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ABSTRACT

Six issues of the newsletter "Development Communication Report" focus primarily on the use of communication technologies in developing nations to educate their people. The issues included in this collection are: (1) Summer 1985, which highlights agricultural, health, and educational projects that have proven successful; (2) Autumn 1985, which concentrates on health communications; (3) Winter 1986, which focuses on the purpose of visuals, how to use them in training, and how people's understanding can be improved through appropriate exposure to and use of such materials; (4) Spring 1986, which discusses development communication projects in developing nations, including the People's Republic of China, South and Central America, Swaziland, Puerto Rico, India, the Gambia, Malaysia, and Bolivia; (5) Summer 1986, which focuses on broadcast technologies, including communication satellites and radio; and (6) Autumn 1986, which features articles on the innovative use of well-planned, well-integrated, and well-tested print materials in developing nations, including photonovels, rural newspapers, and posters. Reviews of recent publications, announcements of development-related conferences and courses, and a subject index of past issues are also provided. (RP)

DEVELOPMENT COMMUNICATION REPORT

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Communications Strategies for Agriculture: Hybrids of a Different Kind

by William Smith and Howard Ray

Two decades of experimentation have enriched our understanding of how to organize and use communication to support agricultural development in a wide range of settings and conditions. Many of the old principles of good communication have proven true; others have been expanded and made even more effective. Particular projects, like the Basic Village Education project in Guatemala and the Masagana 99 project in the Philippines, have demonstrated to us how ideas borrowed from fields such as advertising and marketing can be effectively added to large scale programs of agricultural development. The key change has been a shift away from media-specific planning, toward a systems approach to communication, which uses radio, print, and other channels as part of an interrelated network of inputs targeted at specific changes and driven by a farmer orientation.

These three elements—a farmer orientation, targeted change, and an integrated media network are the fundamental organizing principles around a growing set of hybrid communication strategies.

Farmer Orientation

The farmer is not a receptacle into which new agricultural technologies are poured, but an active catalyst whose needs, constraints, attitudes, and vocabulary orient and drive the communication component. Communication is not a link to the farmer, it is a link between the farmer, researcher, planner, and extensionist.

Our tools for understanding the farmer's perspective are growing. Our dependence on formal survey research and anecdotal information is giving way to smaller, behavioral studies. Concept testing, focus group interviews, behavioral trials, and intercept interviews are specialized names for a new genre of sound village research techniques. These behavioral studies help to identify hidden constraints a farmer may encounter in trying a new innovation, and to help understand less visible incentives which inhibit or promote adoption. They help us select vocabulary which the farmer will understand, and integrate the new innovation into the farmer's own view of his problems and needs. They help us ask not only "How good is the new idea?" but "How good will the farmer think the new idea is?"

We know for example that there are five basic reasons why any new idea might not be accepted: (1) a farmer may not have the skills or knowledge to use it; (2) he may not have the tools or materials to apply it; (3) he may see no benefit from using the new idea; (4) he may receive benefit from doing something quite different; or (5) he may perceive the new idea not only as having no benefit, but as punishing in some way—more work, more costly, less status, etc.

Traditionally, the job of agricultural communication has been to motivate the farmer to "want" to use a new idea and then to teach him the skills or knowledge to apply it. Behavioral studies help us explore what "want" really means and to help determine how to best teach the new skills. What benefits will the farmer experience? How can we describe the relative costs and benefits to the farmer in the most

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In this issue . . .

A Health Campaign in Zaire

by Iain McLellan

In the central African country of Zaire a government department, several international aid organizations, and church-sponsored groups have coordinated their development support communications (DSC) campaigns to better disseminate health information. This interorganizational cooperation will enable participating groups to learn from each others' experiences in DSC, and to avoid costly duplication efforts.

Santé pour Tous, the nucleus of this coordinated effort, is a primary health care and preventive medicine project that is sponsored by Zaire's Department of Health, and the U.S. Agency for International Development (A.I.D.), and administered by *l'Eglise du Christ du Zaire* .

In addition to its main focus—improved primary health care—under the umbrella of *Santé pour Tous* is a vaccination campaign, a family planning project, and a nutrition and agricultural promotion project. Each has a different organizational structure and separate funding sources, but to facilitate coordination of DSC activities, representatives from these organizations sit on each others' boards.

Santé pour Tous centers are located in 50 rural health zones across Zaire. Each health zone has a central hospital and field office. These offices are equipped with battery-powered film and slide projectors used to train nurses, birth attendants, and village health workers in primary health care and DSC techniques.

Sharing Communication Materials

These same materials are also used by the other organizations participating in the *Santé pour Tous* project for their village-based DSC activities. Additionally, Community Development Committees, comprised of health professionals and village leaders have been established in many rural health zone villages to coordinate campaigns and projects at the local level. A village committee first decides upon a health issue that concerns village residents, then they

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persuasive way possible? What costs will the farmer pay for giving up what he is already doing?

While these questions seem, and in fact are, simple, they are rarely asked in a systematic way. Our focus has often been on the innovation rather than on the farmer. We describe the benefit of a new seed variety or new pesticide from our perspective ignoring costs, often of a social nature, which the farmer considers too high.

A second major area of improvement has been our recognition that all farmers are not alike. Our mass media broadcasts have tended to lump farmers together, focusing more on their similarities than on their differences. We have too often allowed our view of mass media as a big audience medium to dictate what we say and to whom we address our messages. But we now know how to segment broadcasts and direct them to special farmer groups. We can develop differentiated message strategies for different groups of farmers and can use techniques such as message tone, characterization, and scheduling to reach important subgroups with more relevant and persuasive information.

Targeted Change

The second basic principle which is changing our view of agricultural communication is a focus on selecting and assigning a priority to the content of agricultural messages; targeting areas of opportunity rather than using a hit-or-miss approach to information diffusion. Concretely we know that effective agricultural communication is responsive to seasonal variation in the farmer's needs.

We also know that for a new behavior to become routine, people need to do it many times, to get support from several places, and to have the support (or reward) as close to the new behavior as possible. This presents a real problem in agriculture. A new seed variety doesn't yield its better results for weeks, or even months. The reward in improved yields is affected by many things outside the control of the seed developer or the farmer. Drought, flooding, unexpected rises in fertilizer costs, and a lack of credit can obliterate the most carefully applied new practice. We have also learned that disseminating simple media messages about the wonders of a new seed variety will produce only frustrated and incredulous farmers. Clearly, the messages we decide to present must be analyzed from this perspective and carefully selected to ensure that observable outcomes are perceived as rewarding for the farmer. This means planning a comprehensive communication strategy which helps the farmer deal with seasonal problems as they are encountered. Farming is not like taking medicine—you do not get better after taking two tablets. It is an integrated and cumulative process which is necessarily reactive to unpredictable events. But we cannot teach everything at once, so we must carefully decide is needed now and focus on that advice as a ry target.

Media Network

Finally, no single media channel is powerful enough to accomplish the job. Dozens of studies were carried out in the 1950s and 1960s to determine "What is better—radio, TV, print, or the extensionist?" The answer is now clear. "What is better?" is the wrong question. The right question is "What is better for what purpose?" And some clear answers are emerging.

Broadcast media is better at reaching a lot of people quickly with fairly simple ideas. Print media is best at providing a timely reminder of information we cannot expect someone to remember without reinforcement. And, interpersonal communication, including extensionists, group meetings, community organization, and demonstrations, are clearly the best way to teach and develop credibility.

Perhaps a more important finding is that we need all three of these components to make an effective program. We need to reach many people quickly; they have to have some reminder of what we have told them; and they have to believe in us if they are going to take our advice. Effective communication is like a three-legged stool. If you are missing one leg you have an unstable foundation.

". . . . we need a specific systematic way of ensuring that our priority messages . . . are going to interact with each other to promote change."

A new set of questions has resulted from these findings. How do we best orchestrate various inputs to maximize their impact and minimize our costs? We cannot use all channels all the time, because using all channels would be too expensive. We have to carefully select elements from each of the media groups and then integrate them so that they multiply the importance of each other.

We need what communication specialists call a channel strategy. Channel strategies are situation specific. They grow from an understanding of a particular country, a particular program, and a particular audience. They are based upon preprogram research into questions like: "Who listens to what?" "Who reads?" "What are the costs of each media channel?" "How complicated is the advice we have to give?" "How accustomed to and/or tired of radio or print messages, is our audience?" "Whom does our audience trust for advice on a given topic?" and many others.

