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APPLIED COMMUNICATIONS TECHNOLOGY
IN RURAL DEVELOPMENT

1976

H. E. Perrett

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OVERVIEW

The gravity of the developing world's problems underlines the need to look for new solutions. Neither developing countries, nor those agencies and organizations which assist them, can afford to overlook the modern communication tools and methods. What can media like radio, television, film and popular print offer?

Over the past twenty or so years of development and use of communication technology in Asia, Africa and Latin America, something has been learned about its potential and limitations. We have also learned to better direct its use for specific objectives. There can now be reasonable confidence in offering communications technology as a resource to sectors where the gap between problems and resources is widening, as in health and agriculture. Its role need not be limited to education. Communication technology can help support the planning and evaluation, as well as the implementation, of a wide variety of development programs.

This publication is intended for use by those who are involved in planning and administering development programs and projects. They may be in specialized areas such as health, agriculture, nutrition or education, or they may have a more general responsibility. At some stage these professionals may want to consider or propose alternative approaches to improving the productivity and quality of life of the rural poor. If they are interested in mobilizing new resources for

the attack on poverty, it might be useful to consider communication technology.

This book will help decide where communication technology might fit in, and how it might fit in. It will also help assess its adequacy in ongoing programs.

The publication can be used as:

- Background reading for deciding whether a rural development project or program can benefit from a communication technology component
- A guide to planning a communication technology component of a rural development project
- A source of new ideas about ways of using communication technology in programs and projects
- A guide for monitoring projects which already include a communication technology component
- A guide in specifying tasks and activities of educational technology specialists in programs and projects
- General reading on the state of our knowledge about applications of educational technology in developing countries.

1. Introduction: Poverty and the Resource Gap

It is estimated that 550 million people in the world today suffer from what can be called "absolute poverty;" that is, they have annual incomes equivalent to U.S. \$50 or less.¹ Many more millions are only marginally better off. In spite of the economic growth experienced by many Third World countries over the last few years, partly due to foreign aid, gains have been outweighed by such factors as population growth, inflation, and the energy crisis. Every day the number of poor in the world increases, and their problems seem further away from solution than ever.

- The Gap Between Resources and People with Problems is Widening

Socio-economic development programs have often failed to reach the most needy economic groups. Increases in agricultural productivity have tended to benefit the more progressive, richer farmers who have had better access to supplies and equipment, new technology, markets, and transportation linkages. The small farmers of the world have gained little, if anything; in some cases, they are even worse off than before. Farm women's benefits have been most limited.

Programs of health services are much better in urban areas,

¹ James A. Lee, "Health in the Developing World," paper prepared for delivery at the 86th Annual Meeting of the Association of American Medical Colleges, Washington, D.C., 1975.

where for geographic and financial reasons they are often inaccessible to poor rural populations. They have been limited or non-existent in the more isolated villages where most of the poor live. Today less than 15 percent of the population in developing countries have regular convenient access to modern health services.

Nutrition programs, in spite of good intentions, have often ended up benefiting those who have least need of them. The majority of children in the world under age 5 still suffer from malnutrition.

To compound the problem, it is evident that the resources available to developing country governments, even with aid from outside, are not adequate to meet present needs, much less those of the future. Malnutrition is increasing faster than the world's supply of food, and it is ever more clear that there are not now, nor will there be in the foreseeable future, enough adequately trained health personnel to meet the needs of the people.

● New Solutions to Rural Problems are Needed

Development assistance organizations are adjusting their policies and activities to meet the newly perceived urgency of needs. Until recent years rural development was equated with agricultural development, with a rise in agricultural production seen as the main indicator of program success. In the wider view currently being taken, rural development is seen as the

transformation of both social and economic structures, institutions, relations and processes.² It is no longer simply a question of agricultural benefits, but of health, nutrition, housing, employment and education benefits. Neither is it solely a question of the creation of benefits, but the more equal distribution of benefits. The main audience for integrated rural development is the low-income villager. Finally, a new role is seen for rural people in development activities themselves. More and more there is talk of rural people changing from passive recipients of benefits, to active participants in development efforts.

These objectives are more complex and much more difficult to achieve than those of a decade ago. We will not be able to attain them with the old methods. To meet such challenges there is need for new resources, and ingenious and imaginative alternatives to past development practices.

- Communications Planning is Important

There are those in development planning who insist that "a good idea sells itself." At the other extreme are those who argue that in most cases education, information and motivation or "communication" planning, as we call it, is necessary to make new ideas acceptable to the people they are meant for, and to provide new kinds of skills to people who are asked to perform new tasks.

² As reflected in the goals set for the U.N. Second Development Decade.

In one sense both arguments are valid, but with different populations. Materials or services alone may be sufficient where people are already familiar with change as a way of life, and already value, can use, and can economically and socially afford the particular product or idea in question. It is likely that here there is no need for investments in education or motivation. But the case of the poorer rural people in developing countries is different. Tradition, not change, is valued. The technical innovations presented to them by rural development programs are often unfamiliar. They frequently see both the economic or social costs as beyond their means, and change as an unrealistic possibility.

Consequently, communication planning is a needed accelerator in most rural development programs if they are to benefit the poor. Programs which have a limited life-span cannot afford to wait for a decade or more until people's interest, knowledge and abilities catch up with the services or products, which by then have probably been absorbed by less needy populations. This has been the problem in the past.

Thus where programs are directed to underprivileged populations, integrated communications planning in rural development can:

- help programs be planned in response to the people's interests, needs and possibilities
- ensure that development proceeds smoothly as an integrated process
- facilitate the achievement and maintenance of benefits for the poorest populations

- Where Communications Media Enter In

Communications planning is a very broad concept, denoting a wide range of communications tools and methods. Among the resources available for communications planning are the technical communication tools like radio, television, film, print, audio-visuals, cassettes, and so on; the traditional or folk media (drama, folk puppetry, storytelling, etc.) and organizations such as women's clubs, cooperatives, and development agencies. Communications planning also includes the activities of people at any level of the development program who educate and influence other people.

The present volume will emphasize one of the resources for development communications planning for rural development -- the technical communications media, and the associated methodologies for use outside the formal school system.

In most developing countries such communication tools now exist, and to a lesser or greater degree are available for support of development objectives. They can provide extra channels at lower cost, and they often have the ability to overcome existing geographic and social barriers. Above all, they help to reduce dependency on skilled people to promote change. Developing countries are beginning to realize this potential of modern communications. In many nations where their role has been modeled on their counterparts in developing countries, there is now a major re-

evaluation in progress. This applies particularly to the broadcast media. There is a growing interest in increasing their development function. What is often lacking is knowledge about how to go about it.

2. What Communications Technology Has to Offer the Poor

2.1 What Has Been Done in the Past With Communications Technology

Systematic use of media like radio, television, film, audiovisuals, and the press for development purposes has existed in developing countries for about twenty years. In broad terms the general trend has been toward:

- the building of communication media institutions and centers as a material resource for development
- the planning of communication media use for mass education
- the application of communication technology to human problems in all development sectors

In the last role, which is the most complex, the media become an integral part of rural development program planning, implementation and evaluation. They can be used for creation of benefits in a variety of sectors. They can also help direct benefits to special populations and support equitable distribution of such benefits. But to what extent has this been achieved in the past?

There have been both good and bad applications of communication technology to promote socio-economic development. As with other development efforts, there has often been failure to help the poor farmer and especially the poorer farm woman. Future improvements will therefore have to start with a critical look at existing experiences.

Past uses of communications technology for rural development tasks have been very much influenced by: assumptions of media operation that

derive from the developed countries; and assumptions about the ideas, wants and attitudes of the Asian, African and Latin American rural poor that have been biased by Western value systems.

In general terms, communication media uses in rural development programs have been characterized by:

- An emphasis on big national programs with centralized control and direction to maximize scarce management and technical capabilities.
- A view of media's primary function as the transmission of information from outside specialists who are assumed to possess it to rural people who are assumed to need it.
- A view of effectiveness which was primarily associated with the "right" choice of media or media combination.
- An emphasis in message content on new values, ideas, and concepts, often of the Western "consumerism" type, which were rarely linked to existing values, ideas and concepts.
- An emphasis on the role of the communication specialist as essentially a technician, expert in the use of certain technical communication instruments.

Often development programs have not given explicit consideration to the poor because it has been assumed that benefits would automatically reach them. Where they have given thought to the poorer rural populations, development activities have been based on certain assumptions about developing nations' underprivileged rural people:

- The rural poor are an undifferentiated mass who think and act alike;
- The rural poor do not know what they need or want;
- The dominant characteristic of the rural poor is their poverty, which influences all they think and do;

- Where poverty is extreme, economic incentives will always work to produce change;
- If people know and believe that a change is beneficial, they will always act on that belief.

The experience of the last few years has demonstrated that these assumptions are incorrect. Many of these tendencies in communication technology programs parallel similar tendencies in other kinds of development programs.

When they have reached the rural poor, communications programs have often overtaxed the people's informational capacities and failed to make messages relevant to or understood by them. When change has been achieved, it has often been change in knowledge and attitudes, but not in practices. Only infrequently has change been sustained.

This is not to say that some development-supportive uses of communication technology were not effective, but to underline that it is necessary to learn from the problems of the past in order to more explicitly and consciously direct future programs to the greatest benefit of the poorest rural men and women.

2.2 What the Possibilities and Limitations are in Communication Technology Use

Past problems in the effective use of communication technology have derived from a variety of factors. Among them are the incorrect assumptions just discussed and the inherent difficulties of the task of changing traditional people's existing habits and practices. But part of the problem

also lies with the technical instruments themselves, and their mixed suitability to the tasks set for them. This is particularly the case with media like radio, television, film and the press. Their potential is considerable, but their limitations can be critical. Good development planning will have to consider both.

