

## *The Mass Media in Rural Education*

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Our focus in this discussion is upon the developing nations of Africa, Asia and Latin America for it is here that the need for rural education is most urgent and here that a broader use of the mass media is being most vigorously advocated.<sup>1</sup>

Educators in the developing countries are turning their attention to the problems of rural education as a matter of social justice as well as political necessity. They realize that the neglect of rural people is no longer tolerable. As investments in education have grown, it has become obvious that schooling, like most social institutions, remains essentially an urban phenomenon, particularly at the secondary and university levels. In most developing countries, the vast majority of rural youth are still denied the opportunity to study beyond the second or third grade, while a significantly larger number of their counterparts in the urban areas are able to progress through more advanced academic levels. Such educational imbalances help attract the ablest young people to the cities and make the development of the rural, agricultural economy much more difficult. To promote a more balanced growth between the urban and rural sectors, educators have advocated not only the extension of educational opportunities, but also the establishment of different kinds of educational services for rural areas.

### *Formal and Informal Education*

In the rural areas of most developing countries, the school is the only means of formal instruction currently available. It is an expensive process encompassing different subjects and different levels of instruction all requiring a large number of trained teaching and supervisory personnel to run efficiently. School is also a cumulative process; students are generally required to master the skills of one level before proceeding to another.

The poor conditions found in the rural schools of most developing countries are well known: antiquated and irrelevant curricula, ill-prepared and overworked teachers, and a dearth of learning materials and teaching

aids such as libraries, science laboratories, or even enough desks or textbooks for all the students. If the school is physically distant from the city, its instruction tends to be culturally isolated from the particular community in which it is located. Because most teachers, curricula, and learning materials come from outside, the skills and information taught rarely meet the needs of rural children. Furthermore, many rural primary schools have only one or two teachers and they are located in areas where children are poor, undernourished, and consequently achieve less than their counterparts in urban areas. All these problems tend to discourage rural teachers and drive them toward the cities. Indeed, assignment to a rural school often comes as a punishment or because a particular teacher does not have enough seniority or political leverage to obtain a favoured assignment in an urban area.

Primary school dropout rates are generally high throughout developing countries, but when the urban-rural breakdown is made, it often reveals a disastrous situation in rural schools, with dropout rates before the sixth grade often in excess of 80 per cent of first grade entrants. Schools are simply not providing a basic education for the vast majority of rural youth.

Even if major improvements are achieved in the quality of schooling and in the numbers of children being educated through the kinds of educational reforms presently being enacted in El Salvador, Mexico, Peru, and the Ivory Coast, the employment problem facing growing numbers of rural graduates is likely to remain. Unless rural areas can become self-developing centres of economic growth and opportunity, graduates, whether well trained or not, will continue to leave a stagnant situation for an unknown but more appealing life in the city.

Reversing these failures of rural education while working within the existing formal school structure has its own special difficulties. An entrenched bureaucracy, such as a ministry of education, is by nature slow to change or accept innovation. Convincing officials at all levels to implement even the best designed reforms is no easy task. In addition, teachers may not understand or accept a new role and, as gatekeepers, they may try to transform a new instructional programme into what they have always taught.

Given the immense problems and the difficulty of changing the existing system, a growing number of critics such as Ivan Illich have recommended that all schools be abandoned, and that new educational strategies be adopted. At a minimum, development planners are looking beyond formal schooling to more informal educational strategies for extending education and ultimately for improving rural life.

Informal education is not easily defined. It can be an extension of the formal school system, as in the correspondence or 'open' schools; it can be a parallel instructional system where differently focused school equiv-

agency work is carried on; it can be a skills training course in agriculture, literacy or mechanics; or it can be a radical departure from the formal school system, as in the kind of 'cultural action' programmes devised by the Brazilian educator, Paulo Freire.<sup>2</sup> Later in the discussion, we will elaborate further upon the different kinds of informal education projects being developed for the rural areas and try to explain why the mass media have come to play an increasingly important part in such projects.

Introducing any informal educational system may present new difficulties, however. If the formal system suffers in part because of the immovability of its bureaucracy, at least it has a bureaucracy. No planner should underestimate the difficulty of recruiting, training, housing and establishing communication links within a new bureaucracy. Even in countries that have instituted profound educational and social changes in recent years, such as Cuba and China, schools have not disappeared.

Secondly, the formal school system has an established call on a government's budget whereas an informal system may have support for a brief time, but then may lose its backing with a change of government leadership or priorities. Furthermore, a formal school system generally can count on the allegiance and support of most people within a society. Thus, if change is to be introduced within the formal system, administrators are assured of at least tacit approval from the general public.

Finally, while informal education is able to generate initial enthusiasm, most programmes have not maintained themselves for long periods of time. One is tempted to predict such a waning of enthusiasm for all such projects. For some campaigns with specific short term goals (like vaccination drives or even a literacy campaign like Cuba's in 1961) a concentrated period of high enthusiasm is sufficient. For teaching general learning skills, however, a longer period of education is necessary. Unless there exists an ongoing structure that will function not only during periods of high enthusiasm but during slack periods as well, the failure of all but relatively brief campaigns is likely.

Given these disadvantages, it is clear why most educators (themselves products of a traditional schooling) have opted to reform education within the formal school structure.

#### *The Mass Media in Rural Development and Education: An Overview*

As educators and politicians have become aware of the need to provide more educational opportunities to the rural areas, the mass media have loomed ever larger in their thinking. At this point it is useful to examine why development planners have expressed so much interest in the media and what specific roles they have assigned to them.

