

Satellites for Higher Education in a Plural Society

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INTRODUCTION

Plurality and cultural diversity are the hallmarks of Indian society. The country, with a land mass of 3.28 million square kilometres and a population of 910.7 million has made great strides in the Asian continent, in building a massive educational infrastructure. The country produces educated workers, particularly professionals trained in science and technology, to meet its own demands as well as the growing demands outside the country. At one time, Indian planners and academics were very much worried about a "brain-drain". But today they take pride in the country's export of technical professionals to staff critical positions abroad.

The focus of this paper is on highlighting issues relating to educational planning, delivery, and utilisation for sustained development, in a multi-lingual and multi-cultural situation, in the context of the boom in media. The growing aspirations of the educated youth in the country, who come from different cultural backgrounds, to gain quickly a comfortable quality of life for themselves, their parents, and their progeny are taken into consideration while looking at the relevant issues. The paper is presented in three sections:

- (1) an overview of the growth of educational infrastructure in the country;
- (2) Indian experiences in educational broadcasting; and
- (3) satellite based education in the context of cultural plurality.

AN OVERVIEW OF THE GROWTH OF EDUCATIONAL INFRASTRUCTURE IN THE COUNTRY

The operational definition of "higher education" in India includes education at the post-secondary level, that is, three years at the undergraduate level, courses offered in the professional colleges, universities, and centres of excellence. The growth of recognised educational institutions since 1951 at various levels is given in Table 1. The enrolment at the undergraduate and graduate levels has also been phenomenal as reflected in Table 2.

Between the 1970s and the 1980s, India witnessed a proliferation of colleges for general and professional education at the undergraduate and graduate levels. Privately managed institutions offering courses tailored to prepare students to enter the job market, with a very high price tag, had a mushroom growth. While some of these institutions assured quality and professional training to earn a comfortable living, several others looked for avenues to make a fast buck, adopting dubious means. The malady affected the educational system throughout the country. The quality of education received by the underprivileged in ill-equipped government managed institutions on one hand, and expensive commercialised institutions for the privileged class on the other hand, reflected wide disparities. Though the demand for higher education in the rural and semi-urban areas is sometimes interpreted as a positive indicator of the directed change brought about by the massive effort towards development, it was a cause for concern to educational planners, because it resulted in widespread unemployment and under-employment.

Despite this disturbing trend, the expansion of education in the professional and scientific disciplines yielded dividends, facilitating India's emergence as a leading nation with a large stock of science and technology personnel (see Table 3).

* Views expressed in this paper are the author's own. They do not represent the views of the institution where he is employed.

TABLE 1. GROWTH OF RECOGNISED EDUCATIONAL INSTITUTIONS SINCE 1951

Year	Secondary/ Junior Colleges	Colleges for Gen. Education	Colleges for Prof. Education	Universities
1950/51	7,416	370	208	27
1970/71	37,051	2,285	738	82
1991/92	81,201	5,058	950	196

TABLE 2. ENROLMENT IN COLLEGES AND UNIVERSITIES

Year	Students (thousands)
1961/62	980
1970/71	3,001
1989/90	4,247
1991/92	4,611

TABLE 3. GROWTH OF SCIENCE AND TECHNOLOGY PERSONNEL

Discipline/Area	1985	1992
Science grads/post-grads	2,127	3,075
Eng. degree holders	370	552
Eng. diploma holders	561	904
Medicine and allied subjects	262	319
Agriculture and allied subjects	158	209

Source: *Manpower Journal*, 31(4), Jan.–March 1996.

OPEN UNIVERSITIES AND DISTANCE EDUCATION SYSTEMS

The early 1980s witnessed severe strain on the formal educational system. The existing educational infrastructure proved very inadequate to meet the growing demands and aspirations of the people. One way of solving the problem of providing higher education with cost-effective investments for people in the hinterland, away from the cities and larger towns, without disturbing their lifestyle and economic pursuits, was considered to be the adoption of open learning systems. Taking a cue from the success story of the British Open University, the first open uni-

versity in the country was established in 1983 at Hyderabad in the State of Andhra Pradesh. The Andhra Pradesh Open University (later renamed the Dr B. R. Ambedkar Open University) was the precursor of the Indira Gandhi National Open University (IGNOU), established at New Delhi in 1985. Other states followed suit and established open universities through state legislation.

The major objectives of the open universities established in the country can be outlined as follows:

- widening of access to higher education by providing opportunities to larger segments of the population particularly the disadvantaged groups; and
- organising programmes of continuing education, and initiating special programmes of higher education for specific target groups like women, people living in backward regions, hilly areas, and so on.

The open universities and the centres for distance learning at some universities proved to be a boon to learners who were otherwise not able to invest on education offered within the framework of the formal system (see Table 4).