In part media potential lies in their unused capacity. Let us look at the current situation of the bigger communications media. Most developing countries now have one or more popular media like radio, television, film and popular print. Expansion is rapid, especially with radio and television. The 1975 publication by UNESCO, World Communications, presents a 200 country survey of coverage by press, radio, television and film. Among conclusions reached are the following:

- In the past ten years, media coverage has been significantly extended in almost all of the 200 countries, by the technical growth of at least one of the principal media.
- There have been marked increases in the number of radio and television receivers in all countries.
- Radio and television are reaching larger numbers of people and in more languages than are now reached, or ever likely to be reached, by the daily press.

These conclusions suggest that radio and television continue to be particularly promising media for development, especially for big programs. They have wide coverage and show rapid expansion. They also have advantages of speed of transmission, suitability for illiterate audiences, and amenability to lowering of unit costs, through economies of scale. Radio is proportionally lower in cost than television and is more accessible to poorer populations, particularly the rural poor of developing countries.

As a result, it continues to be a prime candidate for use in rural development programs.

What is also important is that radio and television often have unused capacity. Programming in many developing countries takes place only at certain hours of the day. Some governments have free access to radio and television time on official or commercial broadcast channels, which they have trouble filling with good programs.

Not only does the media capacity often exist in developing countries, but many countries also have trained staff for design and production, maintenance support, and even evaluation. Where these are lacking, technical assistance can help fill the gaps. These factors combine to argue for consideration of communication media based alternatives where resources are scarce and problems enormous: in other words, in most developing countries.

While technical communication tools have a considerable amount to offer development, particularly because they minimize the dependence on scarce and expensive development field workers, they also have very real limitations. Unfortunately those limitations apply especially to mass media like radio, television, popular print and films.

Perhaps the most important factors in limiting mass media's benefit to the poor are their inbuilt tendencies toward discrimination against the underprivileged of society.³

³ H. E. Perrett, "Educational Technology and Equity," paper presented at the First International Conference on Applied Learning Technology for Human Resource Development, Washington, D.C., 1976.

- The media like radio, television, newspapers and films tend to be more accessible to the richer sectors of the population, for both economic and geographic reasons.
- The language used, ideas presented, and intellectual level that mass media are geared towards, tend to make them more comprehensible to relatively advantaged sectors of the population.
- The people who control mass media often have little knowledge of the poor or understanding of their problems.
- Because of the need to maintain economies of scale, mass media programs are usually large and centralized with little sensitivity to the different needs and social and cultural differences of traditional people.
- Because of their top-down operation they tend to allow little local participation and tend to reinforce hierarchical patterns of learning and action, with little ability to create self-reliant and self-sustaining change among the poor.

If such characteristics of mass media are to be overcome, ways must be found to provide more local control so that information can reach and be suitable to the poorer and not the richer sectors of society. Some of the strategies which are being used to help overcome such limitations are

- An emphasis on using smaller and more local educational media either instead of, or in combination with, mass media.
- Attention to using mass media in combination with other kinds of organized local activities such as program support staff and organization of local people.
- Attention to moving away from a purely one-way information flow and establishing a two-way flow of information with local response to and initiation of messages.
- Attention to a different, and often more narrow, role for these educational instruments which allow them to do what they are best at, and avoid overtaxing their capacities.

There is another limitation of communication technology use to help the poor: the problem of media audience passivity. It is becoming in-

creasingly acknowledged that development systems have to think not only in terms of giving people piecemeal benefits, but also in terms of promoting people's ability to help themselves. The ability to help oneself is a much more active concept than simply the ability to accept whatever development programs offer.

One way of building self-reliance is allowing more grass-roots participation in development planning, implementation and evaluation. But mass media institutions generally operate in such a way that local participation is minimal, in either decision-making about what should be communicated or the communication process itself. In fact, one of the earliest concerns among social critics on the advent of radio and television was such media's demand of a passive audience. These traits are not inherent in the hardware, but in the way it is used. What is needed is awareness of this limitation and better planning of media programs to overcome it.

For example, development experience has shown that when the media are used "actively" the results can be entirely different:

- Mass media can be used to bridge the gap between decision-makers and the rural people and create a dialogue between them.
- Mass media can provide a channel to make people's needs, wishes, problems and reactions known.
- Mass media can be used to give a public voice to people who have never before had a say in either their own or their country's future.
- Mass media can become a unifying force which permits local sharing of ideas and problems and promotes local-level cooperative efforts.

- Mass media can make possible an active role for rural people in the implementation of development efforts by giving them the necessary know-how.
- Mass media can facilitate self-evaluation of actions by rural people.⁴

For example, radio has been used in Senegal for making people's needs and problems known to those who can do something about them.⁵ Senegal's health and nutrition education through television consciously strived for activating its audience of illiterate women, rather than encouraging passivity.⁶ Radio has been used in Tanzania for promoting self-reliant community health action,⁷ and in Costa Rica for establishing a dialogue about family planning.⁸

These trends are promising for allowing such media to be more acceptable and helpful to the traditional villagers in less developed countries. But we are still very much in the infancy stage of applying communications technology and especially the mass media to development programs. New equity goals which call for improved productivity and a better quality of life among the poor demand more precision and sensitivity of communica-

⁴ Heli E. Sagasti Perrett, "Educational Technology and Equity."

⁵ "Two-Way Radio in Rural Senegal," UNESCO Features, No. 569, Paris: UNESCO, February 1970.

⁶ Television and the Social Education of Women, UNESCO Reports and Papers on Mass Communication, No. 50, Paris: UNESCO, 1967.

⁷ Hugh Barrett, "Health Education -- A Campaign for Radio Study Groups in Tanzania," Educational Broadcasting International, England: Hull Printers, June 1974.

⁸ Informe Anual, Centro de Orientacion Familiar, San Jose, Costa Rica, 1975.

tions media than was needed before. This applies particularly to radio, which in many ways looks so promising for reaching the rural poor.

2.3 The Advantages and Disadvantages of Different Media

It is false to pin hopes to selection of one or another communication medium. One should begin with the problem in hand, and then ask which medium is best suited to the solution of the problem. The mistakes of the past decade have underlined this lesson. Experience has also shown that it matters less which medium is used, than how it is used, especially in terms of how it is built into the local-level social structure.

Because the method of media use is vitally important, and has lagged so far behind development of the hardware, there have been cases of the same medium performing a given development task both very well and extremely poorly. Several experiments which have attempted to compare media have found more differences within media than between them. This has been substantiated by country experiences.

The general rule is that almost any medium will work if used in the right situation, and used well. This is not to deny that certain advantages or disadvantages do exist among media:

- Certain media have political advantages over others

The glamour and visibility of some media gives them distinct political advantages. It may make them preferred, not for their effects on social or economic development, but for their effects on the political process.

- Certain media have better outreach than others

The broadcast media have best outreach, but television usually does not reach the poorer sectors of rural populations in developing countries.

- Certain media are more amenable to local control than others

Centrally controlled and programmed media like radio and television are much more difficult to control at the local level than media like print, cassettes, slides or even film. This means that it is more difficult to make them appropriate to individual differences and needs of local people, and to ensure that they reach and benefit the right audience.

- Certain media are more complex to use than others

Media like television, computerized instruction and sound films, for example, require a level of technical expertise for production, operation and maintenance that is higher than that required by media such as radio, slides, or cassettes. They also require a more complex infrastructure for operation.

- Certain media cost much less than others

There are considerable differences in costs of different media, in terms of equipment, design, production, delivery, technical operation and maintenance.

- Certain media are more suited to providing a given type of information than another

Some kinds of information require special modalities such as sound, vision, motion, etc. For example, if the way a person limps is essential to recognition of a disease, a visual medium with motion, such as film, will be better than a photograph or slide. On the other hand, if prolonged close-up examination of a wheat plant is required for recognition of disease, this is not the case. Again, if repeated review of information is necessary in order to accurately follow a set of steps in a new method of soil preparation, a printed pamphlet which allows repetition would be more suitable to the literate farmer than a radio broadcast.

- Certain media are much better at attracting and holding the audience's attention than others

All media have their own way of attracting the audience, and holding attention. This is also subject to cultural differences. However, some media, such as television or film, are particularly able in this sense. Television, compared with radio, for example, especially among traditional peoples, has better crowd-drawing potential, and will usually keep its audience more attentive.

- Certain media are more dependent on special audience abilities for understanding

Literacy and certain language abilities are often prerequisites for comprehension of some media messages. But print should not be rejected out-of-hand with illiterates. They not only often have literate children or relatives who can read to them, but print can also develop the simplified and exaggerated visual image as do the well-known "Fotonovelas" or stylized adult comic books of Latin America. These are often "read" and correctly interpreted by illiterates.⁹

- Certain media may lack credibility with special populations

There have been cases when one or another modern communications medium has lacked credibility with certain people because of the alien social groups and values they associate with that medium. Such situations should be watched for and the medium in question rejected, since it will undermine the effectiveness of the program, no matter how well planned.

Costs and logistical and political feasibility are first considerations in most media selection decision-making. These therefore need more attention.

Cost Considerations

If a large program is involved and cost is calculated in terms of per person reached by messages, the use of a mass medium or a combination of

⁹ A field study of the author in Peru demonstrated this fact.

media may well turn out to be cheaper than use of personal educators where facilities, salaries and service costs are high. However, media costs can also be considerable.