Looking back over the past two decades, we find that as concern for rural development intensified, different educational and social change

strategies were articulated. The potential use of the mass media for a wide variety of tasks was given a thrust forward by Daniel Lerner whose book, *The Passing of Traditional Society* (1958), heralded the vital role of mass communications in the diffusion of information as well as modern social values. Wilbur Schramm in his book, *Mass Media and National Development* (1964), summarized previous experience in this area and outlined more completely the specific roles that the mass media might play in rural development. The growing advocacy of the media's role by communication theorists coupled with the results of some interesting media-assisted rural education projects, such as Colombia's Radio Sutatenza, interested development planners everywhere and prompted them to rely more on the mass media in their projects.

A concurrent technological breakthrough was also important in enhancing the role of the mass media in rural education. Until the late 1950s, broadcast technology was prohibitively expensive for most developing countries and its reception in rural areas depended largely on the availability of electricity. The invention of the transistor and its rapid commercialization in the manufacture of inexpensive, battery operated radios meant that, for the first time, radio broadcasts could be beamed at rural areas far removed from existing power sources.

Radio health campaigns, farm forum discussion groups, and literacy projects blossomed in the first decade of the transistor. Most of these projects operated on the fallacious notion that messages conveyed by the mass media would automatically have a direct and powerful impact on rural audiences. Such optimism was unfounded, and in retrospect it seems clear that the early concentration on the new technology was at the expense of content development and a proper regard for programme utilization techniques. To the planners' dismay, early experiences with the mass media in rural education revealed that rural people preferred popular music to new agricultural programmes and soap operas to health information. It was discovered that simply reaching rural audiences with information was not in itself a sufficient means to foster social change.

It became clear by the middle of the last decade that neither advocacy of the mass media nor hardware oriented trial and error projects were enough to meet the needs of rural areas. A period of reassessment began, therefore, with planners asking how effective the media really were in solving rural problems. Unesco, having assisted many mass media projects, undertook a series of brief case studies to review the status of some thirty projects.<sup>3</sup> Although no thorough study of the media's effectiveness was undertaken at that time, a number of common problems were identified: the emphasis on hardware at the expense of content development, the lack of clear project objectives, the reliance on foreign technicians and the lack of adequate training provisions for local personnel,

and the fact that virtually no feedback systems or serious evaluations had been undertaken by the projects themselves.

In addition to the internal problems identified by the Unesco study, another problem has recently been raised by social critics who are aware that the media, besides transmitting practical information of one sort or another, are also highly susceptible to control by vested commercial and political interests, both from within the countries and abroad. Many have feared that the mass media campaigns will be transformed into instruments of propaganda and repression instead of development.<sup>4</sup>

All of these factors make serious evaluation and criticism of existing mass media projects a mandatory task. A few studies are under way and others will undoubtedly follow. Careful analysis and discussion of the results should help guide planners toward a better use of the media in rural education. In the meantime, we will attempt to summarize in the remaining portion of this chapter what lessons seem to have been learned so far from the application of the media in formal and informal educational settings.

#### *The Mass Media within Formal Educational Settings*

It is easier to identify the projects using one or another of the mass media for formal school instruction than those engaged in informal education. School based projects tend to be more visible; they are generally bigger, more costly, and national in scope. Informal education projects, on the other hand, are often locally initiated efforts operating on a much smaller scale with far lower capital and operating costs. The Unesco volumes provided a comprehensive summary of the major formal school projects in 1967. Six years after publication of the Unesco cases, most of the major formal school projects are still in operation, while others have been inaugurated in the meantime.

The major uses of television as an instructional medium in developing countries are found in Colombia, Niger, Samoa, Mexico, El Salvador, and the Ivory Coast. Colombia began its ETV system for primary schools in 1964 and broadcasting continues to approximately 350,000 students in grades one through six. Although a comprehensive study of the Peace Corps' role in the first three years of the project was completed in 1966,<sup>5</sup> no serious evaluation of the project has been undertaken since that year.

Niger began its project in 1964 with an attempt by a team of French experts to provide a modern education to rural primary students. Working with classroom monitors instead of formally trained teachers, the project consisted of only twenty pilot classes through its first five years (1968-72). The project will expand in 1973 to a much wider national audience and it is hoped that the research results of the long experimental period will soon be published.

In contrast to Niger, Samoa began its ETV system on a large scale in 1964, serving over 7,000 students in all twelve grades. There have been a number of problems with the Samoan project, stemming largely from its precipitous beginning, but until the 1971-72 school year no systematic evaluation of learning results had been carried out.<sup>6</sup>

El Salvador inaugurated its ETV system for grades 7-9 in 1969. The El Salvadoran ETV system is but one component of a major educational reform and it is the first truly nation-wide project to be undertaken by a developing country, albeit a very small one. The El Salvador project is also the first to have a serious evaluation unit built into it from the start.<sup>7</sup> As one of the youngest members of the ETV fraternity, El Salvador learned from the experiences of other countries and so far has been able to avoid duplicating many of their mistakes.

The inauguration of a national ETV system in the Ivory Coast in 1971 completes the list of major projects using television in formal school settings. The Ivorian government's main objective is to provide universal primary education by the year 1980. Although classroom reception is currently concentrated in the southern two-thirds of the country, the project will soon expand through a nation-wide network. A great many planning documents for this project have been published by the Ivorian and French governments as well as by Unesco, but evaluation of the project's effectiveness is just getting under way.

When we turn from television to the older medium of radio, we find far fewer projects serving rural schools. This is unfortunate because radio offers a technically less complex and cheaper means for reaching large rural areas. Costs for radio systems are generally estimated to be one-fifth to one-eighth those of television. Radio systems have been installed and maintained without the large reliance on foreign experts that television technology usually implies and, at least for the next five to ten years, radio will be able to penetrate many remote rural areas which are not reached by television signals.