TABLE 4. ENROLMENT IN OPEN UNIVERSITIES

University	No. of students (1995) (Approx.)
IGNOU, New Delhi	100,000
A.P. Open University, Hyderabad	70,000
Kota Open University, Kota, Rajasthan}	330,000
Maharashtra Open University, Nashik }	
Nalanda Open University, Bihar }	
Bhoj Open University, Bhopal }	
Gujarat Open University, Ahmedabad }	

The high growth rate in the student enrolment in open universities has not affected the in-take of students in the regular colleges and institutions of higher learning. On the other hand, the demand for job-specific education and market-oriented education is increasing at a faster pace as a consequence of liberalisation and globalisation initiatives.

This challenging task has necessitated revision of the courses and the modes of delivery of instruction and information through both the formal institution based as well as the open university systems.

Now, let us have a brief look at the salient features of the National Policy on Education adopted by the Indian parliament in 1986. This policy document (GOI 1986) incorporates the following pronouncements:

- The existing divide between the formal system of education and the country's rich and varied cultural traditions need to be bridged. The preoccupation with modern technology cannot be allowed to sever our new generations from the roots in India's long history and rich culture. Deculturation, dehumanisation, and alienation must be avoided at all costs.
- Education should endeavour to bring about the fine synthesis between change-oriented technologies and continuity of the country's cultural traditions.
- There is a pressing need for readjustment in content so as to make education a forceful tool for the sustenance of social and moral values. In a plural society like India, education should foster universal and eternal values to strengthen the unity and integrity of the nation.

The National Policy laid down the following priorities in respect of higher education:

- consolidation and expansion of institutions;
- development of autonomous colleges;
- training of teachers;
- improvement in the efficiency of the working of universities and colleges;
- mobility of teachers; and
- regular review and monitoring.

Due to the resource crunch, however, the pace of progress in bringing about qualitative improvements in higher education was slow.

There were political changes in the country during 1987 and, subsequently in 1989, another committee was set up to review the National Policy of Education, announced in 1986. Observing that the higher education scenario reflects very serious weaknesses with an unplanned proliferation of universities and colleges leading to a marked mismatch between education and employment, this committee emphasised the need for giving higher priority to the following aspects (GOI 1990):

- equity and social justice and decentralisation of educational management at all levels;
- establishment of a participative educational order;
- empowerment for work, particularly of women and disadvantaged groups; and
- inculcation of values necessary to build an enlightened and humane society.

Keeping in view the developments after 1990, another high power committee was constituted to re-examine the National Policy on Education. The report of this committee, however, did not suggest any major changes in the National Policy on Education adopted in 1986. It only felt that on the lines of the University Grants Commission, the All India Council for Technical Education (AICTE) should be given the responsibility for the overall management and supervision of technical education in the country (Agrawala 1995).

A noteworthy development after 1991/92 was the decision of the University Grants Commission to introduce vocational courses at the degree level. These vocational courses were offered at select colleges to reduce the high enrolment of students in general courses and open up more avenues for self-employment.

MEDIA AND EDUCATIONAL TECHNOLOGY

The National Policy on Education 1986 covered at length the role of media and educational technology in the promotion of education. With regard to modern communication technologies, the policy pronouncements include, among other things, the following:

- Media should facilitate reaching out to the most distant areas and most deprived sections of the student community to avoid structural dualism.
- The production of relevant and culturally compatible educational programmes should form an important component of the educational technology and all available resources in the country will have to be mustered for this purpose.
- Reiterating the view that media have a profound influence on children as well as adults and some of them tend to encourage consumerism and violence, it was emphasised that radio and television programmes that clearly militate against the basic educational objectives will have to be prevented.

INDIAN EXPERIENCES IN EDUCATIONAL BROADCASTING

India is no novice in educational broadcasting. All India Radio (AIR) has a long legacy of allocation of time for educational broadcasting—both formal as well as non-formal types. The school broadcasts, linked to the syllabi in each region, however, did not succeed in mustering high listenership among the students. This is mainly attributed to two reasons: 1) inconvenient timing for individual listening on domestic sets; and 2) lack of facilities for organised listening in classrooms in most schools. In spite of these handicaps, the school broadcasts continue to go on the air for the benefit of a small percentage of highly motivated listeners.

The educational television programmes for high school students were initially started on an experimental basis in 1960 at Delhi. Later they became a regular feature in 1961, under a collaboration agreement with the Ford Foundation. The educational television project was evaluated by Professor Paul Neurath and one of the main observations of his evaluation was that television was instrumental in facilitating equalisation of educational opportunities. Indian television, which formed a part of All India Radio until 1976, was complimented for sound planning, integration of lessons with syllabi, and coordinating with user departments (Menon 1976).

During 1974, the enrichment-oriented educational programmes were launched for primary school children from the Delhi Centre. In view of the wider coverage of subjects and lively presentation, the enrichment oriented programmes were better received than the syllabus based programmes for high school students.

The Satellite Instructional Television Experiment (SITE), conducted during 1975/76 using the American satellite ATS6, was a major landmark in educational television in India. Concerted efforts were made to popularise science education and provide valuable information to students and teachers at the primary level. The experiment was a grand success in creating wider awareness among people at the grassroots level, as well as policy makers and user agencies, with regard to the potential of television as an instrument for instruction, education, and development.