Wilbur Schramm, a leader in the field of developmental uses of media, has classified various media as either "big" or "little," based on size, complexity and cost.¹⁰ Big media, according to this classification, include television, sound films and computerized instruction. Little media are smaller, less complex, and less costly such as radio, programmed texts, slides, tapes, other simple visuals and sound carriers. The big media costs are much higher in terms of production, equipment and delivery. As Schramm points out, costs vary with the situation, but the differences between the "little" media and the closest equivalent "big" media are likely to be in the range of one to five.¹¹

Little Media

Big Media

(Approximate Cost Ratio 1:5)

radio	-----	television
programmed texts	-----	computerized instruction
slides & tapes	-----	sound films

¹⁰ Wilbur Schramm, Big Media -- Little Media, Washington: Office of Education and Human Resources, Agency for International Development, March, 1973. This volume is recommended for a fuller discussion of communication media.

¹¹ Wilbur Schramm, "Criteria for Selecting Media Systems."

While the general rule applies, the costs of many media will vary considerably, not only according to "size" but also according to quality, scale of use and associated local organization:

Quality: High quality, professional programming is very expensive. But effective communications do not require BBC standards of quality. For example, television in developing countries can cost as little as \$500 per hour or as much as \$2,000, depending on quality.

Scale of Use: With some media like television and radio (but not media where delivery costs are high, e.g., film, print), economies of scale apply: the larger the number of people reached, the lower the costs per person served. This has often been the rationale for big programs, in spite of the other arguments against them.

Local Organization: While it is generally agreed today that local organization of people into listening and action groups adds to the effectiveness of media use, especially broadcast media, such organization can be costly. It has in fact been stated that the organization and maintenance of such groups can be so expensive as not to be cost-effective in relative terms.¹² This argues for making use of existing community organizations and activities, and development staff already in the field, to cut such costs to a minimum. This is not often done in development programs, because the incorrect assumption is often made that there is nothing there that can be used.

¹² Institute for Communication Research, Program in Communication Research, Program in Communication and Development, Second Annual Report, Stanford, California: Stanford University.

Logistical Considerations

Logistical considerations in media use include such important questions as coverage, equipment and expertise required.

It is axiomatic that if a medium channel does not reach the intended audience, it cannot be used. Television often does not reach the poor. In the case of media such as posters and pamphlets, distribution can be both difficult and expensive. This is why radio use has become so popular in many developing countries among very poor populations, who may not have literacy skills or access to power lines.

Again, the equipment required for television programs or computerized instruction is much more complex than that required for production of posters, pamphlets, slides or even radio programs. There are parallel differences in technical expertise required for activities such as media design, production, operation and maintenance.

Political Considerations

The political considerations in the choice of one medium over another are various. Some media, like television and, to a lesser extent, radio, have glamour, high public visibility and the ability to provide an aura of modernization, progress and national homogeneity. For example, communication programs may serve political purposes such as convincing the people that the country is doing something for them. Or they may encourage feelings of national unity, which is a tremendous need in many developing countries. They may give the nation prestige in the international setting. Satellites for transmitting messages by media are particularly

important in this last sense.

The preferences of foreign donors also influence media selection, as they offer equipment, technical expertise and financing of a particular medium and program. Care should be taken to acknowledge the difference between serving political objectives and stimulating socio-economic development.

The "Rule-of-Thumb" in Selection

Finally, Schramm's "homely" approach to media selection is a clear and practical general guide to decision-makers, particularly because it emphasizes the method of media use, and its importance in effectiveness.¹³

1. Decide your needs before you decide on media.
2. Begin your analysis with the least costly media systems and work upward on the scale of costs.
3. Choose the least costly system that looks as though it would meet your needs.
4. Use the money you save by not choosing a more costly system to make the best possible use of the system you select -- to plan it, prepare and test the content, maintain excellence of performance, build in whatever organization is needed.

Thus it is now no longer a question of choosing the ideal medium each time a project is planned, but of identifying the most feasible one, and making the best possible use of it for the task at hand.

¹³ Wilbur Schramm, "Criteria for Selecting Media Systems."

2.4 When Use of Bigger Communications Media Pays Off Best

What nexus of factors in the external environment helps to determine when the use of mass media pays off best? At this stage there is only partial information. What knowledge does exist is mostly limited to educational functions of the media.

As a framework for discussion, one can say that the use of a communications medium pays off best when, in terms of what it costs and what it does, it is the best alternative solution for the problem.

But evaluation has not always been an integral part of communication technology use. In addition, it is very difficult and costly to separate the effects of the communication medium from those of other project inputs. Furthermore, there has been relatively little comparison of communication media with other alternatives in developing countries (e.g., personal services) in controlled situations.¹⁴

At this stage of our knowledge it would appear that some of the most important general situational factors in effective use of communications media are:

- The existence of motivation or "felt need" for the particular information involved among the intended audience (e.g., prevention of soil erosion among farmers).
- A general development-supportive environment, extending to the political level.

¹⁴ The Basic Village Education project in Guatemala is a significant field experiment which does compare various alternatives (see p.41).

- The existence of supportive agencies, individuals and activities in the general context into which the media messages are introduced (e.g., volunteers, community development workers, the church)
- The existence of an effective social structure and organization among the intended audience with which mass media activities can be linked directly (e.g., community development organizations)
- The existence of ready logistical support for any proposed actions (e.g., materials, equipment, transportation linkages, credit unions)

Those factors which contribute to the effectiveness of development programs in general also apply to programs involving the use of mass media. They include the existence of good managerial capacity, adequate feedback channels, political support and development staff dedication, as well as many others. Every development worker has his or her own list of criteria for success.

However, it is not simply a question of effectiveness of mass media use, but a question of whether it is the best alternative in terms of both cost and effectiveness. Because communication media are technical information channels, the alternatives are usually non-technical information channels; that is, human beings. For example, a country which is interested in preventing soil erosion through rapid reforestation may consider investment in more agricultural extension workers or in a multi-media campaign. Another country which is concerned with encouraging people to eat something they do not normally consume (e.g., fish, rabbits, guinea pigs) may consider investment in nutrition educators or in education and motivation through radio.

We are only beginning to compare media with other alternatives.

Some recent studies have argued that there are certain situations which are likely to make the use of radio and television to reach people directly with information most worthwhile in terms of cost and effectiveness:

- When the problems or needs for information and motivation are similar and widely shared by large numbers of people
- When the people with the problems are scattered over a large area
- When local expertise for problem solution does not exist, is severely limited or is not accessible to the population concerned
- Where the question of time is a crucial one

These are perhaps the most likely situations for using a mass medium, when that medium reaches the populations concerned. While there are obviously differences between the media, as a general rule mass media can best offer:

- outreach
- speed
- mass solutions to mass problems
- low cost

Such assets are important in reaching the world's poor, especially the majority who live in rural areas, often in scattered villages. Many of the problems they have are both urgent and shared, with local expertise severely limited. For example, most of the rural poor in Asia, Africa and Latin America share health problems of malnutrition, rapid population growth, and a poor living environment with pollution of both soil and water. Countries often cannot afford to help such populations through traditional means.

In such situations, a medium like radio can:

- Circumvent geographic, climactic and sometimes human barriers to reach certain special needy groups
- Remove dependence on skilled manpower (e.g., health educators, agricultural extension workers, nutrition specialists, sanitation engineers)
- Multiply the efforts of any existing development field workers in the area
- Develop greater self-reliance among local people to do things for themselves to improve their situation
- Provide alternative solutions to problems which are within the financial capability of developing countries.

It is not unlikely therefore that as development priorities focus more and more on reaching the poor, often rural majority of developing countries, the mass media will be called on to provide alternative solutions to traditional approaches.

3. A Look at the Issues Involved

Communication technology is directed toward bringing about positive change in the human element of development. Such change is essential in most attacks on rural poverty. For example, increased productivity is often the goal in rural development; but it cannot take place without certain changes in agricultural practices. Where improved health is desired, people often have to adopt new health supportive practices or modify those which are health-threatening. The communication component of programs is usually directly or indirectly oriented toward influencing practices among the ultimate beneficiaries of development efforts.

Thus the understanding of how and when such change takes place is essential to the definition of communication roles and strategies.

3.1 The Issues in Changing the Habits and Practices of the Poor

The motivations and processes that underlie changes in traditional habits and practices are much the same in nutrition, health, agriculture or any other area. People innovate when they are convinced that it is worth it. The well-known anthropologist, George M. Foster, summarized the conditions:¹⁵

- If they perceive personal economic, social, psychological, health or other advantages in so doing.

¹⁵ George M. Foster, "Medical Anthropology and International Health Planning," paper presented at a conference on Traditional Behavior and Health, Washington, November, 1975.

- If they perceive change as a realistic possibility for them.
- If the economic costs are within their capabilities.
- If the social costs do not outweigh the perceived advantage.

The problem with many past rural development programs has been that they have:

- Overemphasized economic costs and underemphasized social costs of change.
- Overemphasized and overvalued economic benefits of change and underemphasized and undervalued social benefits of change.
- Estimated both cost and benefit in general from the perspective of the outsider rather than from that of the poor rural villager.
- Generally underestimated the total cost of change in the traditional setting.
- Generally overestimated the total benefit of change to the poor rural villager who lives within a social context which supports social and economic inequalities.
- Underemphasized the poor rural villager's intelligence and ability to test and evaluate alternatives available to him.

The result of this lack of sensitivity to the human element has often been failure, because the success or failure of a program is ultimately determined by the people. Without their acceptance of available benefits, any investment in materials and services will be useless.

One way to build greater human sensitivity into development programs is to give consideration to the social and cultural feasibility of new practices, not as perceived by the development planner or staff, but as seen by the poor rural villager. But at this stage we do not have well-

developed and well-tested methodologies.