Examples of projects using radio within formal school settings are neither as numerous nor as well publicized as those using television. Since the early 1960s, Thailand has used radio extensively in its rural schools. The Unesco case studies report on this project and an update on recent results may be undertaken this year.

Mexico has used radio in several experiments. A government sponsored project in the rural state of San Luis Potosi utilizes radio as a supplementary instructional medium for grades 4-6 in primary schools where a single teacher must often handle the three grades simultaneously.<sup>8</sup> Up until 1972 radio was also used in schools serving the Tarahumara Indian population of Northern Mexico. After an evaluation revealed that the radio schools were, in fact, not meeting the needs of the Tarahumara

people, but rather those of other racial groups, the schools were phased out. A new plan was devised whereby radio will be used to provide informal, community education to the Tarahumara.<sup>9</sup>

On the African continent, a small radio station in Bunia, Eastern Zaire has had some success broadcasting lessons to both primary and secondary students in its neighbouring region. Although this work has been underway for almost three years, no evaluation of its effectiveness has been made. Senegal has found the teaching of French by radio so well received that government planners have decided to use television as well. However, radio will remain the chief medium of instruction for the rural students, at least for the foreseeable future. Finally, Tanzania has made a considerable commitment to radio instruction for its rural areas, although unlike most other countries, its use of radio is integrated within a broad rural development plan that aims to transform Tanzania's countryside into the foremost sector of economic growth.

Television and radio are being used to reach large numbers of rural students at various academic levels within many developing countries. And as cost-conscious politicians are putting pressure on educators to provide new solutions to the vast qualitative and quantitative problems endemic to rural schools, the media are being turned to almost as a panacea for educating future generations of students. This turning to the mass media has not been well received by some critics.

To summarize, the following arguments against the use of the mass media in formal schooling have been advanced in the past:

1. A media project inevitably attracts a lot of attention and therefore is more likely to be used as an instrument of propaganda than as a means for solving deep-rooted educational problems;
2. Even if the media can provide educational opportunities to more rural students, there is little cost-effectiveness evidence to justify the large expenditures demanded by most media systems. It is better to spend limited resources on other needs, such as raising teachers' salaries;
3. Media systems save no money and almost always end up costing more than was originally projected;
4. The mass media have a centralizing tendency which unavoidably reinforces the *status quo*, thereby strengthening existing institutions like the school system and making real change impossible.

These arguments have been directed more at television and less at the lower cost media such as radio, radio-vision, or print.

The following counter-arguments in favour of expanding the uses of the mass media in formal rural education are customarily advanced:

1. The media can increase educational opportunity by allowing a system

- to reach many more students and, at the same time, improve the quality of instruction by distributing the best possible teaching;
2. Media instruction can be a powerful instrument for educational innovation because it reaches all classes simultaneously, breaks old traditions of teaching, and demands new roles and responses from classroom instructors;
  3. Rural teachers not only receive help in organizing their own work from the media teachers, but by working with the media their sense of isolation is reduced;
  4. A commitment to the full utilization of the media can act as a catalytic agent for changes in other parts of the educational system such as curriculum, teacher training, etc.;
  5. Once established for teaching rural students, a media system can be used for a wide variety of other purposes at the village level: in-service teacher training, adult literacy, health and birth control campaigns, to name a few.

The validity of arguments for and against the media can be tested only in the experience of various projects. Up until the present time, these arguments have been largely theoretical and highly speculative. And while it is clear that existing projects are not performing as well as they might, research is badly needed to determine where the media have seemed to work well in formal school systems and where they have not.

#### *The Mass Media within Informal Education Settings*

Advocates of informal educational strategies often point out that the crucial need of rural people is for more practical information; information that will help them upgrade the productivity of their land, improve the quality of their diet, and allow them to reduce the incidence of disease by adopting better health practices in the home. Such information has customarily been provided in the course of formal schooling and through extension programmes of one sort or another. Yet, extension agencies, like the school system, reach only a small fraction of the rural population of most developing countries. There has simply not been enough trained manpower nor enough money nor enough commitment to extend basic social services to the entire countryside. Barring a radical reorganization of the priorities of the developing countries or a financial commitment to their rural areas which would have to far surpass current spending levels, it is clear that existing extension efforts can have only a slight impact on the conditions of rural life. Critics of the existing situation insist new ways must be found to diffuse the information that is vitally needed in rural communities.

The mass media as well as lower cost communication technologies

(i.e., film loops, slides, and newsprint) are an obvious means for channeling such information on a much wider basis than is currently done. And, indeed, the media have come to play an increasingly important part in the thinking of development planners. They point out that newspapers, radio, and increasingly television, reach rural communities whose size and/or remoteness have prevented the building of schools or the attention of other social agencies. There is a growing faith that the mass media can provide many of the same kinds of information and services as do the traditional agencies and do so just as effectively and at far less cost.

Given the fact that modern communications technology, notably radio, has now achieved virtual saturation coverage in almost all developing countries, what evidence is there to justify the high hopes development planners have for its wider applications in the service of rural education and social change? Unfortunately, the evidence is by no means clear. What Philip Coombs viewed as a 'bewildering assortment' of nonformal education projects and training activities in 1968 is as bewildering today as it was then,<sup>10</sup> and as applicable to media-assisted projects as for those which have proceeded along more traditional lines. Nevertheless, a review of the available case materials suggests that the effectiveness of the communication media in development programmes – here called informal education – seems to vary according to three basic criteria:

1. The composition and motivation of the intended audience or client group.
2. The particular goals set forth by the projects and the relation of those goals to the content of the messages transmitted by the media.
3. The administrative competence and flexibility of the organizations which are responsible for the media-assisted campaigns.

In this section we shall examine these criteria in light of the limited amount of research that has been done on informal education projects that have relied to some extent on the mass media.