Suppose we have a country where farmers do not read very well; indeed, they are not used to printed instructions of any kind. We want to tell farmers that there is a pest problem, and that we have a pesticide solution. We want to teach them to mix the new solution—and it is very important that they mix it in exactly the right amount water and apply it at the right time. Our extension network is spread too thin, they simply cannot reach enough farmers in time to control the pest problem. A communication strategy is put together in which a simple printed flyer with the mixing instructions is designed and distributed in large numbers to local stores, extensionists, and other field workers. First, we use short radio broadcasts (spot announcements) to tell farmers we have a pest problem, a pesticide solution, and that the flyer is available at local stores. At the same time, extensionists are training small groups of farmers dispersed throughout the region, in how to mix and use the solution. Each trained farmer receives a colorful flag to fly over his house as an identifying marker that he is one of the "expert mixers" of the new pesticide. A second set of radio programs not only tells farmers how to mix the pesticide properly, but informs them that the "flag farmers" in their community have been trained and are sources of advice on how to apply the pesticide properly. Each "flag farmer" is given dozens of the flyers to distribute to neighboring farmers as reminders of how to mix and apply the pesticide. Special radio programs are produced to teach farmers in isolated areas how to use the flyer, and to remind them of what they have learned from their neighbors.

This simple example illustrates how each of the media channels—print, radio, and interpersonal interact cumulatively. It is drawn from a concrete experience in West Africa. The Ministry of Health of The Gambia wanted to popularize a new medicine for diarrhea, and within a five-week period managed to teach almost 60 percent of the women in the country to prepare and give the new medicine using the approach described above.

Many agricultural problems are more complicated and long term than our pesticide example. Other channel strategies would be necessary and are possible. The key new insight is that we even need a channel strategy—a specific, systematic way of ensuring that our priority messages, directed at selected audiences, are going to interact with each other to promote change.

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Radio and the Educational Needs of Africa

by Alex T. Quarmyne

The following is an abridged version of a speech presented at the "New Directions for Education by Radio" Conference held in Nairobi, Kenya, Sept. 23-28, 1984. This conference was jointly sponsored by the Ministry of Education, Science and Technology, Republic of Kenya, and the Office of Education, Bureau for Science and Technology, U.S. Agency for International Development. It represents A.I.D.'s continuing effort to disseminate the "interactive radio instruction" methodology applied in the Radio Language Arts Project in Kenya, Nicaragua, Thailand, and the Dominican Republic. (See the Spring issue of Development Communication Report.*)*

". . . the democratization and renovation of education [is needed] to enable all African children and adults to exercise fully their right to education."

This is the first priority need as defined by African Ministers of Education and economic planners as voiced at a conference held in Harare, Zimbabwe in 1982. Democratization of education rests principally on the spread and maintenance of its delivery system. The traditional mechanisms of education, mainly schools, are structurally incapable of carrying out this task of democratization. There is no African government that could build the classrooms, train the teachers, and provide the support required to educate all its young citizens, let alone its adults, and much less to a given measure of competence. Education of the scale and the type required by Africa cannot be accomplished through and in the classroom alone.

A Tool for Democratization and Renovation

Radio is one of Africa's great wasted resources. It was enthusiastically hailed by African governments at independence as a powerful instrument for education both in its broadest and more limited sense.

It was the perfect medium for an impoverished, disadvantaged continent. It could instantaneously and simultaneously reach geographically dispersed populations. It did not require literacy of the receiver—nor even of the sender.

National development plans have consistently provided for improvement of the broadcasting transmission infrastructure. Most African countries are today able to distribute radio programs to over 90% of their populations and at least seven countries have 100% radio coverage.

A total solution to the once most difficult problem of reception facilities is now within our reach. Although in many African countries the unreliable supply of batteries still limits the potential number of working receivers, even this shortcoming is soon expected to be overcome with the introduction of solar-powered radio sets.

Radio in Africa can thus be said in practical terms to be a high-access medium from the point of view both of distribution and reception. No other medium, channel, or technology offers so feasible a promise for the democratization of education. Apart from individual capacity for learning, nothing need constrain the radio listener from benefitting from an educational program—not age, not sex, not the lack of certificates or transport or clean clothes, and all the other barriers that effectively select who may benefit from traditional modes of education.

As Wilbur Schramm points out and today we are able to concede:

". . . . of course students can learn effectively from the media, from ANY medium . . . . . and what the media can do, they can do as well as a classroom teacher, sometimes better."

Certainly, we cannot afford not to heed common sense or to listen to reason. A question often raised is that of cost-effectiveness. It is relatively simple and straightforward to apply the criterion of cost-effectiveness to situations in industry. In education, however, it is not that straightforward; and in considerations leading to the choice of one communication medium over others for educationl application, it is even more complex.

From the results of many educational radio projects around the world and other studies, it is now generally accepted that, particularly in situations such as we have in Africa where educational radio does not imply the creation of separate networks of production and transmission facilities, much higher cost-effectiveness over traditional classroom teaching can be guaranteed. It is also clearly established that the cost-effectiveness of radio in education can be as high as five times that of television.

Here then is a wonderful scenario for radio as the ultimate tool for the democratization and renovation of education in Africa. The only thing missing is the action. To say that there has been no action may appear not to do justice to the work of the hundreds of men and women who have over the years worked with dedication in some form of educational broadcasting. They would be the first to lament with me, however, that their efforts have not led anywhere near democratizing and renovating education.

Going through a list of some 23 projects which have been labeled as educational radio projects in Africa over the past two decades, there are only five which I am able to identify as having successfully fulfilled their objectives or as being in the process of doing so. Five out of 23 is certainly not an impressive score.

A Few Success Stories

There was a time when the popular belief was that as an instructional tool, radio as a stand-alone system was a poor performer. However, there have been successful attempts to counter this argument. Among them, Tanzania where educational radio was part of a focused national campaign supported by a strong political organization. Another was in Mauritius, where the Mauritius College of the Air successfully used radio, TV, and correspondence material in its educational programming. Again, this was a product of the highest level of national commitment. Both also exemplified involvement at the grassroots and operational levels from the beginning, and were supported by formative research.

Today, in the light of dwindling human and financial resources in most of Africa, the use of educational radio as a stand-alone system seems to present a feasible strategy. The use of radio as a stand-alone system, however, requires creative compensation for interpersonal and other support inputs. Such compensation must necessarily be based on sound pedagogical principles. It therefore demands the most intimate collaboration between broadcasters, stretching their craft to the limit, and educators, testing the validity of their teaching skills. This is what the Language Arts Project in Kenya has so impressively demonstrated.

Our experiences with the few truly successful projects we have had so far tend to indicate that it is not only a particular type of approach which works. One major feature which is common to all successful projects is the use of specialists, who employed sound educational and communication research techniques for the design of the projects, for the development of the programs, and for the assessment of their effectiveness.

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Do You Have a Radio Question?

The Spring issue of DCR was devoted to a state-of-the-art review of "interactive radio" —an instructional design applied to radio to improve education in developing countries. If you have any questions about this new methodology or how it might be adapted to your country's educational needs, we encourage you to send them to us. Starting with the Fall issue, our radio experts stand ready to respond to your queries. Direct your questions to:

"Radio Question"
Clearinghouse on Development Communication
1255 23rd Street, N.W.
Washington, D.C. 20037
U.S.A.

(Radio *continued from page 3)*

We have also discovered that for a project to succeed, it does not have to be of any particular type. Classification of types of educational radio programs is often done for the purpose of facilitating analyses, but has never been seen to be a success-determining factor.

All we are able to identify at this time is the role that should be played by educational and communication research during the planning of the project, the development of the broadcast program (through formative research), and the use of summative research tools to measure effectiveness.

But are these findings really new? I submit that they are not. They have been with us and demonstrated to us many times over. We now have all the answers.

Why the Failure of Radio in Education?

Strictly speaking, educational radio in Africa cannot be said to have failed. The fact is, there has been very little serious educational radio effort in Africa. There have been and are a number of educational radio projects and programs, but many have been short-lived, short-sighted or both. Often they have been mere reproductions of the traditional classroom formats. In no way could these be said to be contributing to the democratization and renovation of education. A number of other projects have been planned and executed purely as experiments or research ventures. Nevertheless, there are a multitude of reports of countless seminars with the ever-present title "The Role of Broadcasting in Education" which assert that educational radio has failed because of budgetary constraints on program production, the lack of listening facilities, or the shortage of trained personnel. Year after year, this same list of "problems" surfaces and nothing ever seems to be an adequate solution—not the use of low-cost portable production equipment, not the provision by government of free receivers, not even the increase in the number of communication graduates.

"The use of radio as a stand-alone system . . . requires creative compensation for interpersonal and other support inputs."

All one has to do is to listen to any program labeled "educational" on any African radio service and to reflect on the teaching and learning processes, and one is bound to come to the conclusion that we are not only stagnating but probably actually retrogressing. In most cases you are even lucky if you find a program you can actually listen to.

Where attempts might have been made to use radio seriously for education, these have been undercut by the entry of its more glamorous sibling, television. Following patterns established elsewhere, both educators and broacasters in Africa started looking to television for solutions to educational problems. These were of course not practicable as the Ivory Coast experience has so painfully finally driven home to us. But the magic of television lingers on, to the disadvantage of radio. As one African Director of Broadcasting put it, "I am not yet able to run radio and they are asking me to submit proposals for television."