The following questions are suggested to illustrate the kinds of human issues that development experience has shown to be important in changing most habits and practices of the poor.¹⁶

1. What are the risks perceived in adopting the new practice?

- Is there risk of life or health involved?
- Is there financial risk?
- Is there risk of social censorship by relatives, neighbors, etc?
- Is there risk of loss of autonomy?
- Is there risk of foregoing pleasure?
- Is there risk of losing time?

2. What are the benefits perceived in adopting the new practice?

- Is there any health benefit or life benefit involved?
- Is there any financial benefit?
- Is there any social benefit (e.g., prestige)?
- Is there any autonomy benefit?
- Is there any benefit of saving time?

3. What is the relationship between risks and benefits?

- What is the comparative certainty between benefits and risks?

¹⁶ These questions are taken from H. E. Perrett, Communication With the Rural Poor, Vol. II, Washington: Academy for Educational Development, 1975.

- What is the time gap between taking the risk and the appearance of benefits?
 - What is the total magnitude of the benefits as compared with that of the risks?
4. What is the degree of "innovative difficulty" of the new practice?
- To what extent is the new practice dependent on particular services or materials (e.g., agricultural credit, fertilizer, medical post), which have uncertain availability?
 - To what extent does the adoption of the new practice mean giving up an old and valued practice?
 - To what extent is the new practice already familiar (e.g., through ancestors or neighbors)?
 - To what extent is the new practice divisible (i.e., can be adopted gradually, in stages)?
 - To what extent is the new practice visible (i.e., to other people, and therefore subject to either criticism or praise)?
 - To what extent is the new practice reversible (i.e., does not commit one to a long-term course of action)?
 - To what extent does the new practice require repetition (e.g., is not a one-shot change)?

These questions underline the fact that one change may be much more difficult to produce than another. Thus it is as erroneous for the development planner to think that one change is equivalent to another as to assume that one poor rural villager is the same as another.

But it is difficult to generalize, to say that "x" is always more difficult than "y." Ease or difficulty varies according to such factors as the setting, the people involved and the point in time. As a result, the same change may be much easier in one situation than in another, and

may even be easier among the same people five years hence than it is now. Thus it is necessary each time to assess the particular change in the particular situation, by asking such questions about human feasibility as the ones listed above. Certainly this will involve time, money and people; but in the long run savings may be considerable, as such an assessment can:

- give an idea of how feasible a desired change might or might not be for the people in question
- allow decision-makers to select from several alternative project objectives
- help decision-makers predict the likelihood of success for a given project
- provide background understanding of people for planning a successful project.

If important human questions are to be answered satisfactorily, it is necessary to involve those professionals who can help determine the rural people's view of change, such as applied sociologists and anthropologists. Such involvement will not only require certain adjustments by the sociologists and anthropologists, but by the development programs themselves.

3.2 The Issues in Using Communications Technology

We are not much further along in our knowledge of the main issues involved in the use of communications technology than we are in understanding human behavior and why it does or does not change. Only recently have those in the development community begun to think in terms of the policy issues in communications technology use and the relative advantages and

disadvantages involved in the selection of one or another alternative. The issues are extremely complex, and the information we have on most of these alternatives is at present sketchy.

Briefly discussed below is a list of some of the major questions faced by decision-makers in applying communication technology to development.

General Development Planning Questions

- How does one decide between different degrees of centralization and decentralization of such project activities as planning, administration, materials production and distribution, evaluation and so on?

The question of centralization or decentralization is a common but complex one. It is not an either/or issue. There are different degrees of centralization, and some project activities can be centralized while others are decentralized. Some of the arguments for centralization include scarce management, economic and technical resources. Decentralization advantages are related to increasing local participation and sensitivity to local conditions.

- How does one decide when to involve rural people themselves in definition of objectives and solutions, and when to make such key decisions at the central bureaucratic level?

There is a great deal of talk about participation of local people in development decision-making. Again, the issue is much more complex than usually acknowledged, with different degrees of participation possible under different political, social and develop-

ment program conditions. Ethical and effectiveness arguments are often relevant in participation, whereas economic, administrative and political as well as effectiveness arguments may be made for limiting local participation in decision-making.

- How does one decide when to invest in a small trial version and when to proceed with immediate implementation of a project?

Most projects, no matter how well conceived, can benefit from a small trial version to iron out any rough spots. But trials cost money and take time. Development is usually in a hurry. Also, political support may wane while the trial is in progress.

Finally, the results of trials sometimes have little effect on the final project design. Some relevant considerations are therefore related to time, money and the political climate.

Media Selection Issues

- How does one decide between a medium that has wide outreach and one that has more limited outreach but is more amenable to local control?

Some media like radio and television can reach a large number of people quickly, but are more difficult to control locally. Others, like pamphlets, posters and audio-cassettes, have more limited outreach but are more amenable to local control. This is a difficult but common dilemma since both outreach and control are often needed.

- How does one decide between a medium with more capabilities and one with limited capabilities that costs less?

Some media like television, film and videotape have visual as well as audio capabilities. Radio and cassettes, for example, have audio. Some, like slides, photos and transparencies have only visual capability. The greater the capabilities of a medium, the more one can do with it. But usually it also means higher costs and greater degree of technical expertise, which may not be available.

- How does one decide between using only one media channel and using several?

Usually more channels for the information give a better chance of messages being both attended to and producing results. But some disadvantages that have to be considered are the increased administrative complexities, and possibly greater economic and technical resources required.

Implementation and Strategy

- How does one decide between using only mass media (e.g., radio, television, press) and using mass media in combination with local level organization and/or local media support?

It is generally agreed that mass media alone, except in certain special circumstances, have less likelihood of affecting the practices of a large percentage of the population, than when used together with local organization. But more managerial, economic and technical resources will be required if this is done.

- How does one decide between using existing local-level organizations for support of communication activities and setting up new ones?

When there has been a decision to employ a strategy which includes local discussion groups, with or without a mass media link-up, another decision follows: whether to use existing organizations (e.g., women's clubs, development organizations, cooperatives), or build new ones. There are advantages and disadvantages with both approaches. For example, existing local organizations may discriminate against certain sectors of the population, but they may be more effective and may require fewer economic and administrative resources than the process of setting up new ones.

- How does one decide between involving local leaders and circumventing them?

Ideally, local leaders should be considered and actively involved in a communication strategy directed towards changing rural people's practices. However, it takes time, money and people to identify local leaders and involve them. At times it may also backfire.

- How does one decide between initial investment in general development of problem awareness and immediate focus on specific objectives?

There are times when it may be decided to implement programs in which some or all of the intended beneficiaries have little interest. For example, preventive health often has very low priority. In such situations initial investment in 'motivation' or 'consciousness development' activities may pay off in the long run because of increased effectiveness. Thus it sometimes becomes a decision between spending more in the beginning, or spending more in the long run to

achieve effects.

- How does one decide between importing message content and producing it in the country?

When in-country production capability is limited, importing messages may be simpler and cheaper. But in-country production of messages potentially allows more socio-cultural appropriateness and problem specificity than importing content. However, this only applies if messages are produced in terms of local realities.

Feedback and Evaluation

- How does one decide between using scientific evaluation of programs and rule-of-thumb procedures?

Scientific evaluation offers greater reliability and more information than simple rule-of-thumb evaluation procedures. But these may be easier to use because they require less time and fewer skills. They cost less, and are generally more acceptable to project staff.

- How does one decide between using control groups and using alternative approaches?

Control groups provide greater reliability, but they require greater effort. Ethical, political and economic factors may also argue for use of other alternatives.

- How does one decide between flexible planning of communication projects and more structured planning?

Ideally, formative evaluation is part of a project design. Such evaluation does not mean much unless the results can be used to

improve action. This requires flexible project design. Unfortunately other considerations, among them administrative, economic and quality arguments, support a more rigid plan.

4. Examples of Applications

Some applications of communication technology to rural development are briefly discussed below. The main criterion for selection has been to illustrate a wide variety of uses, both in terms of the development objectives addressed and the kinds of communication technology involved. Most of these illustrations come from developing countries. Alaska has also been included because it has had some interesting projects which can well apply to developing countries.

These are only some of the many applications of communication technology in developing areas throughout the world. They are briefly discussed to stimulate ideas about the kinds of things that can potentially be done.

- A Rural Reconstruction Movement Project in the Philippines:
A Use of Simple Media to Integrate Women into Development¹⁷

In 1975 the Philippines Rural Reconstruction Movement, with support from outside the country, carried out a project directed towards developing innovative ways to integrate rural women into social and economic processes. Not only was there interest in increasing the benefits available to women, but also in having them play a more active part in decision-making about what they

¹⁷ Research on Innovative Nonformal Education for Rural Women, World Education, New York, New York, September 1975.

should and could do. The several methods used involved a very active and participatory form of nonformal education, on the assumption that women would become more involved and interested in change if it was an active learning process. Tapes and several kinds of simple visual media (serialized posters, flannel figures, flexiplans), were used. These helped to make learning active and to promote discussion about what their problems were, and what kinds of actions they needed to provide them with income opportunities or to increase their income.

Health Education Campaigns in Tanzania: A Use of Radio to Help Solve Massive Health Problems¹⁸

Throughout the years, Tanzania has conducted a series of carefully planned development campaigns directed towards priority issues, including food production, nutrition and health. These campaigns make use of weekly radio broadcasts, printed materials and thousands of local study groups, directed by trained leaders. To illustrate, the 1973 "Man is Health" campaign, had three objectives: to encourage health awareness and group actions for improving health; to provide information about symptoms and prevention of specific diseases; to maintain newly acquired literacy skills.