COUNTRYWIDE CLASSROOM PROGRAMME FOR UNDERGRADUATES

The successful operation of the INSAT-1B satellite in 1983 is another milestone in the use of broadcast resources for developmental purposes. With the availability of satellite technology, the national television network expanded at a faster rate, enabling greater exposure of the people to television programmes. In 1984, the University Grants Commission staked its claims for transmission time for the telecast of specially packaged enrichment-oriented educational television programmes for university students.

The government of India accepted the proposal and fully funded the educational television project designed to provide enrichment support for education at the undergraduate level. As a consequence, seven educational media research centres (EMRCS) and seven audiovisual research centres (AVRCS) were created, in collaboration with select universities and colleges, which had basic infrastructural facilities for the production of broadcast worthy television programmes (see Appendix 1).

The programmes produced for the Countrywide Classroom (CWCR) at these media centres were launched August 15, 1984, under the banner of the University Grants Commission, initially with a one hour slot on the Primary Channel of the national television network with the satellite linkage.

The main objectives of launching the non-syllabus based CWCR programmes are:

- The formal educational system being highly compartmentalised does not allow science and engineering students to have insight into societal needs. Similarly, the students of humanities and social sciences are either ignorant or ill-informed about progress in scientific areas. Hence, the primary objective of CWCR programmes is to enrich the

knowledge of students, by providing continuous exposure to a wide range of topics and issues.

- Colleges located in interior rural and semi-urban areas do not have well-equipped laboratories or libraries and the advantage of qualified teachers. One of the objectives, therefore, is equalisation of educational opportunities by presenting through the medium of television what is not otherwise accessible to students. This is envisaged by enlisting the co-operation of academics in well-established universities and scientists engaged in research in national laboratories.
- To ignite the spark of enquiry and thinking among the students without getting accustomed to the habit of learning for the limited purpose of passing examinations.

CONSORTIUM FOR EDUCATIONAL COMMUNICATION AS AN APEX ORGANISATION

Under the umbrella of the University Grants Commission, the Consortium for Educational Communication (CEC) was created as an autonomous body. As the apex body, CEC takes the responsibility to set the agenda, work out the priorities, and ensure quality productions, creating an optimal infrastructure of studios and equipment at various media centres to match the telecast requirements. Unstinting support is provided by the University Grants Commission to keep the transmission of CWCR programmes on, for the benefit of the student community.

The Countrywide Classroom programmes have an all-India reach as they are carried over the primary channel of Doordarshan (TV-India), linked to nearly 700 transmitters by the INSAT-2 series of indigenous satellite. Initially all the programmes were generated in English. But, with the improvements in production facilities, the programmes in Hindi are going on the air from early in 1994. The programmes in English, however, take the majority of time, with 10 hours per week, and the programmes in Hindi are transmitted for 90 minutes a week with three slots of 30 minutes each. Thus, the CWCR programmes are telecast for an aggregate duration of 690 minutes (11 hours and 30 minutes) per week distributed in three time slots. The telecast schedule, currently in force for the transmission of the programmes in support of higher education is given in Appendix 2.

PROGRAMME OUTPUT

During the ten years of their operation, the media centres have contributed on an aggregate more than 6,000 programmes (approximately 2,000 hours). The CEC library has a rich stock of these canned programmes covering a wide range of subjects. Achieving international standards using the state-of-art technology in video productions, quite a number of these productions received awards in national and international competitions conducted for educational television programmes.

Even though, initially, some programmes were imported from abroad, India is now in a position to export purposeful and good quality educational television programmes to other developing countries.

COUNTRYWIDE COVERAGE WITH REGIONAL REFLECTIONS

One of the basic objectives of locating the media centres in different regions is to ensure regional reflections in the content and presentation styles. The audience for the CWCR programmes are spread out all over the country. Hence, the spirit behind the programmes is to present the regional nuances without losing sight of the all-India perspective.

THE CASE OF THE EDUCATIONAL MEDIA RESEARCH CENTRE AT HYDERABAD

The EMRC functioning at the Central Institute of English and Foreign Languages (CIEFL) at Hyderabad is one of the leading media centres. It has successfully created excellent infrastructure for studio based as well as outdoor productions acquiring the state-of-the-art Betacam professional video equipment and the Pinnacle 3001 Workstation for graphic animation, with a gross investment of about 20 million rupees provided by the University Grants Commission. The centre has contributed more than 700 programmes to the CEC pool between 1985 and 1995. The centre's programme packages, which received wide audience support from the student as well as non-student viewers, include: innovative programmes for audience building and promoting participatory learning by presenting carefully chosen topics of wider interest to students (*The Pursuit*); magazine programmes to present the latest in the frontier areas of science, social sciences, and humanities (*New Horizons*); innovative methods in English language teaching (*World of English*); career counselling; and Indian cultural heritage.

The subject coverage of programmes produced during 1995/96 was broadly along the lines shown in Table 5.