There has been a considerable diversity among the audiences of informal education programmes. Such diversity is exhibited in the wide range of ages, occupations, previous educational experiences, and motivations of the people who have been attracted to one type of programme or another. Generally, the audiences have been self-selected and they can be categorized according to their common informational needs or educational interests. Among the most common audiences served by informal educational programmes are:

- (a) Farmers seeking advice on how to improve the yields of their crops and the general quality of village life (examples: the rural radio forums of India, Ghana, Togo, Dahomey, Jordan and Upper Volta)

- (b) Mothers seeking information on how to safeguard the health of their children and advice on how to plan the size of their families (examples: Taiwan's mothers' clubs, Zaire's Radio Star health programme, as well as a large number of private and government sponsored birth control campaigns throughout the developing world)<sup>11</sup>
- (c) Students continuing their studies by correspondence and with radio or television in the absence of an alternative opportunity to continue their education in school (examples: the 'open' schools of Japan, Germany, Australia, Kenya, etc.)
- (d) People of all ages learning to read and write (example: Radio Sutatenza, Colombia's literacy and rural development programme)
- (e) Teachers, extension agents, and other professionals working in the field and in need of continuing guidance and support.

To single out the above groups is in no way to deny that much information is obtained by individuals who have no specific interests or purpose in mind other than relaxation when they use the mass media. Communication scholars such as Lerner claim, in fact, that it is people's attention to the media *per se*, and not their exposure to any particular kind of programme which helps to determine their modernity and willingness to adopt innovations.<sup>12</sup> Nevertheless, our concern here is not the incidental learning that results from media exposure or the psychological determinants of increased exposure on the part of rural people to the mass media, but rather the evidence supporting the plea from within developing countries and elsewhere that the media be assigned a more important role within informal education projects. To evaluate the media's effectiveness in informal education projects to date, it is necessary to specify the goals that different projects have worked toward as well as the nature of the content or messages that the media were assigned to carry in each instance.

Change in some attitude, behaviour, or community condition is usually behind the drive to organize an informal education project, but judging from the existing evidence on informal education projects, the absence of any more specific change objectives has hampered the definition of coherent working strategies and has led to the assignment of a rather inefficient and traditional pedagogical role to the media. By the same token, the lack of concrete objectives has greatly complicated the task of project evaluation. Nevertheless, a review of existing case studies reveals that informal education programmes usually have applied the media to accomplish one or more of the following four objectives.

1. *Extend the formal school by providing instruction in traditional academic*

*subjects* Such programmes allow formerly isolated students with little hope of continuing their education in formal school settings to pursue their education via radio or television. Radio instruction techniques were pioneered in the remote rural regions of Australia and New Zealand where the children of farm families generally received instruction via short-wave broadcasts. Although as originally devised, these systems allowed pupils to communicate directly with their teachers via the same medium, this aspect has since been dropped in settings where two-way communication is not possible. To maintain the two-way flow of communications between teacher and pupil, however, new methods of feedback and control have been developed. The most noteworthy of these is the correspondence format whereby students periodically send examples of their work to teachers at the broadcasting centres. There teachers review students' progress and make suggestions either directly to the students on the air or by returning tests and other written work through the mail. This pattern has proved so successful that many countries are inaugurating such 'open schools' instead of making new investments in costly campus facilities.

Although the 'open school' model has spread rapidly in recent years, it is not clear how such programmes contribute to the improvement of rural life, other than in the most general sort of way. The spread of 'open schools' at the primary and secondary levels may, in fact, have a boomerang effect in the rural areas of developing countries by increasing the appetite of students for higher levels of academic training. This tendency, already under way in most developing nations, accelerates the exodus of competent and enterprising young people from the countryside and tends to swell the ranks of the urban unemployed with recent rural graduates unable to market their new skills in the city, yet unwilling to return to the countryside.

2. *Upgrade the competence of rural people by providing basic skills training*  
 This category encompasses the literacy projects that have been undertaken in virtually all countries in recent years. The mass media have played a large part in these campaigns and the programmes have been customarily directed at the rural areas. The most highly publicized project of this kind is Radio Sutatenza, a church financed network of radio stations that is based in Bogotá, Colombia. At last count, Radio Sutatenza had over 260,000 regular listeners and 4,000 village leaders. The village leaders play an essential role in this system for they are responsible for organizing the reception of the programmes at the community level, and for channeling progress reports back to the teachers in the studio. In recent years, Radio Sutatenza has evolved into a broader community action programme with new goals reflecting the growing awareness that literacy,

in and of itself, is perhaps not too crucial a factor in the development of rural life.

Up until quite recently, literacy was regarded as the fundamental human skill without which modern knowledge could not spread; without literacy, it was feared, rural communities would remain isolated and underdeveloped. Literacy is still considered a vital factor in building self-esteem and in motivating rural people to adopt other 'modern' behaviours and attitudes, but most development experts seem to agree that substantial progress can be made by rural people even if they remain illiterate.

A concomitant problem with literacy projects is that reading and writing skills tend to deteriorate unless they are practiced continually. In practical terms, this means that the newly literate person must be supplied materials that will allow him to practice and maintain his new skill. Most literacy projects have experienced difficulties producing and distributing materials of this kind and as a result many people have slipped back into functional illiteracy.

It must also be pointed out that the diffusion of the mass media into the rural areas of most developing countries has itself undermined the once unchallengeable priority of literacy training in the minds of many development planners. It is clear that the mass media can transmit much of the information and advice that rural people seek; information that up until a few years ago was only available through direct contact with extension agents or through the printed word.