¹⁸ Budd L. Hall, "Development Campaigns in Rural Tanzania," in Alfred E. Opubor, (ed.), Rural Africana: Current Research in the Social Sciences, The African Studies Center, Michigan State University, East Lansing, Michigan, Spring, 1975.

The mass medium and local support activities of Tanzania's campaigns provide a flexible delivery system for motivation and information which is adaptable to any number of objectives.

Botswana has followed Tanzania's example, and it is likely that other countries will as well.

- The Skyriver Project in Alaska: A Use of Video-tape and Film for Promotion of Community Organization and Communication with the Government¹⁹

Video-tape and film have been used in Alaska for strengthening community organization and development, and for communication with government decision-makers to make shared problems known and bring about change. The Skyriver project (1971-72) began in a fishing village in the Yukon River area of Alaska. The people had a variety of critical problems, among them health, housing, education and income, but lacked the collective power to apply leverage to the government because of village factions and feuds.

The visual media served to promote discussion, and helped the Eskimos to articulate their common problems and present their needs to the government. Videotape had the power to attract attention and bring people together, allowed them to obtain a perspective on themselves, provided a record for later discussion and generally helped in establishing consensus and leadership.

¹⁹ Tim Kennedy, "The Skyriver Project," in Access: Challenge for Change, National Film Board of Canada, Summer, 1973.

Once concensus was established, film became the channel for carrying it to the bureaucratic level where it provided an emotional impact and provided the kinds of information to government leaders that would normally have been inaccessible to them. Between different villages the film medium helped to carry the concerns of one village to others with the effect of surfacing similar problems and motivating similar action.

A Rural Health Project in Indonesia: Use of Slides to Promote Environmental Sanitation Activities²⁰

The community development approach was used for raising health standards in Sirkandi, a poor and backward village in Indonesia. It involved a comprehensive community health program developed around the nearby health center. Within the context of this community health program, environmental sanitation activities were introduced using a slide projector for information. The unusual aspect is that all the activities, including the making of the filmstrip and its story, were conducted by the head of the village group and the local cadre farmer, who were trained in the making of filmstrips by the community health worker, who lent them the slide projector. It was found that the villager with limited education could use audio-visual aids more effectively than the specialists from outside. The semi-literate villagers

²⁰ Gunawan Nugroho, "A Community Development Approach to Raising Health Standards in Central Java, Indonesia," in Kenneth W. Newell, (ed.), Health by the People, World Health Organization, Geneva, 1975, pp. 109-110.

understood the ideas, entered into a spirited discussion, and a few days later spontaneously conducted a clean-up program. The visual medium became a channel for promoting learning and collective action.

- The Basic Village Education Project in Guatemala: A Use of Radio to Promote Agricultural Productivity²¹

Guatemala's national development plan stresses an integrated approach to rural development. Using traditional extension methods, the number of families reached by programs would be limited. A much larger proportion of the rural population can be served, however, if the efforts of agents, promoters, teachers, etc., can be reinforced through use of modern communications techniques.

The Basic Village Education Project (BVE) is an experimental program which seeks to determine the effectiveness and relative costs of selected combinations of communications media that have potential for use in rural development where resources are limited.

The primary audience is the small, often illiterate subsistence farmer. Program content stresses information that will help that farmer to improve his production and income from basic grain crops. Now fully operational, the Project includes matched experimental and control areas in eastern Guatemala (Oriente) and in the Quiche-speaking Indian Highlands of Western Guatemala (Occidente).

²¹ Annual Interim Reports on Field Operations and Evaluation Component, Academy for Educational Development, Washington, D.C., and University of South Florida, Tampa, Florida.

- The ATS-1 Project in Alaska: A Use of Two-Way Radio to Improve Health Care in Isolated Villages²²

Two-way audio communication via the NASA ATS-1 experimental satellite has been used for contact and consultation between doctors and remote health aides in Alaska. The contact serves for administrative matters and emergency calls as well as for diagnosis. There has also been resultant improvement of morale and continuing learning because the two-way radio has provided an opportunity for health aides to listen to exchanges between other health aides and the doctor.

Thus the medium of radio via satellite has served to improve health care in a variety of ways which would have been difficult through traditional means, with such a dispersed health service.

- Educational Rural Radio in Senegal: A Use of Radio to Promote Dialogue²³

Initiated in 1968, the original purpose of the Radio Educative Rurale of Senegal was both to explain government policies for rural areas to farmers, and to transmit the farmers' responses and problems back to the government so that it could adapt its actions accordingly. In spite of the channel eliciting some very critical

²² Osvaldo Kreimer, Health Care and Satellite Radio Communication in Village Alaska: A Compendium of the Final Report of the ATS-1 Bio-medical Satellite Experiment Evaluation, Institute for Communication Research, Stanford University, Stanford, California, July 1974.

²³ Henry Cassirer, Mass Media in an African Context: An Evaluation of Senegal's Pilot Project, Paris: UNESCO, Reports and Papers on Mass Communication, No. 69, 1974.

responses, President Senghor kept it open and used the information, criticisms and ideas from the rural people to solve existing problems of many kinds. While there have been critics of this effort, it has often been cited as an effective instance of vertical communication and a way for government to maintain responsiveness to rural people's problems.

- Nutrition Education in Zambia: Use of a Variety of Media in an Integrated Attack on Malnutrition²⁴

Zambia has used communication activities as part of an integrated approach against malnutrition. This integrated approach included health services, agricultural development, distribution and marketing, community development, education and so on, in a concerted and coordinated attack. Both formal and nonformal education were focused on. The national nutrition education campaign was directed towards helping to bring about change both in food production and feeding habits. Several mass media (including radio, television and the press), together with a variety of other kinds of media, played a role in supporting and complementing conventional nutrition education techniques.

- The Pila Project in Guatemala: A Use of Audio-cassettes to Help Promote Health and Nutrition²⁵

One of the problems with any kind of education activity

²⁴ Andreas Fugelsang, Look Out on a National Nutrition Education Campaign, Lusaka, Zambia: Associated Printers Limited, 1971.

²⁵ Royal D. Colle & Susana Fernandez de Colle, "The Communication Factor in Health and Nutrition Programs: A Case Study from Guatemala," an unpublished report for the World Health Organization, Geneva, 1976.

directed towards busy rural people is finding the right opportunities to reach them. The "Pila" project located education activities at an outdoor public laundry center where many Guatemalan plantation women spend a part of each day both doing their laundry and talking. Audio-cassettes were used to provide women with interesting and entertaining nutrition and health messages while they worked. The radio novella, interviews, public announcements and music were among the formats used. To supplement the laundry communications, audio-cassette players were also provided to some low-income women for use at home, so that the entire family could listen.

Thus in this instance a low-cost audio communication medium was used to help education and motivation activities blend into an already existing local situation, without making unreasonable demands for time.

5. A Checklist for Analyzing Projects

Some communications issues are more relevant than others in the planning of applied communications technology projects. Also, the stage when one issue or another becomes important varies. The questions listed below are intended as a checklist, keeping in mind that all questions may not always apply or be equally important. The questions are phrased in terms of a "communications technology component," referring to an integrated use of communications technology in rural development programs.²⁶

General Planning

- Is the communications technology component adequately planned and budgeted for at the initial stages of the program?
- Is the communications technology component oriented towards promotion and constant support of the program's objectives?
- Have the trade-offs among various technology-based alternative approaches been carefully studied for cost and effectiveness?
- Is the communications technology component well integrated with all other needed inputs to allow access to such inputs when necessary?
- Are the trained people necessary for implementation of the communications plan available? If not, is their training planned for?
- Is all required equipment available or budgeted, and is its maintenance planned for?

²⁶ Questions are based on development planning experience.

- Are the institutions, agencies and groups responsible for administration and operation of the communications technology component viable, especially in terms of being able to work with those responsible for other components of the total program?
- Does the communications technology plan consider local availability of any required material, institutional or human resources before bringing in outside resources?

Media Selection

- Do the selected media channels reach the intended audience and attract their attention?
- Are the media channels feasible in terms of infrastructural requirements such as power lines, transmitting capacity, etc?
- Is the language of the media channels comprehensible to the intended audience?
- Are the media capabilities appropriate to the types of messages to be transmitted?
- Are the media channels credible to the intended audience?
- Is the communications media mix used the one that will do the job for the lowest cost?

Local Organization

- Does the communications technology component take advantage of any potentially available institutional support at local and regional levels, such as the formal school system, religious institutions or the local political system?
- Is the communications technology component linked into a local organization for learning and action?
- Does the communications technology component give special attention to important local decision-makers, key agents, and the family as a decision-making unit?
- Is the communications technology component oriented toward encouraging group discussion, decision and action to support any media activities?

Information Flow and Exchange

- Does the communications technology plan allow for two-way flow of information between the rural people and the development staff?
- Does the communications technology plan allow for local horizontal flow of information between groups and/or communities to promote motivation, cooperation and multiplication of successful actions?

Human Factors

- Is the communications technology component based on informational and motivational needs of the different groups involved in the development activity, including needs of the intended beneficiaries?
- Do the local people participate in the planning and implementation of the project, and possibly in its evaluation?
- Does the communications technology component take into account local and regional ecological, socio-cultural and economic differences among the rural people?
- Does the communications technology component help to minimize the perceived cost of change for the rural people?
- Have immediate rewards for action been built into the plan, when not automatically available?