TABLE 5. SUBJECTS COVERED IN PROGRAMMES OF THE EDUCATIONAL MEDIA RESEARCH CENTRE, HYDERABAD

Subject	%
Social Sciences	: 36
English Language Learning/Literature	: 21
Health and Medical Sciences	: 13
Pure and Applied Sciences	: 10
Arts and Culture	: 8
Engineering, Technology and Industry	: 5
Others	: 7

(N = 62)

RESPONSE TO COUNTRY WIDE CLASSROOM PROGRAMMES

A nation-wide survey was commissioned during 1993, to assess the reach and viewership profile of the CWCR programmes. The study conducted by ADMAR—a reputed market research organisation—covered 27 towns of all sizes (10,000+) and a sample of 15,300 distributed in six geographic regions: North, East, West, South, Central, and North-Eastern zones of the country. The main findings of the Study (ADMAR 1993) are presented below.

- The potential size of audience (consisting of both primary and secondary target groups) for the programmes was estimated at 121.78 million. Out of this vast mass, while as many as 21.3 million have watched the CWCR programmes at least once, the viewership mustered on an average day was estimated at 4 million. Among them, 1.57 million were estimated to watch the programmes on a regular basis. The average day reach of the programmes in the primary target group (collegiate or non-collegiate undergraduates) was estimated at 0.38 million.
- The draw of the programmes was not restricted to the students at the undergraduate level; a relatively higher cumulative and average day viewership was noticed among students at the higher secondary (10+2) level and the academics as well.
- North-East, South, and Central zones reflected higher viewership than North, East, and Western zones. In-

terestingly, some cable operators were found to be showing CWCR programmes in the Central Zone.

- The study revealed that the viewership is skewed towards higher income households and learners from higher socio-economic levels. This is explainable because of the limited ownership of television sets among underprivileged groups. Lack of facilities for viewing in colleges and hostels by and large inhibited response to the University Grants Commission programmes.
- The viewership for the programmes is more heavily skewed towards those who are more proficient with English. Thus, confirming the view that students who have been taught in the regional languages are not able to make best use of the CWCR programmes.
- A clash between programmes delivered by the cable and satellite channels and the higher education programmes was not reflected in the study. This is attributed to the different nature of appeal of CWCR programmes for the learning community.

It is gratifying to note that the findings of ADMAR survey have not only supported but also reinforced some of the micro-studies undertaken by the researchers at some of the media centres. The high incidence of viewing for CWCR programmes at the 10+2 (secondary) level, among non-collegiate students, housewives, and senior citizens who comprised a highly motivated group of beneficiaries of CWCR programmes, is amply reflected in the feedback reports (Prasad 1989). The ADMAR study, however, threw more light in respect of the substantial viewership in the primary target group, that is, undergraduate students. The scepticism of the misinformed critics sticking to the view that the all pervasive television has very little role in education, particularly for adolescents and adults, is belied.

SATELLITE BASED EDUCATIONAL SUPPORT FOR THE STUDENTS OF THE OPEN UNIVERSITIES

Some of the open universities in the country (like IGNOU, Dr B. R. Ambedkar Open University, and Hyderabad and Yashwanta Rao Chavan Open University, Nashik) have built excellent infrastructure for the production of broadcast quality audio/video material for the benefit of their students. The material so produced is directly linked to the syllabus of the various courses these open universities offer to their students.

Visualising the advantage of reaching a large mass of students through radio broadcasts, IGNOU could successfully persuade All-India Radio to arrange transmission of select audio lessons from two of its major stations: Bombay and Hyderabad on their regional hook-up. However, the transmission of these programmes from Bombay were discontinued from 1994. The station justified its decision on the basis of a study conducted by its Audience Research Unit, establishing poor response from the listeners. AIR, Hyderabad, however, is continuing the transmission of the programmes for the benefit of the B. R. Ambedkar Open University students in the region.

From May 1991, the video lessons prepared by IGNOU ARE being telecast over the national hook-up of Doordarshan (TV-India) three times a week for a duration of 30 minutes at 6:30 in the morning. A fairly large segment of the students on the rolls of IGNOU are benefited by these programmes. The video lessons screened during the counselling sessions at their study centres spread over the entire country also receive wide appreciation for their educational content.

EXPERIMENTS IN INTERACTIVE TELEVISION FOR DISTANCE EDUCATION

The University Grants Commission -ISRO National Talk-back Experiment (IGNOU 91) covering the CWCR programmes telecast between November 25 and 30, 1991 was a unique venture in tele-teaching. Two select programmes (for a duration of 20 minutes each) were telecast everyday. At the end of each programme, student viewers could interact with the subject experts stationed in a temporary studio at the Delhi Earth Station from where the proceedings were uplinked. The interaction was made possible by one way video and two way audio set-up specifically designed for the experiment.

Nearly 1,850 students drawn from 35 colleges, located in eight towns participated in the experiment. A study was conducted by research teams from EMRCs and AVRCs to evaluate the experiment both in terms of pedagogy and technology. It was found that the magnitude and spread of gain scores varied across programmes and centres where the students were located to facilitate interaction. But the experiment created a new interest in CWCR as a form of educational television, tailored to meet the specific needs of the student clientele (Reddi et al. 1992).