The Task Ahead

Radio has been proposed in the discussion as the optimum medium or technology to achieve the dual goals of educational democratization and renovation in Africa. But is educational radio in Africa in its present form ready to accept this challenge? My answer is no. There are obviously more fundamental reasons for our failures than those we have traditionally presented at the many conferences and seminars. I would like to submit two of these reasons for your consideration at this conference.

The first problem is with the human factor—the educator and the broadcaster. The educator will not give an inch from his arena of classroom teaching to facilitate wider learning; the broadcaster will not share the mystique of the craft to put it to substantive use. Each displays a degree of inflexibility which suggests a lack of understanding of the purposes of his or her individual discpline, however he or she may have mastered its form.

We require a renovation of the broadcaster and the educator themselves. From the broadcaster we require a commitment to, and a change of attitude towards education. Similarly, from the educator, we require a commitment to, and a change of attitude towards radio.

Secondly, we require democratization of radio itself. Democratization of educational radio will require the decentralization of production and transmission facilities. It will require opportunities for citizens to have closer access to the program-building machinery and to help ensure that programming reflects their concerns and their communities' educational needs.

Unfortunately, in this regard our continent still has a major problem. The truth is that most of the time broadcasters themselves do not study educational radio, its potential and its implications adequately enough to be able to make convincing proposals to their governments.

The underutilization of radio to date would seem finally to indicate that we have allowed ourselves to be awed by its potential. But let us remember that in the same manner that we have so far limited this potential, we also have it within our power to harness it to our ends. To continue to steer the now-familiar old course and attempt piecemeal remedies along the way will never get us there. Africa has not yet truly discovered educational radio. Let this be the start of that discovery. ■

Alex T. Quarmyne is the Unesco Chief Technical Adviser at the Zimbabwe Institute of Mass Communication, Harare, Zimbabwe.

Low-Cost Collapsible Sound Studio

The Clearinghouse recently received an interesting set of plans for a low-cost collapsible sound studio. It was originally designed for Mahaweli Community Radio in Sri Lanka which needed a sound-proof portable cubicle that could later be moved to a permanent site. This 2.1 x 3.6 meter studio can easily be dismantled and transported. The total cost, using locally available materials wherever possible, was US$1200, (excluding air conditioner).

For a free copy of the complete construction plans, request "A Low-Cost Collapsible Sound Studio," Broadcasting and Rural Development Working Paper No. 2 from: Unesco Consultant, Mahaweli Community Radio, Gampola Road, Peradeniya, Sri Lanka.

Rural Reconstruction Training Courses Offered

The International Institute of Rural Reconstruction, Silang, Cavite, Philippines, announces its schedule of International Training courses to be conducted during 1985 and 1986. Courses are designed for Third World nationals who are currently working in either middle- or senior-level management positions with rural development organizations in the Third World.

Applicants must have at least three years of experience in rural development work and a related academic background. They must be formally nominated by their organization, and must be in good health to stand the rigors of an intensive course which includes living and working in rural communities. Courses offered are:

Advanced Course in Rural Reconstruction, Oct. 14-Nov. 23, 1985 and Feb. 10-March 21, 1986

This six-week certificate course for middle-level managers places particular emphasis upon rural reconstruction implementation strategies in order to enhance attitudes, skills, and knowledge that prepare participants to become more efficient, effective, and committed managers of development programs.

Senior Manager's Seminar, Nov. 3-18, 1986

This is a four-week certificate course to provide a forum for sharing and analysis of current rural development practices which will increase awareness of, and capability to deal with changing realities and emerging issues in the Third World today. Major emphasis is on participant sharing, rural development issues and strategies, critical areas, and program planning and evaluation.

For further details contact: Director, Training Division, IIRR, Silang, Cavite, Philippines 2720 or Vice President, U.S. Office, IIRR, 1775 Broadway, New York, N.Y. 10019, U.S.A.

Commercial Cinema: A Medium for Development Communication

by John Riber and Steven Smith

Commercial cinema, with its well-established distribution network of cinema halls in many developing countries offers an exciting opportunity to present potentially sensitive development issues. In Bangladesh, the commercial cinema is very popular. The country's thriving film industry annually produces about 40 feature films which are distributed to more than 250 cinema halls across the country. Historically, cinema in Bangladesh has been strictly an entertainment medium, sharing a tradition with the Indian film industry. The formula film dominates—overflowing with melodrama, heroes, heroines, villians, and extravagant love song-and-dance routines. As in other countries, cinema in Bangladesh transcends the boundaries of local social mores, and even the poorest villagers can escape into a world where events occur that would not be tolerated in real life.

In 1982, Worldview International Foundation (WIF), an international voluntary organization whose activities focus on practical participation in the information process, established a media center in Dhaka, Bangladesh in order to use the film medium to disseminate development messages.

WIF first worked with the Ministry of Education (MOE) to promote literacy. They collaborated in making a short film, *It is Dawn; Open the Door* (*Bhor Holo, Dor Kolo*), for cinema hall viewing. To ensure that the literacy film had the same appeal as the feature attraction it would precede, entertainment was fully integrated into the production. Following the typical commercial film formula, a love story, with dancing, singing, and fighting, paralleled the developing social message—that those who achieve literacy will be rewarded.

Social Marketing in Films

Using the social marketing approach to promote a development theme, the producers were able to plug into a commercially successful network that assured them of reaching a large, attentive audience for a very low cost. An estimated eight million Bangladeshis have seen this literacy film in cinema halls, mobile film projection vans, and on TV. Evaluation of the project showed that 95 percent of the surveyed audience enjoyed the film and understood the intended message. Furthermore, the film was so popular that it was submitted as the Bangladesh entry at an international film festival in Moscow.

WIF's next project was considerably more challenging. Population Services International asked WIF to produce another film, for the Social Marketing Project (an A.I.D.-funded family planning communication project), this time with family planning theme as the social development message. Although family planning is not encouraged in this Islamic nation, by using the commercial cinema medium where sexual themes are commonly featured, the possibility of introducing the controversial topic of family planning could even add to the film's popularity.

The script was developed from research conducted by Manoff International Inc., an American social marketing agency who worked closely with MRCB, a Bangladeshi market research agency. They identified the target audiences and the constraints against using contraceptive methods in Bangladesh. Then messages were designed to address these issues. One constraint was the hesitancy of husbands and wives to discuss family planning with each other. Research suggested that contraceptive methods might be used more frequently if this constraint could be overcome, so the decision was made to use this issue as the film's theme.

A love story entitled *Together* (*Amra Dujon*), was developed. The social message revolves around a newlywed couple; both are hesitant to immediately start a family, but neither feels comfortable discussing his/her feelings on the subject with the other because of strong cultural taboos against such a delay. As the story develops, the barriers are surmounted and this "model couple" begins to discuss the issue—using singing and dancing to express their concerns about family planning. Although the contraceptive method they have selected is not revealed (this would not be accepted even in a commercial film), it is made clear they are resolved to practice family planning.

Meanwhile, a parallel plot developes as a villain, an evil moneylender who resents this marriage because of his own desire for the heroine, interprets the couple's failure to produce a child as impotency on the part of the hero. The villain's continued pursuit of the heroine leads to action-packed fighting, a house burning, and ultimately to his comical humiliation, all key ingredients of a traditionally successful Bangladeshi commercial film.

Understanding audience expectations in a commercial cinema context is the key to successfully adapting this medium for social development messages. Although some foreign technical assistance was provided, the success of the two films described above depended on how their themes were adapted to the traditional feature film format. Alamgir Kabir, a leading film director in Bangladesh selected popular stars for the films, and in keeping with expected, though seemingly conflicting messages, dressed the village heroine in elegant clothing and jewelry. This reinforced her role as the stereotypical heroine of the film.

Viewers in developed countries who have been exposed to documentary films can appreciate them as a medium for learning. In developing countries, on the other hand, few people are exposed to the documentary film format. Movie-goers have paid their hard-earned money to be entertained, not educated. For this reason, a documentary-type film, lacking the escape and excitement viewers expect will not succeed in a commercial environment.

To date, commercial cinema has been an underutilized medium for development messages. WIF's experiences demonstrate how effective, well-conceived social messages can be presented in a commercial cinema context. It is

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Standard commercial cinema filming techniques are used to produce movies with social messages in Bangladesh.

(Cinema *continued from page 5*)
hoped this will encourage others to use this widely available channel of mass communication to disseminate other social messages. ■

Amra Dujon *is a 30-minute Bengali-language color film available with or without English subtitles in 16mm film, or video: 1/2" Beta or VHS, or 3/4" Umatic from DSR, Inc., Box 281, Columbia, Maryland 21045, U.S.A. Information about* It is Dawn, Open the Door *is also available from DSR, Inc.*

John Riber is an independent filmmaker working with Environment-Conservation Media Services, Madras, India. He established and administered the Video Media Center in Dhaka, Bangladesh from 1982 to 1984.