Message Content

- Has enough time and money been provided for design, pre-testing, production, transmission/distribution and any necessary monitoring of messages?
- Does the communications technology component plan for mutual compatibility and support of all programmed messages with each other?
- Will the messages transmitted be compatible with any other development messages currently reaching the rural people concerned?
- Is the total amount of development information available at a given moment in the area within the absorption capacity of the rural people?

- Do the communications in their top-down phases propose agreed-upon and feasible solutions to rural people?
- Does the communications technology component plan for accurate timing of all messages as the need for them arises?
- Is there use made of social incentives for encouraging change, or is emphasis solely placed on the scientific or economic reasons for adopting something new?
- Do the messages incorporate the ideas, language, voice, images, concepts and habit-words, and the general reality of the people to whom they are directed, associating new ideas and practices with existing familiar ones?
- Have all ideas been simplified, and made concrete and personal to allow for understanding by the rural people?
- Does the communications plan provide an overall "mystique" or emotional focus which will appeal to established interests of the people?

Feedback and Evaluation

- Does the communications technology component plan for feedback throughout the operation of the program or project?
- Has evaluation been planned and budgeted for, and made an integral part of the total design?
- Is the communications technology component sufficiently flexible to allow modification in response to feedback?
- Has any needed pilot testing of the total component been budgeted for in terms of time and money?

Appendix

A Shopping List of Ideas for Projects

Communication technology can be applied to a variety of problems in rural development, in many different ways. Past development practice has emphasized its role in instruction or education, but this is only one of its possible functions. Others are the promotion of integration, information flow, motivation, participation, the support or upgrading of services and multiplication of development effects.

This section illustrates some of the services that communication technology might perform. The approach is problem oriented. It begins with the kind of question that might come up in a discussion in a developing country, as between the representative of an assistance agency and a host country government official. The question might be differently worded, or even apply to a different sector goal, but its elements may be similar.

The discussions and ideas provided in no way pretend to be complete. They are meant simply as a beginning, to stimulate thinking, to promote other ideas and considerations. Above all, the entire section should do simply that: encourage new ideas about the kinds of services that communication technology might perform, some of which thus far have only begun to be exploited.

I. INTEGRATION

Everyone in development is talking of integration today, although definitions vary. Most planners are also realizing how difficult integration is to put into practice. When one begins to think about it, it is surprising how much communication technology can offer to this very difficult operational issue, in so many different ways. For example, it can promote vertical integration through encouraging cooperation and coordination of middle-level management and field workers. It can also promote horizontal integration between the national government and the people, and establish a strong delivery system for information and materials. It is likely, in fact, that communication technology's role in integration will turn out to be one of the most challenging and promising ones for the future.

Question #1: IF THERE IS INTEREST IN NATIONWIDE INTEGRATION OF VARIOUS DEVELOPMENT ACTIVITIES, AGENCIES AND SERVICES AT THE LOCAL LEVEL, CAN COMMUNICATION TECHNOLOGY HELP?

Discussion: Communication technology can promote integration in a variety of ways and at several different levels. It can help encourage understanding and mutual support between different development sectors; it can serve integration through supporting re-training of development staff; it can serve to mobilize all existing development activities around a given objective for a temporary period of time, as in the case of Zambia. (See p. 43)

Project Ideas:

- Intensive motivational use of radio together with local media support to provide a temporary focus

of all local development staff on selected priority activities (e.g., pest control, cleaning up the environment, afforestation, road repair, disaster prevention or relief, etc.)*

- Use of communication media such as videotape, audio-cassettes, pamphlets, etc., to provide in-service training and/or operational support for local-level workers to extend their relevance to other sector problems (see below for illustration).
- Use of communication media to promote better understanding and cooperation between different development workers. For example, films and videotapes of one sector's activities can be shown to staff at inter-sectoral meetings to promote discussion on overlaps, contradictions, etc.**

Question #2:

HOW CAN COMMUNICATION TECHNOLOGY HELP YOU WHEN YOU WANT EXISTING AGRICULTURAL EXTENSION WORKERS TO ALSO SUPPLY NUTRITION INFORMATION TO FARMERS AND THEIR FAMILIES?

Discussion:

The type of solution chosen will vary according to available resources. Many countries cannot afford to pull people out for re-training. Communication technology can help circumvent this problem through facilitating on-the-job training, or simply use existing field workers as delivery systems for information outside their own capabilities.

Project Ideas

- Use of media such as videotape, audio-cassettes or pamphlets, to support in-service nutrition train-

* This kind of limited step might be the most feasible in a situation where little integration of development activities has existed in the past, and can lay the groundwork for a more permanent future integration.

** Ideally such activities should take place at central and middle management levels as well as local levels.

ing for agricultural extension agents. This can be done in a variety of ways, depending on what is appropriate in the situation (e.g., at local or regional meetings of agricultural extension workers, through individualized self-instruction).

- Use of communication media such as pamphlets, posters or cassettes, to add a nutrition education component onto regular activities of agricultural extension workers. That is, the agricultural extension workers can distribute ready-made messages. This requires little specialized nutrition knowledge on their part, although a short orientation course would be advisable.

Question #3:

HOW CAN COMMUNICATION TECHNOLOGY HELP TO CUT COSTS INVOLVED IN NONFORMAL EDUCATION (E.G., IN HEALTH AND AGRICULTURE) BY PROVIDING A SHARING OF STAFF AND FACILITIES BETWEEN FORMAL AND NONFORMAL SYSTEMS OF EDUCATION?

Discussion:

Teachers and school facilities exist in many rural areas of developing countries, but usually have little role outside the formal school system. Teacher re-training for education of out-of-school populations is expensive, and the cost of bringing in new people to be in charge of nonformal education is also often prohibitive. Communication technology can help to circumvent the problem. One possible approach to consider is conducting nonformal education through a communication medium such as radio, with teachers in a supportive role. Another more limited approach is for the teachers and the school to serve as a distribution system to adults for media carried information.

Project Ideas:

- Nonformal education through organized radio listening with local level media support may be the answer. The teacher can be the person to direct local-level activities by being the monitor of groups of radio listeners, and radio listening

can take place in the school. This will cut costs because while listening-action groups are important for the effectiveness of radio listening, they are often a major budget item.*

Teachers can be used as a distribution system for certain kinds of information about development, to be carried by communications media. Such materials as pamphlets, instructional fotonovels, and so on, can be passed from the teacher, to the children, to the parents. Teachers can also put up posters on certain health or agriculture subjects on school walls or other strategic locations in the community. Tapes of catchy songs or rhymes about nutrition, health or agriculture subjects can be made available to the teachers, to be taught to the children who are likely to sing them at home.**

Question #4:

THERE HAS BEEN CONSIDERABLE INVESTMENT IN RE-TRAINING OF CERTAIN DEVELOPMENT FIELD STAFF (E.G., TEACHERS, AGRICULTURAL EXTENSION WORKERS) TO PREPARE THEM FOR A MORE COMPREHENSIVE DEVELOPMENT ROLE. HOWEVER, THE PEOPLE WHOM THEY ARE TO SERVE CONTINUE TO FEEL THESE GROUPS SHOULD DEAL WITH TRADITIONAL SUBJECT MATTER AND DO NOT ACCEPT THEIR NEW SERVICES. CAN COMMUNICATION TECHNOLOGY HELP TO CHANGE THE CLIENTS' ATTITUDES?

* This approach would not only limit costs of nonformal education, but also enrich the teacher's awareness of, and role in community problems and actions. It should not be forgotten, however, that the teachers may require special incentives to perform the additional work.

** Ideally such songs or rhymes would be linked into local cultural beliefs which would make them acceptable to the people.

Discussion:

It is often erroneously assumed that re-training of the provider of services is sufficient. The "consumer" also has to accept the new role; that is, consider it a legitimate one for the group concerned. Mass media have the ability to provide such legitimacy.

Project Idea:

- Radio (perhaps in combination with newspapers) can be used to provide publicity and prestige for the new role of the development staff concerned.

II. INFORMATION FLOW

Another difficult and common problem in socio-economic development programs, whether urban or rural, is that of information flow at different operational levels. It is particularly critical between the grass-roots "rural people" level and the central decision-making level. As such it is a problem which stands in the way of good program planning as well as implementation. Communication technology can help to bridge the gap.

Question #5:

CAN COMMUNICATION TECHNOLOGY HELP MAKE NATIONAL LEADERS AND DEVELOPMENT DECISION-MAKERS LESS ISOLATED FROM THE RURAL POOR AND MORE AWARE OF THEIR NEEDS AND VIEWS?

Discussion:

National decision-makers are often out of touch with what the poorer people need and want. Except in exceptional cases, they are unlikely to make a special effort to go and meet with the people, where the people live. Statistics, as a way of presenting such reality, may be dry and lifeless, and often too complex and time-consuming in form. Communication technology can provide alternatives, as in the case of Alaska. (See p. 39)

Project Idea:

- Media such as videotape or even cassette tape-recordings can be used to record scenes, opinions and ideas of both the people and those who work closely with them. These groups are often equally out of contact with the decision-makers. These materials can then be made available to the decision-makers, and perhaps to the general public (e.g., through radio or television) if the political climate permits.

Question #6:

THERE ARE CERTAIN DEVELOPMENT PROBLEMS AT THE LOCAL LEVEL (E.G., IN ACTIVITIES OF HEALTH, AGRICULTURE, COMMUNITY DEVELOPMENT) WHICH NEVER REACH THE DECISION-MAKERS IN TIME BECAUSE OF BLOCKAGE AT THE MIDDLE-MANAGEMENT LEVEL. THIS IS THREATENING PROGRAM SUCCESS. CAN COMMUNICATION TECHNOLOGY HELP IN THIS SITUATION?