ANOTHER SUCCESSFUL EXPERIMENT BY INDIRA GANDHI NATIONAL OPEN UNIVERSITY

During 1993 an experiment was conducted by IGNOU to make use of the satellite channel for interactive teaching in the non-broadcast mode. The teaching end for this experiment was located at IGNOU, New Delhi. Its television studio was linked through a cable to a transportable remote area communication terminal (TRACT), provided by the Space Applications Centre (ISRO). TRACT was temporarily parked in IGNOU campus to facilitate the uplink and downlink with the INSAT 2B satellite. Ten regional centres of IGNOU, located in various parts of the country, were provided with terminals (dish antenna) to receive directly the satellite signals. The participants at the receiving end were provided with telephones for contacting the experts at the teaching end.

For 10 days the interactive mode of teaching was organised for the benefit of teachers, academic counsellors, and other programme administrators. The course was conducted through live lectures and panel discussions supplemented by computer based graphics. After the presentations at the teaching end, the students and faculty at the receiving end were given adequate time to interact with the experts at the teaching end. While the questions were received by the experts on the audio mode through the telephone system, the experts answered their queries on the audio-video mode from the television studios.

An evaluation study conducted on this experiment concluded that the interactive talk-back experiment was extremely useful in educational interfacing. It was also assessed to be the most ideal situation for providing counselling services (Sinha et al. 1994).

UNIVERSITY GRANTS COMMISSION-CONSORTIUM OF EDUCATIONAL COMMUNICATION TELE-COURSE IN 1994

In collaboration with the Development Communication Unit (DECU, ISRO), Ahmedabad, another experiment was successfully conducted by the University Grants Commission and the Consortium of Educational Communication to have a two-way communication with the students for a tele-course on New Information and Communication Technologies during 1994. Students at the undergraduate level from small towns like Tiruchi had the exciting opportunity to interact with subject experts and get their doubts cleared through the talkback system (Govinda 1996).

There is heavy pressure for air time on the broadcast channels linked to the terrestrial network of the indigenous satellites. However, a lot of spare time is available on the channels not linked to the terrestrial network. With the proliferation of dish antennae for direct reception of satellite signals even in the remote parts of the country, tele-teaching with the provision for two-way interaction has become a reality. This facility can be extensively used for both formal and non-formal education for country-wide coverage as well as coverage in specific regions.

BOOM IN SATELLITE CHANNELS

There has been a phenomenal increase in the availability of satellite channels during the past five years in India. In addition to the foreign channels beamed to the Indian audience like Star TV, Channel V, and Discovery, a number of Indian channel operators are uplinking regional language programmes from outside the country. These are tapped by dish antennae by the cable operators even in small towns and remote areas of the country for redistribution to households that have television sets. Nearly 30 such channels are now available to the Indian viewers, along with the satellite channels of the state owned Doordarshan (TV-India).

The foreign channels transmitting programmes in English have restricted clientele, mostly confined to elite viewers in metropolitan cities and large towns. As such, even the highly acclaimed channels like Discovery, which are popular outside the country for their production quality and rich educational content, do not command high viewership in India today. The most liberal estimates put the penetration of the channel at 100,000 households. According to one estimate, the reach of private satellite channels, as compared to the channels of the national television network (Doordarshan) between 1991 and 1994 was as shown in Table 6.

TABLE 6. REACH OF PRIVATE SATELLITE CHANNELS

(in millions)

Year	Households having access to TV-India	Households having access to STV channels
1991	30.8	0.4
1992	34.9	3.3

1993	40.3	7.3
1994	45.7	10.0

Source: Doordarshan-1995, Directorate of Doordarshan (TV-India)

Private satellite channels, beaming programmes in regional Indian languages like Tamil (SunTV, RajTV), Kannada (Udaya TV), Telugu (ETV, Gemini), Malayalam (Asianet), and Hindi (Zee, NEPC, ATN, Sony, and Home TV) are heavily filling their transmission time with film based programmes. Under the present regulations, no uplinking facilities are given to these channel operators from Indian soil; hence, the difficulty in presenting topical items (for example, news and current affairs) and educational programmes. In view of the prohibitive costs of uplinking and meagre commercial earnings, many Indian entrepreneurs are not venturing into the business of educational broadcasting. However, one of the private channels (Zee), has drawn up ambitious plans to launch a variety of educational programmes for transnational coverage with focus on Indian audience. Under the banner of TALEEM (Transnational Alternate Learning for Emancipation and Empowerment through Multimedia)—a society set up for open and distance learning—this organisation proposes to launch:

- the first private open university in India for professional and technical education and training through multimedia and other interactive technologies; and
- to provide communication support through television for field based action-oriented rural and urban developmental projects titled PRAGATI (Programmes for Rural Advancement Guidance and Training Initiatives).