Steven Smith is currently working with DSR, Inc., and as a consultant on Third World information, education, and communication projects.

Microcomputer Course Offered

A course on *Microcomputer Acquisition and Uses in Development*, to be held Oct.12-Nov.2, 1985 at the University of Minnesota, is now open for registration. This course will guide individuals through the process of acquiring, implementing, and managing a microcomputer system. The course is designed for developing country senior- and middle-level managers with administrative and planning responsibilities. Participants are assumed to have had no prior computer experience. The course cost is $3000 per person, including lodging. For registration information contact: Fred Hoefer, 405 Coffey Hall, Univ. of Minnesota, 1420 Eckles Ave., St.Paul, Minnesota 55108, U.S.A. Telex/TWX: 298421 UM COLAG. Phone: 612-373-0725.

Call for Papers

The International Communication Association (ICA) invites you to submit your proposal for a paper, program, special session, workshop, or tutorial for its 1986 Annual Conference to be held May 22-26, 1986 in Chicago, Illinois, U.S.A. ICA comprises eight divisions and some special interest groups representing a variety of focuses in communication. Proposals are due Nov. 1, 1985.

For submission guidelines and further information write to:

ICA Headquarters, P.O. Box 9589, Austin, Texas 78766, U.S.A.

On File at ERIC

by Barbara Minor

Documents on agriculture and health education in developing nations that have been recently entered in the ERIC (Educational Resources Information Center) files focus on agricultural extension service and basic education, agricultural marketing principles, and several facets of health education. *All five of these documents are available in microfiche and four in paper copy from the ERIC Document Reproduction Service (EDRS), 3900 Wheeler Ave., Alexandria, Virginia 22304, U.S.A. Be sure to include the ED number and payment in U.S. funds for the price listed plus shipping.*

- Perraton, Hilary and others. *Basic Education and Agricultural Extension. Costs, Effects, and Alternatives. World Bank Staff Working Papers, Number 564.* 1983. 297 pp (ED240 253)

The five papers in this collection examine the methods, costs, and effects of traditional agricultural extension services and basic education and present three case studies illustrating different approaches to using mass media for rural education. The first paper reviews the literature on the effectiveness of agricultural extension, and reports that extension agents' studies of internal efficiency have been generally critical, while evaluators of external efficiency (mainly economists) show much more positive results. It is suggested that extension agents often have irrelevant evaluation criteria and economists generally overestimate the specific impact of extension services. The literature on the comparative value of mass media and traditional approaches is reviewed in the second paper, which emphasizes ways in which mass media have been used for agricultural extension and for basic education, ways in which mass media have been linked with group and individual study, and the costs of using mass media as compared with other approaches. The remaining three papers present case studies of mass media use by a government department, the Extension Aids Service of the Ministry of Agriculture of Malawi; a nongovernmental organization, INADES Formation, in West Africa; and a semigovernmental agency, the Lesotho Distance Teaching Center. Available from World Bank Publications, P.O. Box 37525, Washington, D.C. 20013, U.S.A. for US$15.00; or from EDRS in microfiche only for 97 cents.

- *Agricultural Marketing Principles: A Training Manual. Training for Development. Manual No. T-31.* 1984. 157pp. (ED 251 698)

This module contains basic materials to enable the workshop facilitator to teach concepts in agricultural marketing to Peace Corps volunteers. Introductory materials include general suggestions for the facilitator, a checklist, and a suggested timetable for a two-week workshop. The course is organized by 11 concepts: needs assessment, market familiarization, basic terms and concepts, marketing in action, the production-marketing-consumption system approach to agricultural commodities, characteristics of commodity systems, behavior of market participants, simulation of a marketing system, identification of alternatives in previously identified marketing situations, role of Peace Corps volunteers in agricultural marketing, and sharing resources and plans for action. The module provides objectives, teaching techniques, materials needed, suggestions to the facilitator, handouts, worksheets, and visual aids for each concept. Lectures are minimal; content is presented primarily through learning experiences. An appendix contains additional visual aids, a bibliography, and supporting materials. Available from EDRS in microfiche for 97 cents or in paper copy for $12.65.

- *Health and Sanitation Lessons (Africa). Appropriate Technologies for Development. Reprint Series, Number 27.* 1978. 114 pp. (ED 243 818)

This book presents 43 health, nutrition, and sanitation lesson plans originally developed by Peace Corps volunteers in Niger and recently translated from French by Graeme Frelick for use in The Gambia. These lessons can be used in a variety of ways, in home visits, pre-/postnatal consultations, well-baby clinics, and primary schools. Unlike most traditional health lesson plans which emphasize the lecture method, these plans stimulate and encourage full client participation. Although designed in 1971 for Sahelian countries, these lessons can be adapted and modified, as appropriate, to serve as guides for health programs and materials development in other countries. Included are sections on antenatal care, childbirth, home visits, and maternal and child health clinic visits. Appendices provide sample recipes for weaning foods, a nutrition lexicon, and information about complementary proteins. Available from EDRS in microfiche for 97 cents or in paper copy for $9.15.

Community Health Education in Developing Countries. Appropriate Technologies for Development. Peace Corps Manual M-8. 1978. 208pp. (ED 243 819)

This manual was developed by Peace Corps for those interested in promoting change to improve health conditions in their communities. Parts I and II focus on fundamental health education processes and discuss techniques and approaches for working with community members to plan and develop programs that are responsive to the community's expressed needs and goals. Part III presents another aspect of educational programs, that of transmitting information about health topics. This section includes specific reference materials on selected health topics relevant to developing countries, and it also discusses methods and aids for presenting such information to individuals or groups. Part IV deals with four common community health problems: nutrition, maternal and child health, control of communicable diseases, and accident

(*continued on page 12*)

Mass Media in Peru Promotes "Responsible Parenthood"

by Judy Brace and Reynaldo Pareja

Peru is currently embarked on a mass media campaign under the auspices of the Ministry of Health (MOH), to promote a variety of health-related activities to raise the level of consciousness and knowledge of low-income parents about family planning, immunization and oral rehydration. A joint effort between the Ministry, the U.S. Agency for International Development (A.I.D.), and a private advertising agency, has resulted in a series of TV spots, and a graphics package, grouped under the umbrella theme of "Responsible Parenthood," to encourage a thoughtful approach to the bearing and raising of children.

Because television spots are not as frequently used as radio spots for social service messages, our readers might be interested in the development of these spots.

The National Population Council (CNP) strongly advocated adoption of an overall theme of "Responsible Parenthood," and the MOH concurred. The elements that would be covered by this theme and reflect this responsibility would be family planning, oral rehydration, and immunization. That is, responsible parents decide on the number of children they can raise properly, they vaccinate their children, and they give oral rehydration solution to a child with diarrhea.

The mass media campaign activity was based on the results of fairly extensive audience research data that established knowledge and beliefs in the areas of family planning, immunization, and oral rehydration. With these data, message designers, working with a communications consultant, were able to develop media themes, test and correct them, and finally to air them.

Since responsible parenthood was to be the umbrella theme for all the spots, an introductory spot was designed to enunciate the components of responsible parenthood, and to establish a song and some recognizable phrases that would carry through to all the other spots. The elements of responsibility included adequate food, good education, health care, appropriate clothes, adequate housing, and much love. The overall song phrase adopted was "...loving and caring for the children that the couple decides to have."

The audience research identified two appropriate audiences at which to aim the family planning messages: those who want no more children and those who are using traditional contraceptive methods. For the first audience, TV spots were designed to reach 1) the woman, 2) the man, and 3) the couple. For the second audience, the spots were designed to reach the couple with an emphasis on either the male or female role. In each case the free services of the health centers were promoted.

The campaign was based on findings from both quantitative audience surveys and from focus group surveys. (In a focus group, six to 12 participants guided by a moderator, discuss topics relevant to the investigation underway. The participants are selected from representatives of the target audience on which the investigation is focused. Usually the findings from several groups are necessary for adequate research coverage.)

The Peruvian focus groups revealed information about contraceptive habits, male attitudes toward their wives' use of contraceptive methods, that there is a folk vocabulary for family planning activities (to incorporate into the spots to make them acceptable), that the quality of service given in the health centers conditions the continuing reliance on the center for future health services by its clients, and finally that the most credible source of information about family planning services would be a mature female doctor, herself a mother. (A former radio actress, now a gynocologist, was found to take this media role.)

Pretest Adjustments

The creative design team of the advertising agency, with the information from these surveys, then developed TV storyboards (a series of sketches or photographs prepared during the planning of a film or videotape to illustrate the sequence of the visual information to be conveyed). Four versions were developed for the umbrella spot on responsible parenthood, and one was selected after informal pretesting, for presentation to the MOH and CNP. In addition, several storyboard versions were made for five other target area spots.