Discussion:

Middle-level management is often a weak link in the development chain and, in the short term, difficult to improve. Communication technology may be able to help in special circumstances, as illustrated by the case of Senegal. (See p. 42)

Project Idea:

- Use of media such as radio to bypass the blockage at the middle-management level, through giving local people access to it to voice their problems. This provides them with a channel other than middle management. In the long run this strategy may also help upgrade management capability.

III. MULTIPLICATION OF EFFECTS

Why do effects of development projects not spread? This is a recur-

ring question. One can have two communities next to each other, one with a perfectly successful program and the other with the same problem and no program, and yet there is no spread. But the design of many development programs never gives conscious consideration to encouraging spread effects. The addition of an appropriately planned communication technology component could often provide this service.

Question #7: THE EFFECTS OF DEVELOPMENT INTERVENTIONS IN A GIVEN AREA OR AREAS (E.G., IN AGRICULTURE) ARE NOT SPREADING. CAN COMMUNICATION TECHNOLOGY HELP?

Discussion: Rural communities often have problems in communicating directly with one another, perhaps because of geographical barriers, rivalries or simply lack of well-established communication channels. Communication technology can help to overcome some barriers, as in Alaska. (See p. 42)

Project Idea:

- Use of communication technology such as videotape, slides or radio, to promote inter-community flows of information about what one or another community has achieved, to motivate others to follow their example. Ideally this should dramatize "before" and "after" conditions of intervention and promote dialogue on the problems involved, benefits achieved, possibility for replicability and so on. Village "field days" or feasts can provide good settings for such local communications activities.

IV. SUPPORT AND UPGRADING OF SERVICES

Communication technology can also be used simply to strengthen or upgrade existing services (e.g., in health, agriculture, community development). There is often a need for this kind of assistance. The services

may not have the needed outreach, they may have been badly planned, they may be weak in terms of supervision, or field staff training may be deficient. Many of these problems are likely to have a cumulative impact. If remedial action is not taken immediately, costs incurred will increase. In many of these and similar situations, communication technology can increase effectiveness, at a proportionally minimal cost.

Question #8: THERE IS WASTAGE OF HEALTH SERVICES IN RURAL AREAS BECAUSE THE POORER AND MORE TRADITIONAL PEOPLE DO NOT USE THEM, EVEN WHEN THEY DO, IT IS USUALLY AS A LAST RESORT WHEN MEDICAL SCIENCE IS POWERLESS. CAN COMMUNICATION TECHNOLOGY HELP IN THIS SITUATION?

Discussion: The health sector in most countries cannot afford wastage, and yet it is not uncommon to find rural health services underutilized. The reason often lies in lack of social and cultural compatibility between the modern and traditional health care systems. Communication technology can never provide the final solution, but it can help locate the problem, and prepare the way for improvement, or it can do a more limited "patch-up" publicity job.

Project Ideas:

- Use of communication technology to publicize successes of health services (e.g., a cure from a disease which has usually resulted in death, or the prevention of disease in an area through vaccination). This will help particularly to counteract the bad publicity the services have probably had from all the failures, of course augmented by seeking help too late, but nevertheless seen as failures by the rural people.
- Use of communication technology for locating the problem, where it is suspected that the health services are not culturally and socially appropriate to the people concerned. Such a medium as

film or videotape (maximum correlation with the live experience would be preferred) could be used to record the health services in action. This could then be shown to the people concerned in a very non-directive way. They can give their opinions about what they do or do not like about it, or how it compares to the way they are used to coping with sickness in the community. The recording of the people's reactions can then be played back to the health personnel or health planners, wherever it is most relevant. This procedure would be probably more effective than the directed interview, and capable of revealing problems which either the people did not want to voice or had not even consciously faced before. It would also help both save face among health personnel and make information more credible to them.

Question #9: IN SPITE OF THE EXTENSION OF HEALTH SERVICES IN RURAL AREAS, THE CONTACT OF THE MORE ISOLATED POPULATIONS WITH SUCH SERVICES IS LIMITED. CAN COMMUNICATION TECHNOLOGY HELP REACH THESE PEOPLE?

Discussion: Communication technology can help reinforce or extend the final weak link of a hierarchical health care system. It can also be used to promote greater self-reliance among people so that they will be less dependent on inadequate services. There is no reason why both approaches should not be used in combination.

Project Ideas:

- Use of communication technology to provide isolated people with better contact with the health system. For example, two-way radios can be used to call for emergency help, and provide a channel for information on measures to be taken until help arrives.
- Use of communication media with wide outreach, such as radio, to provide an alternative system for health delivery to isolated areas. Such a medium,

especially if able to be linked into existing local organizations and activities, can be used to promote greater self-reliance and self-help in health. People can be educated for health surveillance, prevention and rehabilitation, even in the absence of specialized health personnel.

Question #10: THERE IS A PROBLEM OF LACK OF SUPERVISION AND MOTIVATIONAL SUPPORT OF ISOLATED DEVELOPMENT STAFF, PEOPLE ARE NOT AVAILABLE TO PERFORM THIS FUNCTION, NOR CAN BE IN THE SHORT TERM. CAN COMMUNICATION TECHNOLOGY HELP?

Discussion: Communication technology can be used for in-service motivation of development field workers, for task allocation and to promote evaluation of task accomplishment. Their activities should be coordinated with those of any existing field staff supervisors.

Project Idea:

- Communication technology can be used to focus on selected activities at a given point in time, to spread information about what others are doing and promote self-evaluation. This can be done through regular radio broadcasts, if the number of workers warrants it, or through smaller media such as audio-cassettes, bulletins, etc., if they do not.

V. EDUCATION/MOTIVATION

There is currently considerable emphasis in the development community in reaching needy populations directly with certain kinds of priority information. The educational role of communication technology has been widely acknowledged, so that little need be said about it, except to stress

that information has to be very closely linked to action. Knowledge by itself is a luxury which very few Third World governments or poorer people can afford these days. The motivational role of communication technology is less widely recognized, but perhaps it is equally, if not more important. This does not give people new motivations but provides extra support for drives they already have (e.g., health, income) so that they come to have top priority. Or it may mean linking a needed change into one or more drives that are most important to the people concerned. While the illustrations provided below put emphasis on motivation of the rural people, it should not be forgotten that the motivational process can also follow the other way. Communication technology can also help to encourage governments to do something for the people, that the people want. The illustrations provided under "information flow" above could equally be listed here to illustrate this latter function.

Question #11: WHILE THE GOVERNMENT POLICIES GIVE HIGH PRIORITY TO INVESTMENTS IN HEALTH PROGRAMS FOR THE RURAL POOR (E.G., HEALTH SERVICES, HEALTH EDUCATION, NUTRITIONAL SUPPLEMENTS), THE RURAL VILLAGERS GIVE VERY LOW PRIORITY TO HEALTH. CAN COMMUNICATION TECHNOLOGY HELP PROMOTE INTEREST AND PARTICIPATION IN THIS SITUATION?

Discussion: There are many ways of approaching this problem. It depends a great deal on the flexibility of the government programs, and the urgency of health problems. If immediate attempts at health action can be delayed, it would be better to either get the people involved in decision-making about health (as they did about income in the Philippines, see p. 37), or start with something that they are interested in and then add a motivational component, to interest them in health.

Communication technology could facilitate both approaches. Both could lead to increased interest, and increased effectiveness of the health programs, because they make them more responsive to people's felt needs. However, if such actions are not feasible (e.g., for lack of local infrastructure, government program flexibility, time considerations), the more conventional motivational approach may have to be taken where the action decided on at the top is presented to the people in the most appealing terms. Health activities can also be made more attractive when programs do take place. (In China, environmental sanitation actions sometimes take place in a party atmosphere.) Again, communication technology can play a role.

Project Ideas:

- Communication technology can be used to piggy-back a health motivational component onto an activity that already exists at the local level (e.g., sewing classes) or that can be made to exist because it responds to the people's priorities (e.g., painting the village church, improving the football field). For example, entertaining tapes with nutrition or hygiene themes could be played during sewing classes, and discussions can be started where people become involved.
- Use of communication technology to support the more active involvement of people in health decision-making. Grass-roots decision-making about actions will help people feel it is their program, rather than the government's. This will often increase their interest and involvement, even if the subject dealt with does not have top priority.
- Use of communication technology such as radio and posters to raise people's awareness and consciousness of health and its importance to many facets of their lives. The strategy should be to link health benefits onto what is valued by the people (e.g., beauty, strength, work, social relationships). This can be done through media activities at any level, depending on the size of the population and other factors.
- Use of communication technology to make health-related activities more pleasurable by providing associated entertainment or social contacts, which

will promote increased consumer participation even in the absence of great interest or consciousness of health importance. This can be especially effective in community health work.

Question #12:

THE PROBLEM IS ONE OF NUTRITIONAL HABITS. THE PEOPLE DO NOT USE AN AVAILABLE PRODUCT (E.G., GREENS, MILK, OR A COMMERCIAL FOOD SUPPLEMENT) WHICH WOULD BE SIGNIFICANT IN THEIR NUTRITIONAL IMPROVEMENT. CAN COMMUNICATION TECHNOLOGY HELP?

Discussion:

Many of the same considerations apply as in the above illustration. In this situation two important factors should be kept in mind: 1) people may have good reasons for not eating the particular product (e.g., cultural, logistical, psychological) and the first step is to attempt to identify those reasons; 2) nutritional habits are very difficult to change as a rule, and it is not simply a question of informing people what is good or bad for their health. Depending on the diagnosis of the problem, communication technology may or may not be able to help. Any use decided upon should be carefully planned.