Though it is possible that some private agencies would be capable of mobilising labour and material, one has to wait and watch for the response from the audience for such services. If they are commercially viable, there is likelihood that private organisations may even overtake the state funded institutions in educational broadcasting.

SATELLITE BASED EDUCATION IN THE CONTEXT OF CULTURAL PLURALITY

Indian cultural history covers a long span of 5,000 years. During this time, immigrants belonging to many ethnic strains and different linguistic families have come in several waves to India. With the passage of time, they have assimilated with native inhabitants. This grand synthesis

has contributed towards emergence of a distinct but a colourful mosaic, facilitating diverse cultural expressions.

According to renowned Indian anthropologist, Professor S. C. Dube, in the process of its evolution, Indian society has acquired a composite culture characterised by stable patterns of pluralism (Dube 1990). The heterogeneous population, speaking a multitude of languages, following different patterns of life but at the same time very keen on keeping their identity, preserving their region specific and community-specific traditions, art forms, and folk lore, reflects the diversity and vitality of the cultural heritage of India.

Accepting the regional identities on the basis of language the states were reorganised in 1956 on a linguistic basis. There are 25 states and 7 centrally administered union territories today in India. Some of the smaller states like Nagaland and Arunachal Pradesh have a high concentration of tribal communities speaking different languages and dialects. The Indian Constitution lists 18 languages for official purposes. But, the list of mother tongues or dialects spoken in India exceeds 400. A broad distribution of the population according to principal languages spoken in the country is given in Table 7.

TABLE 7. DISTRIBUTION OF POPULATION ACCORDING TO PRINCIPAL LANGUAGES

Language	Million speakers
Hindi	265
Bengali	51
Telugu	51
Marathi	50
Tamil	46
Urdu	35
Gujarati	33
Malayalam	26
Kannada	26
Oriya	23
Punjabi	20
Assamese	11
Kashmiri	3
Sindhi	2

Source: India -1994 : A Reference Manual, Govt. of India.

Note: Approximate figures for Tamil and Assamese were given on the basis of census data for 1971. In other cases the data available for 1981 is taken.

Education in Regional Languages : Demand for Broadcast Support

Professional colleges and some universities offer courses only in English. However, undergraduate courses are offered in regional languages by a majority of autonomous colleges and colleges affiliated to universities. Some universities also offer post-graduate courses in the regional languages. In states where the medium of instruction is the regional language, the proficiency attained in English among the students is very low. As mentioned earlier, this explains the reason for the high demand for educational programmes in regional languages, and the low support for programmes in English among the undergraduate students. The feedback studies conducted among students in small towns in Andhra Pradesh revealed that students who have had their education in their mother tongue did not comprehend the CWCR programmes in English. They insisted upon using simple English and a slower pace in presentations to facilitate their understanding of the content (Prasad 1989).

Need for More Region-specific Programmes

Television as a medium of communication is a great leveller and satellite as a technology demands centralisation. Therefore, if the option is in favour of satellite based educational television, the endeavour should be to have as many programmes as possible reflecting regional variations and needs in the programming pattern. John Adams listed four fundamental factors involved in the teaching and learning process: (1) drive or motivation, (2) cue or stimulus, (3) response or participation, and (4) reward or reinforcement. He further observed that in addition to age and gender, the motivation and interests are associated with intelligence, education, geographical, region, ethnic origin, and cultural factors (Adams 1994).

Educational broadcasting by its very nature must address itself to a mass audience. It must serve national interests and goals, but it is also necessary that it should recognise local needs, language differences, cultural variations, and similar other factors (Bhatt et al. 1994). How do we then make best use of the broadcast resources in a plural society like India?

Exclusive Satellite Channel for Education: Will It Meet the Needs?

Plans are on the anvil to launch an exclusive channel for educational programmes. The proposal of the Ministry of Human Resource Development, government of India, for such a channel may fructify once TV-India releases one of the satellite transponders of the INSAT-2 series. As and when the channel becomes operational, it is proposed to have 10 to 12 hours of transmission with educational content, targeted for different segments of the audience. A clear picture of the content, operational, and managerial aspects of the channel is yet to emerge. But, a broad audience segmentation could be visualised on the following lines:

- non-formal programmes in support of the literacy programmes mounted in different states for the benefit of the vast mass of illiterates and neo-literates;
- curriculum based programmes for school drop-outs offered by the National Open School;
- curriculum based programmes for students opting for courses offered by the open universities and centres for distance education;
- enrichment oriented programmes for students of higher education; and
- skill development programmes for students opting for technical and vocational courses.

This list does not consider the demands of other user-agencies which are equally keen to mount extension-oriented programmes in areas like agriculture, rural development, health care, and environmental protection. The demands are numerous. But the moot question is how to fill the transmission time with integrated and meaningful programmes of education for people living at different stages of economic development, and possessing different social, cultural, and linguistic attributes ensuring the utilisation on a mass scale?

