby town; they already knew much of the instructional content through their other sources of information; they did not relish sitting beside their 'daily labour', evening television.

Twice as many men as women reported viewing. The number of women who reported frequent viewing dwindled owing to the clash of viewing times with cooking times, and the general irrelevance of programme topics to their immediate interest.

TV viewing did not displace or increase use of other media, but it did increase contact with the village-level extended family.  

The need for more than one community receiver was felt in larger villages. The unusual and special publicity in all media for development schemes generated under the Emergency declared by then Prime Minister Indira Gandhi, simultaneously with SITE, made it difficult to assess the impact of SITE programmes. Levels of social improvement were high in TV and non-TV villages after a year.

There were statistically significant gains in knowledge of preventive health measures.

There was an increase in the proportion of respondents of both sexes who were favourable to the ideal of a small family.

There was a larger gain in knowledge of improved varieties of animal breeds, but there was no gain in general agricultural knowledge partly because farming techniques vary from region to region.

There was significant gain in knowledge of political events, in both TV and non-TV villages, amongst both men and women.

&

In general, the magnitude of change was greater for lower castes, for illiterates, for females, for low-income groups and for those who reported regul
lar TV viewing. These were groups who had less exposure to other sources of information and thus gravitated towards free community-TV.

Children exposed to TV in the classroom showed significant increases in their language development.

The presence of TV in the school had no impact on enrolment or absenteeism figures. In countries such as India, these problems have roots in the economics of living conditions and the need for children to be tending the infants or to be working in the fields themselves.

TV instigated a search for new sources of knowledge among the children, judging by the increased use of libraries in TV as against non-TV schools.

TV school teachers were excited about TV as a classroom aid. They saw the 'enrichment' program-

SITe costs

It is worth stressing the imbalance between expendi-
ture on software and on hardware in the SITe project. The total effort involved 3,900 man-years, of which 2,500 were spent on hardware, and only 650 on software. Hardware planning started in 1970 while software planning started only in 1974.

82 per cent of SITe costs were incurred on hardware—earth stations, studios, TV sets and so on. Only 9 per cent of total costs were spent on actual software production, and 3 per cent on social re-

SITe as a pilot project

SITe was conceived in the mid-1960s when mass media were considered powerful agents of develop-

Lessons from SITe

SITe was conceived in the mid-1960s when mass media were considered powerful agents of develop-

1. Those in development communication should be trained to understand the technology available to them, and are often not trained to use it. They are also not trained to disseminate the message to the intended audience.

2. Development agencies that are supposed to build and create new institutions, structures and capacity, cannot be run in accordance with the same rules and the same spirit that run orthodox government departments. The Indian space agency was designed as an R and D group to encourage innovation, and had an organizational climate that was quite distinct from the slow bureaucracies of the agriculture, health and education ministries.

3. Development planning, and hence develop-