Project Idea:

- Communication technology can be used to both educate and motivate, emphasizing not only health considerations involved in the new item, but those factors which are important to the people (e.g., time-saving, income-saving, prestige).

Question #13:

MOTHERS ARE CEASING TO BREAST-FEED THEIR INFANTS, AND IT SEEMS THAT ONE OF THE MAJOR REASONS IS THE INCREASING POPULARITY OF CANNED MILK. BECAUSE OF UNSANITARY PREPARATION OF THE MILK, THIS IS CON-

TRIBUTING TO INFANT SICKNESS AND DEATH. CAN COMMUNICATION TECHNOLOGY HELP MOTHERS RETURN TO BREAST-FEEDING?

Discussion:

Again, the first step is to find out why mothers prefer tin-milk, and not only answer the question in terms of the publicity tin-milk might have had, but how that publicity impacted the mothers concerned. Another important consideration would be to attempt to see what remaining support there was for breast-feeding among people accessible to mothers who might influence them (e.g., health personnel, and more traditional people like mothers-in-law and grandmothers) and involve them in the communications strategy.

Project Ideas:

- Prolonged promotion of breast-feeding through radio associated with local support (e.g., community development workers, health personnel). Breast-feeding might be associated with the same considerations that originally prompted the change to tin-milk (e.g., prestige, convenience, health).
- Use of an intensive multi-media campaign, with no local-level organization, to promote breast feeding. The assumption is that the local support will exist anyway among the more traditional people who tend to reject new ways of doing things, and such influences will become activated in the course of the campaign.

Question #14:

PROGRAMS OF SANITARY SERVICES (E.G., LATRINIZATION, POTABLE WATER) ARE FAILING IN RURAL AREAS BECAUSE THE PEOPLE DO NOT USE THEM. CAN COMMUNICATION TECHNOLOGY HELP DEVELOP APPROPRIATE HABITS AND PRACTICES?

Discussion:

The approach to be used depends among other things on the scale and stage of provision of the sanitary services.

Project Ideas:

- (If the services are already in place in a large area.) Use of a communications campaign to promote individual change of practices. A mass medium like radio could be used together with local-level organized support. Where the extension of such services has been scattered and/or limited, a more local approach and smaller technology would be preferable.
- (Where the services are still in the process of being extended to some areas.) Use of an integrated approach, coordinating a communication-support component with the delivery of the services. The strategy employed would depend on the situation and the problem. Even if a major part of the campaign is directed towards adults, young children should not be excluded, and teachers might also be involved, since correct habits are easier to instill at an early age.

Question #15:

IN SPITE OF LAND-REFORM, STATISTICS SHOW THAT BOTH TOTAL PRODUCTIVITY HAS DECLINED AND THE POOR FARMER HAS HAD LITTLE OR NO INCREASE IN INCOME. CAN COMMUNICATION TECHNOLOGY HELP?

Discussion:

Land-reform needs to be supported by measures to maintain productivity (e.g., water, farm equipment, fertilizers, agricultural credit, education) of redistributed land. These may have been lacking. One of the missing measures may have been agricultural education. If so, time is crucial.

Project Idea:

- Use of mass media together with local support to provide the new land-owners with priority information, always keeping in mind what agricultural equipment and materials they have to work with, which may be limited.

VI. PARTICIPATION/COOPERATION

Another popular topic in development today is that of participation. Many people feel rather uncertain about it, partly because there is so much confusion as to exactly what it means, and partly because it has a somewhat revolutionary mystique. Finally, there is considerable reaction to the idea of participation, because it is so very difficult to put into practice in project planning. This is especially the case in bilateral and multilateral aid, where the planners are often people from outside the country. In spite of this, there are situations in which communication technology projects can be designed which are directly concerned with the promotion of politically and socially desirable participation.

Question #16: CERTAIN COMMUNITIES LACK PATTERNS OF COMMUNITY ORGANIZATION FOR DEVELOPMENT, WHICH ARE NECESSARY FOR SUCCESSFUL IMPLEMENTATION OF DEVELOPMENT ACTIVITIES. CAN COMMUNICATION TECHNOLOGY HELP DEVELOP SUCH PATTERNS?

Discussion: Communication technology has been used to promote community organization in Alaska, (see p. 39). The approach outlined will not always work, but it may be worth trying.

Project Idea:

- Non-directive use of a medium such as videotape to set in motion a process of community discussion and organization for development. For example, the initial recordings can simply be directed towards having the people get accustomed to the medium and beginning to feel free to talk about themselves and the community. The tapes can then

be played back to a community meeting for comment, which is again recorded. This movement can be repeated, moving progressively towards definition of common concerns which can become the development priorities for the community. Cooperation will already have been helped by the sharing of views and shared definition of priorities. Community leaders for action can also evolve in the process.

Question #17: THERE IS INTEREST IN ENCOURAGING PARTICIPATION OF THE LOCAL WOMEN THEMSELVES IN DESIGNING WAYS OF BETTER INTEGRATING THEM INTO THE SOCIO-ECONOMIC DEVELOPMENT PROCESS. CAN COMMUNICATION TECHNOLOGY HELP INVOLVE THEM?

Discussion: The mass media in most countries continue to perpetuate the traditional stereotypes of the woman as wife, mother, and sexual object, often standing in the way of a more participative social, economic and political role for women. Women themselves have been influenced by these definitions, and for this reason find it difficult to take a new decision-making role. Thus one way that communication technology can "help" is to stop being a barrier to the integration of women. But it can also take a more positive stance in presenting new role models for women. Also, on the local level, it can support them in actually deciding personal applications of such roles and, eventually, in implementing them. Especially the smaller and simpler communication media, if well used, can help facilitate the participation of women in decision-making.

Project Idea:

- Use of all the main public communication channels (radio, television, press) in an intensive campaign to present new role models for women with emphasis on the economically and socially involved woman. Ideally, national communication policies might also establish norms for advertising and entertainment to support this new

orientation.

- Use of local communications media (e.g., games, flexiplans, posters, flannel graphs, pamphlets), to stimulate discussion and help in definition of alternatives. The women themselves must be allowed to take over the discussions and guidance must remain non-directive.

Suggestions for Further Reading

DODDS, Anthony, Multi-Media Approaches to Rural Education. Cambridge, England: International Extension College, 1972.

Brief case studies showing how various media in a structured framework such as a study group, cultural center, or film forum can promote rural development. Suggests that while mass media in combinations can reach more people cheaply, limitations lie in their impersonal approach. A useful background volume with descriptions of projects in many countries.

INGLE, Henry T., Communication Media and Technology: A Look at Their Role in Non-Formal Education Programs. Information Bulletin No. 5, The Information Center on Instructional Technology. Washington, D.C.: Academy for Educational Development, 1971.

A selected review of present technology in nonformal educational programs: radio, television, video-taping, programmed instruction, traditional media, and multimedia utilization. The majority of cases cited are in the rural areas of the lesser developed countries. Useful for those interested in more technical information on communications media and their uses for nonformal education.

MCANANY, Emile G., Radio's Role in Development: Five Strategies of Use. Washington, D.C.: Information Center on Instructional Technology, Academy for Educational Development, September, 1973.

A review of radio strategies for education/development in rural areas. Deals with open broadcasting, instructional radio, rural

radio forums, radio schools and radio animation groups. Suggests conclusions about past performance and makes recommendations for the future. Useful for those considering radio use in development programs in any region.

OPUBOR, Alfred E., (ed.), Communication for Rural Development. East Lansing, Michigan: Michigan State University, African Studies Center, 1975.

A collection of case studies of development communications in Africa and an annotated bibliography. Countries include Mali, Ghana, Nigeria, Senegal, Niger, Dahomey, Botswana, Mauritius, Tanzania. Useful for those specifically involved in Africa, but also for those in other regions because of some good critical discussions.

PERRETT, Heli Sagasti, Communication with the Rural Poor: A Knowledge Base, Volume I. Washington, D.C.: Academy for Educational Development, 1975.

An in-depth consideration of key strategy issues in planning communication technology use for integrated rural development. It answers the most pressing questions posed by planners on the basis of both field experience and the social sciences. Particular attention is given to what special considerations are necessary for insuring benefits to the rural poor. Useful for development decision-makers and especially those who do not simply want answers but the scientific reasoning behind answers.

PERRETT, Heli Sagasti, Communication with the Rural Poor: An Action Focus, Volume II. Washington, D.C.: Academy for Educational Development, 1975.

A companion volume to the above. Develops in detail the field of development communications planning for rural development. Looks at how it has been approached in the past and suggests a new approach for the future. Presents theory, strategies, planning guidelines, and makes policy recommendations.

SCHRAMM, Wilbur, Criteria for Selecting Media Systems. Paper presented at the USAID Conference on Communications Policy and Planning for Education and Development, Stanford, California, 1976.

A down-to-earth paper on media selection for development which should be necessary reading for anyone interested in this issue.

SCHRAMM, Wilbur, Big Media -- Little Media. Washington, D.C.: Office of Human Resources, Agency for International Development, 1973.

Analyzes the cost-effectiveness of different instructional media used for different educational purposes. While most of the emphasis is on formal education, it still remains a very useful volume for out-of-school educational use of media, and a good reference volume on media in general.

VAN BOL, Jean-Marie and FAKHFAKH, Abdelfattah, The Use of Mass Media in Developing Countries. Brussels: International Center for African Social and Economic Documentations, Bibliographic Enquiries Series, No. 1, 1971.

Over 2,500 annotated entries in English and French. Comprehensive resources of world-wide sources including newspaper articles, unpublished papers in many languages, and geographic index. Also a list of periodicals and collections consulted. A useful reference volume on mass media use.