After presentation to the MOH and CNP, suggestions were incorporated into the storyboards, which were then translated into animatics (the photographing of drawings or sketches by a movie or video camera in such a way as to simulate movement, which, accompanied by a narrative, becomes a "draft" version of the film or video product being planned). The animatics were taken into the field for pretesting by a research group.

The results of the pretest were very useful in selecting the final approach to be taken. Without a pretest, major mistakes would have been made. For example, an animatic that showed men talking about the family planning aspect of responsible parenthood over a pool table was rejected by the pretest audience as representing too many negative factors. So the setting of this spot was changed. A combination of male and female voices giving the message was preferred to a male-only narration. Chance encounters, in the animatics, between neighbors or relatives that gave rise to discussions about family planning were interpreted to have hidden or clandestine meanings, and were dropped or altered to clarify the situations.

The TV spots used the visual image of rabbits to suggest uncontrolled reproduction, and the narrative reminded the viewer to "remember the rabbits"—that responsible parents do not have children in an uncontrolled manner.

It had been planned to use the TV spot's symbol of rabbits in the radio spots as well, until the pretest of the radio messages revealed that reference to rabbits, without the visual image of rabbits in the arms of narrators, was too harsh, and was rejected by the pretest audiences. This was a surprise to the message designers, who had assumed that production of radio spots was simply a matter of transferring the TV images to a radio format. The pretest showed a clear distinction between the two media, requiring separate and unique content.

(continued on page 10)

Oral Rehydration Therapy Conference

The second International Conference on Oral Rehydration Therapy (ICORT II) will be held December 10-13, 1985, at the Hyatt Regency Washington in Washington, D.C. More than 90 countries are expected to be represented at this meeting, which will focus on implementing ORT programs, and report on the progress and new developments in ORT since the first conference in June 1983.

Topics for discussion at the conference include: communications and social marketing; distribution and logistics; health personnel training; supervision and monitoring; evaluation and cost issues; and integrating ORT with other health activities.

Simultaneous translation will be available in French, English, Spanish, and Arabic. There is no attendance fee.

The conference is sponsored by the U.S. Agency for International Development in cooperation with the International Centre for Diarrhoeal Disease Research/Bangladesh, the United Nations Children's Fund, the UNDP, the World Bank, and WHO.

For registration material please contact: Ms. Linda Ladislaus, ICORT II Conference Staff, Creative Associates, Inc, 3201 New Mexico Ave. N.W., Suite 270, Washington, D.C.

A Communicator's Bookshelf

1 World Communications: A Handbook by George Gerbner and Marsha Siefert (editors), (New York: Longman, 1984) 527pp.

This book is the result of an international conference on New World Information/Communication Order (NWICO) issues held in May 1980. It is important to note the date because it marked the high point of NWICO debate in Unesco. At that time the release of the MacBride Report was imminent and the Unesco Belgrade conference promised some important changes in the information order. Western nations seemed about to make concessions to Third World demands for better balance in information flow and faster transfer of technology.

It is unfortunate that the production process of almost four years (the book was published only in 1984) makes much of the material seem outdated in the light of subsequent events: few changes in either world orders of economy or information, the U.S. withdrawal from Unesco, a world recession especially dramatic in the Third World, and a proliferation of technology but without special concessions for the Third World.

The book suffers from a second drawback. It contains 54 chapters in the 485 pages of text, or an average of nine pages per chapter including references. There are few chapters that can afford to give the detail to make sense of the many important and complex issues they tackle. For example, it is dubious that anyone who is not already well versed on the subject can get anything from the six-page chapter in which Agrawal valiently attempts to summarize the vast Indian Satellite Instructional Television (SITE) project. Or what can be gotten from the four-and-one-half pages by Gorove who attempts to summarize the legal and political issues of the 1979 WARC (World Administrative Radio Conference) where NWICO issues were discussed on the technical level? There are many other examples, but these illustrate the basic problem.

There is a positive side to the book. First, the comprehensive nature of the contributions, which are placed in five sections, gives the reader a guide through important NWICO issues of the time. These sections are: 1) Global Perspectives on Information; 2) Transnational Communications: the Flow of News and Images; 3) Telecommunications: Satellites and Computers; 4) Mass Communications: Development within National Contexts; and 5) Intergovernmental Systems: Toward International Policies. The editors make an effort to provide a coherent set of chapters within these sections, although there are a number that seem out of place. Also, there are obviously weaker chapters that must be put somewhere but their inclusion hurts the overall quality. The editors must be complimented on the technical quality of their editing, the useful appendices (especially the glossary of confusing United Nations acronyms and the esoteric terms of high technology), and the relatively successful effort to make so many chapters fit some reasonable framework without long introductions.

It would be impossible to summarize the vast array of topics, but let me give a list of some chapters that I believe are still useful in this post-information order age. Many of the NWICO debate chapters and those dealing with the MacBride Report are of historical interest, but not as relevant to 1985 as some had hoped five years ago. In section one, the Cruise-O'Brien chapter on information in North-South negotiations is still important even though it has yet to be widely implemented. Also, the Amunugama chapter detailing the cultural issues of the information order debate remains in focus today. The work on news (mostly content analysis) in section two contains some useful empirical data, but it seems repetitious in the light of other studies that have shown the imbalances in news coverage. The proof of imbalance is clear enough by now; what is needed are some policy suggestions as to how best overcome the problem. Unfortunately no chapter in this section really addresses this policy issue. Section three on telecommunications is about technology changes, and the Hamelink, Dordick, Melody, and Rice and Parker chapters all contain useful insight and data very relevant today. Section four on mass communications and national development should be the most relevant to practical communicators in the Third World, but unfortunately it is not. There are a number of reprints in this section (Hornik and Atwood and Mattos come to mind) or simply chapters of marginal quality. The chapters by White and Motta which begin and end the section make the most sense in their theoretical frameworks and the policy implications they draw from them. Finally, section five on intergovernmental systems has much on NWICO and Unesco issues as well as the 1979 WARC, but much of the writing seems now out of focus. However, Pelton's chapter is perceptive about INTELSAT in foreseeing the problems it is now facing with increasing international competition from the private sector, especially in the U.S. Levin's observations about contradictions in U.S. internal and external communications' policies are useful reminders that the International Telecommunications Union (ITU) sessions of WARC are still ongoing and that U.S. policies are still suffering from these shortcomings. Block's chapter on the International Program for the Development of Communication (IPDC) that was created in Unesco as a more pragmatic way for Western nations to help solve information order problems now seems overly optimistic. IPDC has not received nearly the level of aid promised by beleaguered Western nations when it was created. It suggests that once NWICO pressure was off, things returned to normal.

This book would be a useful library reference and in this sense may be correctly labeled a "handbook." Although there are some useful and even important chapters, the brevity of treatment means that readers who wish to get a deeper knowledge of an issue will have to go elsewhere. ■

Available for $34.95 from Longman, Inc., 95 Church Street, White Plains, New York, New York, 10601, USA.

Reviewed by Emile G. McAnany, Professor of International Communications at the University of Texas, Austin, Texas. He has written extensively on the effects and uses of communication technologies in developing countries.

2 Bibliotech: The 1984/1985 Computer Cookbook, by William Bates. (New York: Quantum Press, 1985).

This book may finally be the pill that cures severe cases of technophobia and technophilia —and that happy balance alone is worth a good bit. But there is more: *Bibliotech* is visually appealing, extraordinarily well written, and "humanizes" the computer revolution by setting computers in a context of getting work done. Unlike the usual perspective that believes history began with the invention of the microchip, Bates does not confuse Silicon Valley with the Garden of Eden. His description of the "invention" of programming is a good story and a good example of the style and tone of the book:

"Ada, the programming language, is named for Augusta Ada, Countess of Lovelace...the assistant of Charles Babbage, inventor of an analog calculating machine that is sometimes considered the first computer. Ada's mother was a nonconformist, and encouraged all of Ada's intellectual interests, including...mechanics and mathematics. In 1834, at 19, Ada married William King, later the First Earl of Lovelace, and eventually bore him three children.

"Ada's work, however, was not hampered excessively by motherhood. Introduced to Babbage, she translated his trea-

tise on the analytical machine into French, adding her own notes that were the first description of what in the 20th century is called computer programming.

"Like many mathematicians, Ada was fascinated by gambling, and carried on a passionate correspondence with Babbage in an effort to work out a foolproof method of betting on horses, evidently without success. In her 30s, Ada gambled heavily, borrowing from her mother to hide her losses from her husband. She died young, at age 36, in 1852, a hundred years before her time."

Ada, the programming language, made its public debut as the darling of the Defense Department in 1980.

This little bit of computerbilia gives credence to the claim that this book is "the classic informal encyclopedia of personal computing." It is organized alphabetically by topics such as "bubble memory," "database managers," "the handicapped," "Japanese computers," "software piracy," "robots," "video disks," and "wordprocessing."