3. *Provide practical information and advice on a continuing basis* Within informal education projects that stress this goal, the media have customarily acted as surrogate extension agents. They have relayed the identical messages that human extension agents have been carrying to the rural areas for years. Of course, the media cannot adequately fulfil all the roles of the traditional agent – they cannot interact with the rural farmer to clarify the latter's doubts, for instance – but they can reach thousands of farmers simultaneously while a large team of extension agents might spend their entire careers carrying the same message to an equivalent number of people.<sup>13</sup>

The success of the media in stimulating lasting change in rural areas seems to rest on two basic factors: the motivation and willingness of the rural audiences to integrate new information into their everyday patterns of life, and the ability of a particular sponsoring agency to anticipate the need for and provide the supplementary services and materials (fertilizers, new seeds, vitamins, birth control devices, etc.) whose adoption might be encouraged in the media campaigns. The more successful community development projects, such as those undertaken in the Comilla region of

East Pakistan and in the Andean region of Vicos, Peru, have met both of these requirements. The leaders of these projects anticipated the need to provide additional services once the change process got under way, and they were able to keep abreast of the requests of their rural clients. In both instances, the projects' leaders had specified their change objectives beforehand and had developed mechanisms for determining whether or not those objectives were being met.

4. *Stimulate community development through the encouragement of self-reliance and self-help projects* The lexicon of development has for some time included the concepts of self-reliance and self-help, but they have generally not been effectively promoted in most rural education programmes. At the planning level, an undue emphasis has been placed on the mobilization of external resources and the building of increasingly complex media delivery systems to reach rural people. While such systems are indeed important and deserve the continuing concern of development specialists, their high cost and complexity may be self-defeating in terms of their relevance to rural life or the ability of rural people to utilize them.

Increasingly, rural development has come to be viewed not only in terms of filling informational and skill gaps, but as the strengthening of people's critical abilities which, presumably, enhance their capacity and will to diagnose their own needs, assert their own rights, and demand greater control over the decisions that affect their lives. In this conception of development, the ability to think critically arouses greater political consciousness in people which, in turn, leads them to concerted action on behalf of their communities. What was once development *for* rural people becomes development *by* rural people themselves.

Experience in Brazil and Bolivia has shown that once traditionally oppressed rural people liberate themselves through a development process that Paulo Freire has designated 'cultural action for freedom,' the pressure for change is increased on traditional institutions and leaders. For this reason, educational projects that have used the media for sensitizing rural people to their social situation and vulnerability have been highly political in tone and intent. Within revolutionary societies such as Cuba, China, and Tanzania, for example, education programmes directed at rural audiences have been carefully designed to stress a particular political ideology and its relation to development, while similar programmes within conservative military regimes such as Bolivia and Brazil have been abruptly terminated when they began to have some effect.

Within informal education projects we find very little research available on what patterns of organization and control seem to offer the highest probability of success. One reason the administrative lessons of informal education projects have not been widely diffused is that numerous

projects have been started only to be abandoned, and no one has taken the time to analyse just what went wrong.

One clear impression that does emerge from existing case studies of informal education projects is that the media can rarely, if ever, be relied upon exclusively. To work effectively, they must be integrated into existing patterns of communication at the local level. This is not to say that persuasive messages aimed, for example, at individual farmers will not succeed in convincing some of them to try an innovation, but that such messages reinforced by other social mechanisms and pressures are likely to have a more powerful impact. It is for this reason that most extension agencies encourage the formation of discussion clubs to provide a filter for the reception of information and advice pertaining to new agricultural practices. Such projects can be found in most developing countries, but in Upper Volta, Dahomey, and the Central African Republic, to name but a few, radio has been used primarily to supplement the work of rural extension agents.

A second impression is that very few agencies involved in informal education projects have paid enough attention to the problems of training their staffs in the proper techniques for utilizing the mass media. Tradition, it turns out, has proved to be an obstinate enemy even within agencies whose function it is to promote innovations of one kind or another. Also, because broadcasters and politicians are often the most aggressive parties in encouraging the wider use of the mass media for rural development, there is a sad history of conflicting jurisdictions and rivalry for control over the projects. Informal education projects frequently must draw together planners from a variety of government agencies such as education, agriculture, public health, information, transport, etc., and these groups do not necessarily agree on what an education programme for the rural areas should be. Where this situation has not resulted in complete paralysis, there has often been fuzzy planning and a poor use of the media.

At the local level where the programmes are received a different set of administrative problems have emerged. Here the issue has not been conflicting claims to authority, but rather a lack of leadership and organization. One of the priority tasks of media-assisted development campaigns is the identification and support of local leadership; leadership capable of sustaining interest in the educational programmes. In reviewing the achievements of the radio farm forum model that was pioneered in Canada in the 1940s and replicated in India, Ghana, Togo, Malawi, and many other countries in the following decades, a Unesco study concluded that local organization and the position of the local discussion leader were crucial to the programme's effectiveness.<sup>14</sup> It is clear, however, that no matter how highly motivated the local leaders, they cannot be expected to do the job alone. They must be supported by appropriate materials and advice. Once

having been persuaded to adopt a new fertilizer, farmers will naturally become apathetic toward the innovation if they are unable to obtain it. Likewise, as we stated earlier, villages on the threshold of literacy are apt to become frustrated if they are unable to obtain reading material suitable to their level of comprehension and related to their needs. Continuing material support and feedback play an essential role in reinforcing newly acquired attitudes and skills and in keeping up the morale of the programme's local leaders.

The problems of unclear administrative arrangements, unsteady local interest and organization, and poor follow-up have undermined the effectiveness of most media-assisted informal education projects. The emergence of new projects and their evolution beyond the pilot stage has been hampered for the same reasons. To successfully build upon the satisfactory performance of a pilot project inevitably requires additional financial and human resources as well as careful planning and a clear set of development priorities. As the euphoria of the pilot experience declines over time, often there is little interest to build upon it, much less to vigorously redirect it into new areas. Many of the most promising informal education projects have died on the vine for lack of imagination and commitment to carry them beyond the pilot stage.