India is in a very advantageous position today as compared to a few years ago. There is fairly good appreciation of the ground realities. There are human resources to meet the software and hardware needs of programme production. In addition to adequate financial allocations to meet the costs, what is immediately needed is a policy directive from the political executives and a precise agenda for implementation within a reasonable time-frame.

Approaches Suggested

A three-pronged strategy is suggested keeping in view two important aspects: 1) current national priorities in respect of education; and 2) the tasks that can be performed by the electronic media. What is not possible to achieve through broadcast channels has been deliberately left out.

It is also considered imperative in this context to spell out a few pre-conditions:

- No public investments shall be made for supporting any type of education that has no utilitarian value. The education should be more responsive to national expectations. If it is in the domain of intellectual creativity, it can be left to on-site learning at the universities.
- The focus should be on academic programmes designed for improving working skills, quality of life, and participation in constructive nation building activities. Courses designed for mass distribution of certificates, diplomas, and degrees should get no broadcast support.
- There shall be conscious effort in the production of educational material to eschew violence, respect the law of the land, and reinforce time-honoured values like harmonious living.

The strategy outlined below envisages integrated and orchestrated use of the broadcast channels for the delivery of educational programmes for all-India coverage, regional coverage, and local area coverage using the satellite channel as well as the terrestrial system for the purpose. The deployment of the terrestrial transmitters is suggested to complement the service provided by the satellite channel.

Exclusive Channel for Educational Television

The proposed exclusive educational channel may be appropriately named "VIDYA" and used for beaming programmes both in English as well as Hindi languages targeted for nation-wide audience. The focus of the service could be on mounting a continuous crusade on nagging problems in education and other social sectors. In the community of 173 nations, India ranks at the level of 134 on the Human Development Index. The waiting period has been long enough to show improvements in the quality of life. The national channel with access facilities all over the country should facilitate reaching different segments of the audience, to create awareness, build confidence, and widen horizons.

Satellite-linked Regional Transmissions

Satellite-linked regional transmissions in the major languages of the region need to be arranged to cover region-specific issues. Enrichment-oriented educational programmes and programmes designed for empowerment can be generated and transmitted for regional reception. These programmes have to be targeted for youth as well as adult audiences. The time allotment on regional transmitters has to be adequate to cover a wide array of topics of regional relevance. Some of the critical areas needing vigorous broadcast support with regional accent are sustainable agricultural development, rural development, urban migrations, problems of unemployment, avenues of self-employment, endemic diseases and malnutrition, and optimal utilisation of natural resources for regional development, social disparities, and ethnic conflicts. Educational and development issues specific to a state or a group of states within a region should get more air time for transmissions on the regional hook-up. All-India Radio has 65 local radio stations in its network. These FM stations were conceived for providing educational and developmental support to the local communities responding to their specific needs. For commercial considerations and other operational reasons, these stations are not able to provide expected services to the people (Rao 1992). Despite this experience, bright prospects for the emergence of a large number of franchise television centres to meet local-specific needs are visualised in the context of structural changes in the media set up that are in the offing.

The local radio and television centres can be nurtured to get deeply involved in providing much needed extension education at the grassroots level. Such an approach should go a long way in the diffusion of developmental messages and improving the knowledge-base of the officials and workers of the non-governmental institutions functioning at the cutting-edge level.

Need for More Production Centres

By the turn of the century, India is expected to have 800 television transmitters and more than 200 radio stations. As many as 500 satellite channels are likely to be released for improving the broadcasting system. However, the pace of progress in the establishment of production centres for generating the software to match the transmission requirements is very slow. India as a nation of continental size requires a large number of programme producing centres to meet educational needs. One of the districts in Andhra Pradesh, Anantapur, is as big as Israel in its of

area. Similarly, states like Rajasthan and Madhya Pradesh cover more area than countries like Italy and Norway. A small state like Assam has more population than Australia. Hence no further justification is needed for augmenting broadcast facilities and ensuring educational content in the transmissions for accelerating the pace of development.

In the educational sector, the media centres established under the University Grants Commission-Consortium for Educational Communication set up, have been able to meet the challenges of production and meet transmission deadlines. There are a few other publicly funded institutions like the open universities, the state institutes of educational technology, the Indian institutes of technology, and the technical teachers' training institutes, which have facilities for the generation of transmission worthy educational software. They have to be strengthened.

Operation of the System Calls for Massive Efforts

Supplying programmes with appropriate educational content in different languages, in different formats with different treatment, to match the needs of different ethno-cultural groups would be a stupendous task. Suitable educational and training institutions will have to be immediately identified in different parts of the country for taking the software production responsibilities. Since it is necessary to have close co-ordination with the broadcasting centres, it would be more convenient if the production centres were created at places where uplinking and transmission operations would be feasible. Important states like Bihar, Assam, Orissa, Haryana, and Himachal Pradesh, which either do not have or have very inadequate infrastructure for educational programme production, should receive the immediate attention of educational planners. Simultaneously, smaller states like Nagaland, Meghalaya, Arunachal Pradesh, Tripura, and Mizoram have to be grouped into viable clusters for the production and transmission of multi-lingual programmes with specifically local treatment.