For each of the 100-plus entries, there is a discussion of the role played by the computer, amply illustrated, with appropriate references (including software), and a description of related technology. The six-page section on spreadsheets includes a list of Visi-Calc commands, a glossary of spreadsheet terms, and a description of the Lotus 1-2-3 program that is slowly but surely nudging Visi-Calc (and its relatives) out of first place.

As an "introductory text" to the world of microcomputers, this may be among the finest books I have come across, especially for the person whose background or interests are not highly technical. ■

A French edition will soon be published by Hachette Informatique, 79 Boulevard St. Germain, F75006, Paris, France.

Available in English for US$14.95 from Quantum Press/Doubleday, 245 Park Avenue, New York, NY 10167, USA.

Reviewed by Patti Lowery who has written and edited in the fields of health care, training, and international development. She was the former editor of *Micros in Management*, a newsletter devoted to microcomputer applications in developing countries.

3 Communication Strategies: A Guide for Agricultural Change Agents, by Herbert F. Lionberger and Paul H. Gwin (Danville, IL: The Interstate Printers and Publishers, 1982), 239pp.

Lionberger and Gwin have produced a well-written, clear summary of the U.S. extension model with a perspective adapted to the Third World setting. They provide a good explanation of the extension system from research and development (both pure and applied) through dissemination and integration of innovations.

Their book contains chapters on: 1) Assessing Change Variables in Local Communities; 2) Development and Delivery of Science Based Information the New Way; 3) Applications from Diffusion Research; 4) Problems in the Linking (i.e., the Extension System); 5) Interpersonal Communication; 6) Mass Media Channels as Communication Assists; 7) Planning Communication with Small and Mass Audiences; and 8) Selecting Change Strategies and Going to Work. Each chapter features a summary of recommendations for change agents and a list of references for further reading.

Communication Strategies is well-illustrated with both diagrams and drawings from Third World rural settings. One of its best features is a "Highlights" section at the beginning of the book with summaries of the main points from each chapter. There is also a welcome ten-page Glossary at the end.

The book's stated objectives are "(1) to develop an understanding of change processes and conditions as they apply to agriculture; and (2) to formulate strategies for implementing planned change that will help agricultural advisors with their mission to improve world food production and perhaps most of all help farmers achieve their own objectives." All in all, Lionberger and Gwin have done a good job of making communication, extension, and social change research relevant and accessible to the practitioner.

But it is a particular kind of practitioner. The book is aimed at "agricultural change agents, such as extension agents, farm advisors or county agents, agricultural missionaries, and others who are dedicated to developing world food supplies and helping people in other ways." However, the agricultural change agents the authors seem to have in mind are college educated. Despite the fact that this book is relatively free from social science jargon, it is still for the more sophisticated reader. The typical agricultural extension agent in much of the Third World, with 6 to 12 years of schooling and a limited vocabulary, will likely find this book too demanding. Indeed, a colleague who recently conducted a course on application and diffusion for Third World extension administrators reported that the book was too complex for his trainees and was used as background reading, a role in which it served very well. He also reported that it was useful to the trainers in reviewing theory and practice and in preparing training activities which translated this theory and practice into terms relevant to the Third World trainee.

The authors mention many of the critiques of the U.S. extension model and discuss the necessity of adapting the model to the realities of the Third World setting where infrastructure may be weak, necessary inputs nonexistent, research not relevant to farmer needs, mass media limited, and extension agents poorly trained and supported. However, they do not seem to ask themselves if this model is appropriate under such circumstances. Many authors have argued that utilization of the extension model results in a knowledge gap. The wealthier, better educated farmers are better able to try and to adopt innovations, the result being that the rich get richer, the powerful more powerful, and the poor and powerless more so. Another argument against the extension model is that its top-down approach reinforces the subservient and dependent role of the subsistence farmer. These results weigh against the utilization of the extension model, critics say, and for the use of communication models more relevant and responsive to the realities of Third World rural development.

Lionberger and Gwin clearly believe that the U.S. extension model is appropriate for developing countries and that it can be adapted to the specific conditions in the Third World. For example, they recommend gearing research toward the development of technologies that benefit the "littles" more than the "bigs," to use their terminology, with appropriate support services like small farmer credit and communication programs aimed specifically at subsistence farmers. They make a point of saying that "change strategies must be selected in the context of what is locally available, possible, and feasible." They discuss, for example, alternative strategies for the selection, training, and coordination of extension agents and for the utilization of media, depending on local conditions. One strategy which Lionberger and Gwin suggest for successfully meeting the needs of farmers is the participation of those farmers in helping determine research and information needs, and in helping the researchers and advisors communicate the new information appropriately. The authors make a concerted and well-reasoned effort to draw lessons from the mistakes of past attempts at too rigid an application of the extension model. The communication specialist who agrees that the extension model is appropriate for, and can be adapted to, Third World agriculture development will find many helpful hints for doing so.

Based on the assumption that the U.S. extension model can be adapted to the developing country setting, *Communication Strategies* offers a clear explanation of how this model works, ideas for adapting it to local conditions, and discussion of problems inherent in the evolving extension programs of Third World countries. This *Guide for Agricultural Change Agents* is a useful reference for technical assistance personnel and Third World professionals attempting to facilitate the growth of extension programs in developing countries. ■

Available from Interstate Printers and Publishers Inc., 1927 N. Jackson St., Danville, IL 61832, USA., for US$8 95.

Reviewed by Nancy Swing, an independent consultant in development communication and member of the adjunct faculties of the School of International Service and the School of Education at The American University, Washington, D.C.

Low-Cost Telecommunications on the Way

Earlier this year a transmission was relayed that represents a breakthrough in the use of low orbiting satellites for worldwide communications. Using amateur radio frequencies, inexpensive transmitters and receivers, and a personal computer, a team of technical volunteers from the U.S. and Canada sent messages from Hawaii to the University of Surrey in Guildford, England via a tiny satellite orbiting the earth over the poles at an altitude of 429 miles (690 km).

The messages—digitized "packets" of information—were stored in the satellite's on-board computer. A few hours later, as the satellite passed over Guildford, the letter-perfect messages were downloaded and printed out automatically by the Surrey ground station's small personal computer.

The system, called PACSAT, will offer telecommunications networking at a fraction of the cost of conventional telexes once it becomes operational. Ground station equipment costing not more than $2,000 and capable of operating on batteries or solar power, can be carried in a briefcase. The first full-service PACSAT satellite is scheduled for launch in early 1987.

Volunteers from Volunteers in Technical Assistance (VITA), a private voluntary development agency in Washington, D.C., Radio Amateur Satellite Corp. (AMSAT), an international association of "ham" radio operators, and Interpares, a private Canadian agency engaged in community-based development cooperated in design and launch efforts.

(TV *continued from page 7)*

Armed with the feedback from the pretesting phase, actual live videotaping with actors began and nine spots were prepared: four on family planning, three on oral rehydration and two on immunization. These are currently being aired nationwide in Peru, on three TV channels, with time paid for by the MOH with A.I.D. funds. Informal evaluation of the spots has shown them to be so successful that funding is being sought to extend the airing of these spots for six months longer than the initial six-month broadcast period. ■

Judy Brace is director of the Clearinghouse on Development Communication, at the Academy for Educational Development. She has written extensively on communication application issues in developing countries.

Reynaldo Pareja is the current Mass Media and Health Practices Project Field Director in Ecuador for the Academy for Educational Development. He has been extensively involved with field applications in public health communications throughout the developing world for the past five years.

(**Health** *continued from page 1)*

select DSC materials from the local field office that are most relevant to that issue. A campaign is mounted to inform residents how to best deal with the problem. After their own campaign is over, the committee shares their experience with neighboring villages.

For example, after a DSC-supported campaign helped to reduce the number of waterborne diseases in one village (by installing a filtered water source), members of the development committee from that village visited neighboring villages to discuss their successful campaign, using the same DSC materials they had used in their own village.

DSC resource materials have been developed by organizations such as INADES, a resource center sponsored by the Catholic Church, RATELESCO (Zaire's educational radio and television authority), OXFAM, UNICEF, WHO, and other international organizations. Many of these materials are then adapted to the local culture and distributed to the various field centers. For example, a flip chart on prenatal care developed by a Peace Corps Volunteer for one health center was reproduced and distributed to all 50 rural health-zone field offices. Slide shows, flannelgraphs, and filmstrips are similarly duplicated and distributed.

Special care is taken to ensure that the materials are timely and relevant to the villagers' needs. Each item is pretested by communication specialists to see how the message is interpreted at the village level. Copies of a poster showing a man holding a baby were widely distributed only after pretesting found that this unconventional image was culturally acceptable, and that it effectively conveyed the desired message that fathers, too, are responsible for monitoring and maintaining their childrens' health.