#### *The Organization of the Media for Rural Education*

It is possible to imagine an ideal instructional media system for rural education with a combination of optimum elements; a dynamic TV or radio teacher, skillful and imaginative programme producers, a carefully developed and pretested curriculum, and highly motivated rural audiences ready to participate actively at the local level. But given the circumstances in most developing countries, we have learned that a new media system must usually cope with almost the exact opposite conditions. This suggests that to increase the probability of success, structural weaknesses must be anticipated and, whenever possible, overlapping and reinforcing channels carrying the same message must be built into the system. What are the elements of a media system that planners need to take into consideration to insure the achievement of their objectives?

*The message* One of the problems discussed above was the tendency of educational media projects in the past to emphasize technological aspects of their systems at the expense of programme content and quality. Saving operating costs by cutting corners on programme development and experimentation has proven to be a false economy. Production and transmission equipment are, of course, a necessary condition to the broadcast of a message via the mass media, but a high quality of programming is a prime necessity if a system hopes to hold the interest of its audience.

In a large formal ETV system, like that of El Salvador, the cost of operating a production facility is only a small proportion of the total education budget. Within such a framework, a relatively small increase in investment may be all that is required to improve the quality of programming by: paying higher salaries to attract the best production talent, increasing the amount of training given to all personnel, reducing programme production loads, and encouraging an extensive pretesting of all programme series.

Even before the quality of their programmes becomes a concern, however, educational planners have a number of basic policy questions to resolve. The most important question is what to teach. Should a special curriculum be developed for rural people or is it acceptable to have a single content for both urban and rural audiences? The answer to this question depends naturally on the development strategy being pursued by each country. Two quite different assumptions might be made with regard to rural audiences, particularly school audiences: (1) they are being prepared to leave the countryside for work in an industrialized, urban environment or (2) they are being trained to remain in the rural sector and to help modernize its economy. To our knowledge, no countries have consciously opted for the first alternative, although formal school in general certainly seems to have abetted the large rural exodus. In trying to counteract this phenomenon, Niger and the Ivory Coast have decided to retain the same curriculum for urban and rural students, but in their television lessons they have emphasized predominantly rural settings and values.

There are certain restrictions that the mass media impose on the content of any given message. To be cost-effective, radio and television must centralize teaching activities and reach large audiences. This means that individual differences within the audience cannot be directly served by the media. The problem of where to set the level of the message is also difficult for media systems attempting to serve different population groups. Cultural and educational characteristics may vary greatly within a country, and even within rural areas. Furthermore, educational programmes for rural audiences have experienced high attrition or dropout rates. For these reasons, programmes aimed at rural communities or schools should be as simple and as straightforward as possible. Instead of teaching many subjects in primary school, for example, it has been suggested that a basic curriculum be developed to stress only language and number skills. Niger originally aimed its ETV programmes at rural children and in so doing radically changed the classical French curriculum and reduced primary schooling from five to four years. Recently, however, the Niger ETV programme yielded to pressure from the formal school system and added a fifth year to its series and thereby moved somewhat closer to the traditional system.

In sum, even when a media system is aimed at a predominantly rural audience, the issue of what level to set programme content is likely to remain troublesome. Experience suggests that unless the media planners are willing to promote elitist tendencies and to accept a high dropout rate among its audience, they would be wise to concentrate solely on the communication of needed information and the instruction of basic skills keyed to mastery learning by the majority of its audience.

*The channels* Once the problems of the message are resolved, the channels over which they will be transmitted must be defined. We have suggested above that a single channel is rarely sufficient. Wherever possible, educators should use a multi-channel approach to accomplish their objectives. Such an approach is recommended not only out of fear that there is likely to be physical interference with any single channel. In rural areas, it is true, there may be periodic failures of electricity or delays in the arrival of supplementary learning materials. However, the obstacles to effective use of the media are more often a result of poor utilization and disorganization at the local level. Multiple channels provide more than a simple repetition of the same message. Ideally, each channel should also present the message with a different teaching or communication strategy in mind. For example, one channel may provide information, another may stimulate discussion, while still another may guide individual or group activities among members of the audience. Acting in different ways, each channel elicits some audience involvement and works toward some common objective.

Media system planners have divided channels into two basic types: direct and mediating. Direct channels include the broadcast programmes as well as ancillary learning aids. In addition to the pre-planned sequence of programmes, planners have sometimes added reinforcing review classes to their broadcast schedules. Sometimes printed materials containing the text of the lessons as well as review exercises have been distributed to the audience. Costs of such materials may become prohibitively expensive as the audience increases in size. This was the case in El Salvador where the size of student workbooks was reduced after the first year of ETV broadcasting. Under similar circumstances, Mexico and the Ivory Coast have had to re-evaluate how much they can afford to spend on such materials. All printed matter must be distributed on time if its cost is to be justified and many projects, particularly those engaged in informal rural education, have found this a major problem. Nevertheless, there is general agreement that simply broadcasting programmes without any supplementary material is of dubious value.

The most important mediating channel is the teacher in the classroom or the coordinator of the rural community group. These roles have been

filled by older students, respected members of the local community, or even trained professionals in some instances. However, for most rural areas, we assume that the preparation and competence of local personnel is not too high. For this reason, experience with mass media projects has shown the wisdom of providing special orientation and training to such people. If planners expect the teacher or coordinator in a rural community not only to accept but also make effective use of the media, they need to consider him as a major focus of their change efforts. Without proper guidance and support, local personnel are unlikely to understand or accept the media as a help.