For the production of extension-oriented programmes, perhaps, it would be operationally much convenient to identify the user agencies. These user agencies should provide the expertise and get the programmes made through independent production units and non-governmental organisations would relieve the pressure on media centres in support of formal education supported by the University Grants Commission and such other apex educational institutions. The user agencies can supply these programmes for telecast at the national,

regional, and local levels in co-ordination with the Ministry of Information and Broadcasting and the concerned ministry.

CONCLUSION

Both radio and television have sustained audience support essentially as instruments of pleasure and delight. But, there is greater appreciation today than ever before that the all pervasive instruments of entertainment could be fruitfully harnessed to provide insights to consumers for a more meaningful living. In spite of this appreciation, the use of electronic media is being promoted to provide more and more of fun, pleasure, and titillation. Where is the trap? Who is the culprit? The animal in the consumer, the greedy supplier, or the monstrous instrument, ever ready to act on commands?

The intent of this paper is not to look at the cause and effect relations and to blame the guilty for the mismatches in the supply and demand of output that provides entertainment and that is capable of providing delight with insight. We are on record to make best use of the potentialities of the modern communication technologies for the benefit of the people, specifically those who are deprived and underprivileged. We cannot plead helplessness and get swept off our feet by the commercial undercurrents. We have set our goals to be reached. If we have the determination, nothing prevents us from moving in that direction. Our understanding of the communication technologies is more than adequate to render them subservient to our purpose.

APPENDIX 1. LIST OF MEDIA CENTRES SUPPORTED BY THE UNIVERSITY GRANTS COMMISSION

The media centres are categorised into two groups: those having large scale infrastructure are called educational media research centres (EMRCs) and those having limited infrastructure are called audiovisual research centres (AVRCs).

Educational Media Research Centres

- Central Institute of English and Foreign Languages, Hyderabad
- J. N. Vyas University, Jodhpur
- Gujarat University, Ahmedabad
- Jamia Millia Islamia, New Delhi
- Madurai Kamraj University, Madurai
- Poona University, Pune

- St Xavier's College, Calcutta

Audiovisual Research Centres

- Anna University, Madras
- Devi Ahalya Vishwa Vidyalalya, Indore
- Kashmir University, Srinagar
- Manipur University, Manipur
- Osmania University, Hyderabad
- Punjabi University, Patiala
- Roorkee University, Roorkee

New Additions

- Calicut University, Calicut
- Mysore University, Mysore
- Sagar University, Sagar

APPENDIX 2. TRANSMISSION SCHEDULE OF CWCR PROGRAMMES OF THE UNIVERSITY GRANTS COMMISSION

(as of 1 July 1996)

Programmes in English

0600 to 0700 hours	1300-1400 hours
TUESDAY	MONDAY
THURSDAY	TUESDAY
SATURDAY	WEDNESDAY
SUNDAY	THURSDAY
	FRIDAY
	SATURDAY

Programmes in Hindi

0600 to 0630 hours
MONDAY
WEDNESDAY
FRIDAY

REFERENCES

- Adams, John. C. 1994. "Learning from Televised Instruction". In B. D. Bhatt and Ravi Prakash (eds.), *Modern Encyclopaedia of Educational Technology*, vol. 3. New Delhi: Kanishka Publishers.

Agrawala, S. K. 1995. *Commonwealth Universities Year Book 1994*. London: Association of Commonwealth Universities.

Bhatt, B. D., and Ravi Prakesh (eds). 1994. *Modern Encyclopaedia of Educational Technology*, vol. 3, New Delhi: Kanishka Publishers.

ADMAR 1993. *A Report of the Viewership Study on the [University Grants Commission] UGC Countrywide Classroom Programmes*. New Delhi: Consortium for Educational Communication (CEC).

Dube, S. C. 1990. *Indian Society*. New Delhi: National Book Trust, India.

Government of India. 1986. *National Policy on Education*. New Delhi: Ministry of Human Resource Development of India.

Government of India. 1990. *Towards an Enlightened and Humane Society*. Report of the Committee to Review NPE-86 (Chairman Acharya Ramamurti) New Delhi:

Ministry of Human Resources Development, Department of Education.

Govinda, Raju. 1996. *Interactive Teleteaching Experiment on New Communication and Information Technologies*. Madras: Madras Audio Visual Research Centre, Anna University.

Menon, Narayana. 1976. *The Communication Revolution*. New Delhi: National Book Trust, India.

Rao, B. S. S. 1992. "Local Radio Stations for Rural Development : Need for a Fresh Look". Paper presented in a Seminar on Rural Development, Communication and Media: Shimla, Indian Institute of Advanced Study.

Reddi, Usha Vyasulu et al. 1992. *UGC-ISRO National Talkback Experiment-1991, Final Report*. AVRC, Hyderabad: Osmania University.

Sai, Prasad. 1989. *Report of a Study Conducted in Andhra Pradesh on Viewers Opinions and Expectations*. Hyderabad: EMRC, Central Institute of English and Foreign Languages.