Among the many types of DSC materials used, flipcharts and flash cards have been the most widely distributed. Approximately 60 percent of the village-level nurses use them regularly. Slide shows are frequently used as well. Always popular in the villages, they can be geared to particular village needs, and can be paced to encourage discussion during the slide show.

Traditional forms of communication also have been used to disseminate *Santé pour Tous* messages. For instance, plays, songs, and role-playing have been integrated into health practitioner training programs because trainers know from experience that modern communication devices, although effective, can break down – whereas songs and plays require only human participation to get the message across, and can easily be adapted to particular village needs.

Participants in the *Santé pour Tous* project believe that with continued improvements in the system, their efforts to encourage grass-root participation will outlast existing support structures, because the necessary framework will have been established at the village level for mobilizing local residents who then go on to share their experiences with others. ■

Iain McLellan is a freelance journalist currently with Radio Canada International and a research fellow with the International Development Research Centre in Canada.

(**Ag Com** *continued from page 2)*

Summing Up

A new kind of agricultural communication program is now emerging. It represents a hybrid system which brings together what we have learned about making better media products, with new ways of organizing and integrating media and new approaches to understanding and persuading our audience. Three fields—instructional media, social marketing, and behavioral psychology are contributing to our ability to use communications more effectively in support of agricultural development.

Many of these "new" ideas have been part of excellent programs in the past. They have emerged as the product of common sense and practical experience. But now we have a solid theoretical basis for understanding when they work and how to improve and extend their impact.

The axis of effective agricultural communication is the farmer, his needs, attitudes, perceptions, and behaviors. Our communication strategy must be comprehensive, combining a detailed understanding of our advice, its cost and benefits as perceived by the farmer, how it will be delivered, and what consequences it will produce. The approach must be balanced and complete, not emphasizing one element to the exclusion of another. We need new research techniques which permit us to more easily measure the farmer's response to communication programs so that mid-course corrections can be made as needed. These techniques must be practical, reliable, affordable, and applicable. The resulting messages must be simple, clear, relevant, and repeated often if they are to be heard, understood, and accepted.

Two decades have gone by since the first large-scale programs of international agricultural communications. Other fields, particularly health and population, have demonstrated that new communication stratregies are not only possible, but cost effective. We know now to set more realistic goals and not to expect that communication will solve problems alone. As part of the overall coherent program of agricultural improvement, communication has a role to play, a role at which it is becoming better and better. ■

William A. Smith is a senior vice president of the Academy for Educational Development. Howard Ray is Director of Agricultural Sciences and Technology at the Academy for Educational Development.

A New Source of Information on Latin American Education

by Ernesto Schefelbein

The expansion of a cooperative abstracting network now provides greater access to a large number of biographical references on Latin American education for people working to improve that region's educational system. This classification project was undertaken by REDUC (*Red Latinoamericana de Documentación en Educación*), an educational research and development network for Latin America and the Caribbean. It is a private nonprofit system covering 15 countries and 20 associated centers. More than 6,000 reports on educational topics have been abstracted and are now available.

Abstracts are published at each of the national centers for distribution among their national universities and libraries. Participating countries include Argentina, Bolivia, Chile, Costa Rica, the Dominican Republic, Ecuador, Nicaragua, Panama, Paraguay, Peru, and Venezuela. Both the ongoing search for relevant Latin American educational materials, and support for broader use of the centers are encouraged at National Research Meetings (ENI—*Encuentros Nacionales Investigadores*); through preparation and diffusion of relevant state-of-the art reports; and by supporting specialized networks. Each country has one or more centers that perform these functions in association with REDUC, which are in turn coordinated regionally by CIDE (*Centro de Investigacion y Desarrollo de la Educación*) in Santiago, Chile.

As well as being responsible for Chile's center, CIDE's role is also to integrate the entire system; introducing a common index by topics, education levels, and authors, and diffusing this index throughout Latin America. Additionally, CIDE is to act as technical support to the other national centers and to make certain that CIDE norms are maintained in processing and retrieving information.

Among CIDE's key supporters are the United States Agency for International Development (AID) and Canada's International Development Research Center (IDRC). A.I.D. support for the network began in 1981 with a grant to CIDE to assist in establishing six centers. With this support, CIDE also established a central microfiche file/database and carried out a series of regional and subregional meetings. Under a follow-on grant, A.I.D. will support the expansion of the network to four new countries, increase REDUC's database, provide assistance to members' centers in installing microcomputers and in training center personnel to carry out microcomputer searches, and provide assistance in directing educational research information to education makers.

Network Organization

The purpose of the national centers is to make available locally the findings of educational research in Latin America, and to provide an overview of the educational situation in the region. However, the centers' existence and development alone is not enough to create a network. There must be an active exchange of information among these centers as well.

REDUC has both active and passive centers. Fifteen active centers collect papers and produce abstracts and bibliographies. The five passive centers collect educational materials and send them to CIDE where they are processed and published.

It is expected that national networks, similar to REDUC's regional network, will eventually be created. The experience of Peru could serve as a model. Peru is already operating an internal educational information network with five national centers that are integrated into CIDE, and several other provincial centers that are supported exclusively by internal funds. These national networks will contribute to a system-wide distribution of all REDUC materials.

Each national center has put onto microfiche the available references from national education reports published during the last decade. The bibliographies are indexed by 37 topics as well as by authors and educational levels for ease of retrieval, and to identify where further research in the educational system is needed.

Press clippings represent the main source of information about current educational policies in Latin America, because there are few formal reports available on this issue. Most research centers and libraries have press clipping files but without a topical index, retrieval would be impossible. Seven countries have classified their press clippings using the above-mentioned topical classification system. Over 10,000 press items clipped from 23 newspapers in seven Latin American countries are now accessible through the system.

Analytical Abstracts and Indexes

Each 400-word abstract includes a brief description of the document, the sources used, the method (or contents); and the main conclusions. Sometimes it may be too expensive to keep copies of important documents, so if a copy is not available at the center, the abstract indicates where one can be obtained.

CIDE publishes an annual Latin American Index of all Educational Analytical Abstracts prepared by the network for the entire region. This Index lists each abstract, classified by author and topic, enabling a researcher to identify suitable materials and to locate abstracted materials by the number and name of the center that produced the abstract.

National Education Research Meetings

With REDUC's assistance, participating countries' Ministries of Education have successfully sponsored nine National Educational Research Meetings between 1980 and 1983. As a result, there is greater visibility of and respect for ongoing educational research in Latin America and the Caribbean. In the future, there will be biannual National Educational Research meetings in participating countries to continue this exchange among the research community. The success of the educational information network depends on the ability of decision makers, documentalists, and researchers to communicate with each other. National meetings play a key role in bringing these groups together.

Papers presented at these meetings are published in their entirety by a few of the national centers, but most centers cannot afford to do this. Instead, they prepare abridged versions of their countries' papers and make these available at a lower cost, encouraging wider dissemination of this information.

REDUC has not only stimulated the diffusion of educational research, it has also stimulated its development. A solid infrastructure for research is now available based on a large body of historical and current materials available to participating countries.

The REDUC project represents better dissemination of important educational information, and contributes to the improvement of educational systems in Latin America. ■

Ernesto Schefelbein is an educational economist who works at the World Bank. He writes on educational planning and finance.

World Congress on Education and Technology

From May 22-25, 1986, the World Congress on Education and Technology will meet in Vancouver, Canada to consider the issues related to technology and our changing world. Participants from around the world will discuss the impact of new technology on education systems, on world cultures, and on global society in general.

As part of the "Innovations and Applications" theme, the Congress will feature an exhibit of high technology equipment and services relating to education and culture from around the world.

Questions concerning this conference can be sent to: Congress Coordinator, British Columbia School Trustees Association, 1155 West 8th Avenue, Vancouver, British Columbia, Canada, V6H

Briefly Noted

by Judy Brace

Readers will recall previous references to materials produced by the Bangkok office of UNDP. We have received a number of new publications from the Development Training and Communication Planning (DTCP) unit that should prove valuable to many of you. These publications are intended to share the DTCP experiences so as to strengthen national and regional communication and training capabilities for rural development programs.

Guidelines for Planning Extension Programmes sets forth basic principles and planning steps of extension programs in a clear fashion, concentrating on objectives and the process to achieve them whether it is for an agricultural, health, or family planning program.

Making Rural-Based Development Projects More Effective is a brief paper that draws on the research findings of DTCP over the past five years. In answer to the question, "What makes rural development projects succeed or fail?" DTCP's findings are that there must be adequate government or private services at the village level (technology, supplies, information, fieldworkers, etc.), and there must be participation on the part of villagers in the development effort. Without both of these contributions a project will fail. "More projects fail because of inadequate services . . . at the village level than for any other single reason." This paper does not indicate how to make projects more effective, it simply points the direction to take.