Strategies for preparing local personnel to use the media have varied widely. El Salvador, for example, was able to provide a full year of retraining to all her junior secondary teachers; Salvadoran teachers received courses in their subject specialities as well as in television utilization techniques. This is a rare luxury and one few countries would be able to afford. Many projects provide in-service orientation and training to local personnel through the media themselves, and some, such as Colombia's Radio Sutatenza, have combined such programming with highly effective strategies for bringing community development workers together for intensive short courses or seminars.

As yet, we have no clear prescription for how best to train people to use the media effectively in rural education. The stereotype impression that radio or television require only a passive monitor to be used effectively has been brought into question by classroom observation studies in El Salvador, Mexico, and the Ivory Coast.<sup>15</sup> Although it is too early to say definitely, preliminary results suggest that the media in a traditional setting can encourage a rural teacher or development worker to actively engage the audience in learning activities. It is possible that as retraining and orientation activities become more effective, more responsibility will shift to people working on a day-to-day basis in the rural schools and community centres. Thus, the burden of instruction may gradually evolve away from the media and into the hands of local people themselves.

*The audience* We have already stated that if rural people are to be the target audience of a media system, planners must be aware of the great disparities in levels of ability, achievement, and interest that are likely to be found within any rural population. This makes the adjustment of a single, centralized message from the media a matter for constant concern and review. A second problem involves keeping rural people interested in the message, and indeed in the educational process itself. High desertion rates within most rural education projects are such that only in the first or second grades of primary school are educators guaranteed a large and

relatively homogeneous rural audience. Although there is an hypothesis that with radio or especially television, dropout rates will decline sharply, there has been little evidence of this so far. Third, it is a commonly heard criticism that media instruction implies audience passivity. Yet the experience of numerous projects indicates that the media can stimulate active learning, provided local coordinators and teachers are given proper orientation and traditional authoritarian methods are not allowed to dominate. The Niger ETV project has often been singled out for its success in getting rural students to participate actively in the learning process. On the informal side, experimental community radio projects using dialogue pedagogy developed by Paulo Freire have encouraged rural audiences in Brazil and Bolivia to respond in an active way to the media stimulus.<sup>16</sup>

There are a wide range of additional audience problems that any rural education project must face, whether or not it uses the mass media. Learning is related to motivation, self-esteem, fatalism, and a number of other personal factors. Furthermore, if radio or television have success in extending educational opportunities and rural people seem to profit from their exposure to the media, the success may be due more to a high level of interest or aspiration among the people than to the particular ability of the media to teach. Correspondingly, if the educational experience itself does not lead to any betterment of rural life or a fuller integration of rural people into society, their motivation will certainly wane as it has historically in most rural education projects.

*Feedback* The mass media are unidirectional communication mechanisms. For this reason, educators, who are accustomed to the interaction of teachers and students in the classroom, are often sceptical of media instructional systems, especially ones that purport to teach vast audiences with a single message. To allay this scepticism and to enhance communication between programme producers and their audiences, feedback loops have been built into most media projects.

Many kinds of feedback have been developed for the mass media. Schramm outlines a number of them in his monograph, *Feedback for Instructional Television*.<sup>17</sup> There are methods for *pretesting* to determine how well programmes will work and methods for *post-testing* to see how programmes actually did work in the field. Pretesting can help insure programme quality provided that the results of such investigations are interpreted and applied correctly and that the pretest itself is based on representative audiences and learning situations. Pretesting is often not done well because the above conditions are not fulfilled. Moreover, thorough pretesting is expensive and can rarely be done for all programmes. Niger was able to pretest all of its ETV programmes in pilot

classes, although it is not clear what criteria the French evaluators used to determine programme effectiveness.

The post-test method is more common but its applications have been relatively weak in most projects. The common notion of feedback, reflected in the post-test strategy, is to solicit opinions from local personnel – classroom teachers, community organizers, etc. – about how the programmes seem to be working. Such information is customarily vague and virtually worthless as a means for determining how programmes might be improved. Response rates to this type of questionnaire have generally been low, questions have often been poorly phrased so that very little could be concluded from even a large number of responses, and, finally, the questionnaires have not provided a measure of what the programmes are teaching, but only a general impression of whether or not local utilization personnel are satisfied with the broadcasts. While such information is useful for some purposes, it cannot help programme planners pinpoint the specific content areas that most need to be changed.

As media systems have grown in complexity and expense, it has become necessary to evaluate in a more rigorous way whether or not they are accomplishing their basic objectives. This suggests that the most useful feedback should be some assessment of the programmes' impact. For formal school projects, impact is usually defined in terms of student learning, while in informal education, impact certainly includes learning, but also takes into account the attitude or behavioural changes advocated by particular programme series. In El Salvador's ETV system, for example, a feedback system has been based on student learning.<sup>18</sup> Toward the end of a particular content unit, a short multiple choice test is administered via television. An evaluation team then collects a representative sample of test results to determine if the key concepts of the unit were mastered by the students. This information is then fed back to the programme producers so that they can take appropriate remedial action such as the preparation of special review classes on themes that have proved to be particularly difficult for students.

The El Salvador example illustrates the elements that a good feedback system should include: the specification of minimum learning objectives, the determination through achievement testing of whether or not those objectives are being met, and the suggestion of appropriate remedial actions to assure that a satisfactory level of learning has been obtained throughout the system.

Yet, even if feedback is obtained on a continuing basis, additional research may be warranted to determine why certain results occurred. Often local problems such as teacher absenteeism, lack of materials, etc., may account for learning difficulties. This suggests that feedback information may imply corrective actions by a large number of people through

the system. People at the local level may or may not be willing to cooperate and a production group cannot realistically be expected to remedy all learning problems in the course of a heavy taping schedule.

Feedback, then, is not only the gathering of information from the field, but also the use of that information to adjust an ongoing system. The adjustment process is often painful and may be complicated by the fact that feedback from the field is often open to different interpretations. If the system's minimum objectives always seem to be met, it may be that less time could be spent on particular content units. On the other hand, if minimum objectives are not met, different actions may be called for depending on the degree of failure. At the lowest level, a failure of rural audiences to comprehend or act upon some presentation may call for a review and reteaching of certain material. However, if poor results are consistent over a period of months, some more drastic measures may be called for, such as the replacement of a production team, the development of additional, reinforcing channels, or a reduction in the amount of material being taught. Finally, if failure to meet minimum objectives persists and continual readjustment of the system's elements does not help, planners may have to consider redirecting the whole system or changing its objectives.

### *Conclusions*

The mass media do have a role in rural education; they are not magic wands that will miraculously eliminate the awesome problems of the rural sector, but for the solution of specific problems they can be most helpful. In the preceding sections we have summarized the state of the art as we see it. In this section we offer some general recommendations that have grown out of that evaluation as well as our own field experiences in education-media projects.

1. Educational objectives should stem primarily from a thorough and realistic determination of rural needs and only secondarily from the assessment of the media's potential role.
2. The principles of self-help and local control demand that educational problems as well as solutions emanate as much as possible from rural people themselves. These principles are particularly important in the relationships between rural people and urban decision-makers and between underdeveloped and developed countries.
3. At the operational level, planners should adopt a more experimental attitude toward the media so that different strategies for rural education can be tried and evaluated before final system designs are decided upon.
4. Planners should resist the more expensive and complex media

- technologies offered by the developed countries unless it is clear that their educational objectives cannot be met by means of less sophisticated and lower cost alternatives.
5. When instituting a media-based instruction, reforms of non-media components of the educational system – curricula, complementary written materials, and classroom utilization – must not be neglected. Careful design of these components greatly increases the probability of a system's success.
  6. Countries planning new media systems for rural education cannot afford to ignore the needs of local personnel such as teachers and community development workers. Local organizers and users of the media must be given proper orientation and training and they must be kept well informed once the new system is underway.
  7. The media's effectiveness is enhanced when they are integrated within organizations that are strong and flexible enough to carry out complementary educational reforms. Also, without political and administrative leadership capable of sustaining interest in a particular rural education programme the media's effectiveness is likely to decline over time.
  8. Jurisdictional disputes over control of the media may be minimized by assigning them very specific functions (such as school broadcasting) at the earliest stage. Once established successfully in one area, the media's roles can be expanded.
  9. More research is needed to summarize the experience of media projects in the past and to develop principles for the better use of the media in the future. Such research should include descriptive case studies as well as more extensive field testing and experimentation.

## REFERENCES

1. Unesco conference for Latin American ministers of education, Caracas, Venezuela, 6-15 December 1971.
2. Paulo Freire, *Pedagogy of the Oppressed* (New York: Herder and Herder, 1970).
3. Unesco: International Institute for Educational Planning, *The New Media: Memo to Educational Planners and The New Educational Media in Action: Case Studies for Planners* (Paris: Unesco, 1967), Vols. I, II, III.
4. Herbert Shiller, *Mass Communications and American Empire* (New York: Augustus M. Kelly, 1971).
5. G. Comstock and N. Maccoby, *The Peace Corps Educational Television (ETV) Project in Colombia – Two Years of Research* (Stanford: Institute for Communication Research, 1966).

6. A detailed case study of the Samoa ETV project which includes new learning measures, attitude surveys, and an historical account of the first eight years is being prepared by Dr. Wilbur Schramm of Stanford's Institute for Communication Research.
7. A series of seventeen research and administrative reports on the El Salvador project has been published by Stanford's Institute for Communication Research, 1968-72.
8. Mexico's *Radioprimaria* and *Telesecundaria* projects are currently being evaluated by the Secretariat of Public Education in conjunction with Stanford's Institute for Communication Research.
9. Sylvia Schmelkes, 'Investigación Sobre las Escuelas Radiofónicas de la Tarahumara (Mexico),' *Revista del Centro de Estudios Educativos*, No. 3 (1971), 125-32.
10. Philip H. Coombs, *The World Educational Crisis* (New York: Oxford University Press, 1968) p. 138.
11. Wilbur Schramm, *Communication in Family Planning* (New York: Population Council, 1971).
12. Daniel Lerner, *The Passing of Traditional Society* (Glencoe, Ill.: Free Press, 1958).
13. Research by Everett Rogers and others has revealed that information about innovations can be delivered as well by the mass media as by human agents, but that the decision to adopt innovations often rests more on interpersonal communication such as that between a farmer and an extension agent. For this reason, the mass media are used most effectively in conjunction with interpersonal communication. In Dahomey, for example, although farm programmes are heard throughout the country, the target population for the broadcasts are the 600 villages where agents are currently at work.
14. Unesco, *An African Experiment in Radio Forums for Rural Development* (Ghana, 1964/65) (Paris: Unesco, 1968).
15. Judith A. Mayo, 'Teacher Observation in El Salvador' (Stanford: Institute for Communication Research, 1971). A more complete study of this kind is presently being completed in Mexico and similar work is being undertaken in the Ivory Coast by a group from the University of Liège.
16. Froilan Sanchez, 'Nuevas Formas de Educación Popular' in *Educación Popular para el Desarrollo* (Oruro, Bolivia: Instituto de Investigación Cultural para Educación Popular, 1971) Vol. 5.
17. Wilbur Schramm, 'Feedback for Instructional Television' (Stanford: Institute for Communication Research, 1969).
18. A. M. de Manzana, R. Hornik and J. Mayo, 'Feedback on Student Learning for Instructional Television in El Salvador' (Stanford: Institute for Communication Research, 1971).