The first in what appears to be a series on *Training for Rural-Based Development Projects* poses a number of questions about training and its effectiveness in development. It calls for a new look at the results of large investments in training and asks if, in fact, these results justify the expenditures. The paper looks at training as a very expensive form of communication, requiring "physical facilities, teachers, and a great deal of time on the part of both the students and teachers." Perhaps there are other, more efficient alternatives. One is proposed here—a human resources development model—in a simple outline form. Future papers will address individual steps of that model.

A case study documents *The Evolution of the Vietnam Audiovisual Centre* and how it developed from a media production unit for UNFPA in 1981 to a national audiovisual center for the entire country by 1984. The materials produced and the training courses offered are listed.

Those readers who would like a guide to preparing a training workshop will appreciate the report, *Workshop for Subject Matter Specialists to Strengthen Fortnightly Training*, that documents the training of trainers for Nepal's Agricultural Assistants. The trainers were taken through the planning, preparation, and presentation of a two-week training session which they would subsequently conduct. The process was divided into 11 steps which can be followed to design training for any type of content specialist.

In an attempt to clarify the issues inherent in any discussion about microcomputers, DTCP shares its own experience with micros for improving its management capabilities. Their report, *Microcomputer Primer: 1st Edition, a Layman's Guide for Selection and Use of Microcomputers in Developing Countries*, addresses the various uses of micros, the hardware components, kinds of software programs, as well as whether to buy a micro, what to buy, and "getting started." There are a number of reassuring comments and suggestions, and a shared spirit of adventure that should encourage all potential users.

For all of the above publications, and for a copy of their publications list, contact: Publications Editor, UNDP/DTCP, P.O. Box 2-147, Bangkok 10200, Thailand.

Press Fellowships Available

Applications for the Alfred Friendly Press Fellowship Program are now being taken for 1986 awards. Friendly, a Pulitzer Prize-winning journalist, devoted his life to good writing, honest reporting, and maintaining a free press. This fellowship for practicing journalists, provides a working visit of six months in the U.S. and covers all normal costs including round-trip and U.S. travel, and a monthly stipend. Fellows will work directly with media organizations throughout the U.S. as contributing reporters. Applicants should have six years of reporting experience, and must currently be employed as a print or broadcast journalist in an independent media organization. Journalists from developing countries are encouraged to apply.

For further information and application forms contact: AFPF Program Office, c/o Institute of International Education, 1400 K Street, N.W., Washington, D.C., 20005, U.S.A.

For planners and engineers wishing to strengthen the community participation and health education components of their water supply and sanitation programs, WASH (Water and Sanitation for Health Project) and IRC (International Reference Centre) have published a handy *Directory of Organizations Involved in Community Education and Participation in Water Supply and Sanitation.*

The directory contains an overview of 124 organizations in 56 countries as well as 10 international organizations with experience in socio-educational programs and research in water and sanitation. For each organization information is given on address, contact persons, affiliation, working scope and languages, activities, publications, and services.

Apart from being a useful aid to people looking for support to increase community participation in their projects, the directory also aims to stimulate technical cooperation within and between the developing countries.

The price is US$10.00. Non-commercial organizations and individuals from developing countries can request a complimentary copy. Write to I.R.C., P.O. Box 5500, 2280 HM Rijswijk, The Netherlands. ■

(ERIC *continued from page 6)*

prevention and meeting emergencies. Six appendices are included: (a) a discussion of how to construct a sample survey for the population; (b) examples of survey questions; (c) examples of several kinds of educational materials and aids; (d) a bibliography of sources of materials and information; (e) a glossary of terms used in the manual; and (f) preliminary guidelines for immunizations and health education. Available from EDRS in microfiche for 97 cents or in paper copy for $16.15.

- Stambler, Moses. *Health Education for Health Promotion in Less Developed Nations.* 1984. 52pp. (ED 244 879)

Designed for policy makers and health education professionals, this paper presents a rationale and strategies for adapting health education to meet the needs of developing countries. Emphasis is placed on the need for health promotion rather than prescriptive health education. The first of two main sections discusses perceptions of health problems; biomedical components related to health care in less developed countries (demographic factors, malnutrition, unsanitary living conditions, and lack of medical care); weaknesses in USAID and other agency approaches to health education; and historical changes in the training and use of health personnel and resources. Eight health manpower objectives are included. The second section considers changes from health education to health promotion. The role of the Alma Ata Conference (1978) in setting the stage for a participatory approach to health education, the relationship between behavior modification and health promotion, and policy reformulation priorities involved with health promotion are outlined. A chart illustrates differences between health education and health promotion. Also discussed are nonformal and formal school-based health education programs, cognitive bias in traditional school health programs, social variables in health education, the role of teacher training institutes in developing teachers as health agents, and recommendations for curriculum innovation to incorporate the new health promotion approach. The Self Discovery Project developed in Georgia to incorporate the new involvement approach to health promotion is reviewed, as well as similar programs in Tanzania and Brazil. Available from EDRS in microfiche for 97 cents or in paper copy for $5.65. ■

Reviewed by Barbara B. Minor, Publications Coordinator, ERIC Clearinghouse on Information Resources, School of Education, Syracuse University, Syracuse, New York 13210, U.S.A.

Addressing Health Communication in Africa

Several workshops held in Anglophone and Francophone Africa in recent months exemplified a unique collaboration between the media and health sectors in these two regions. Jointly formulated and executed country-specific plans emerged from these workshops that have been designed to educate and inform the public about family planning as a contribution to good family health.

The workshops were organized as part of the Family Health Broadcast Project of The Johns Hopkins University's Population Communication Services (JHU/PCS), launched in July 1984 with the Union of National Radio and Television Organizations of Africa (URTNA). This project comprises a number of activities designed to increase radio and television coverage of family planning and population issues in Africa including the two workshops mentioned above; a newsletter, *Family Planning Broadcast Bulletins*, containing broadcast-ready information; funds and technical assistance for radio programs; and distribution of innovative radio programs to member countries throughout Africa.

The purpose of the workshops was to acquaint regional broadcasters and family planning experts with the JHU/PCS/URTNA project. Anglophone URTNA members met in Nairobi, Kenya, Nov. 19-23, 1984 and Francophone members met in Dakar, Senegal, Feb. 11-22, 1985. Participants in both workshops included radio and TV producers responsible for health education programs; family health experts in ministries, public health institutions, family planning associations; and special resource persons in the fields of media and family health. Among the organizations contributing either technical or financial assistance were JHU/PCS, The Ford Foundation, the Academy for Educational Development, the Pathfinder Fund, and Family Planning International Assistance. Overall organizational responsibility was assumed by URTNA/Program Exchange Center in Nairobi, and URTNA's main office in Dakar, Senegal.

Objectives

The objectives of the workshops were to:

- examine the priority family health issues in Africa and the technologies available to deal with them;
- review previous experience in using radio and TV to educate about health and family planning;
- discuss the use of radio broadcast bulletins on health;
- develop preliminary proposals for the use of radio in family health and family planning programs.

For most of the broadcasters, the workshops represented their first exposure to information about the health benefits of family planning. For several of the countries this was the first time that family health experts and radio experts had worked together. Few of the countries have established working links between the health and information ministries.

The material presented about family planning and radio techniques focused on the particular needs of African countries and was presented primarily by African experts. Many of the participants brought tapes of radio and TV material on family planning to share with other broadcasters and health-sector participants. Significant program production ideas were generated by sharing these productions.

Another important outcome of the workshops was the opportunity it presented for participants to become familiar with the financial and technical assistance available through JHU/PCS, A.I.D., and the other major donors active in the population sector.

Conference Results

Both workshops were highly successful in generating enthusiasm among broadcasters about the possibility of expanding programming on family health. The 13 Anglophone country representatives each developed concrete plans to improve existing or to initiate new programs. As a result, new radio activities are underway . a number of countries including Kenya, where a male-responsibility radio campaign was incorporated into the A.I.D.-funded family planning program; Nigeria where a mini-URTNA workshop is being planned for radio and health experts; and in Liberia where a radio drama series on family planning is being planned. Many of the other proposals presented in Nairobi are being followed up by JHU/PCS and URTNA.

Eleven Francophone countries participated in the Dakar Family Health Broadcast Workshop with equally successful results. The historically conservative position of most Francophone countries regarding family planning and population policies did not prevent them from sending very senior-level officials to represent their broadcast organizations and family health programs.

As was the case in Nairobi, many of the plans that were conceived in Dakar are now being followed up, and official proposals are being prepared in Burkina Faso, Mali, and the Ivory Coast.

There was considerable exchange of information and experience among the countries which proved very beneficial in stimulating lively discussions about family planning policies and programs. Countries that have put family planning information on the air provided orientation to help broadcasters gauge the kinds of radio and educational efforts that might be acceptable in their own countries. Most encouraging was the general climate of opinion in Dakar indicating that the potential for expanding radio/television coverage is far greater than anticipated. Although at the present time nearly all of the countries give some kind of radio coverage to family planning and sex education topics, this is not yet done on a regular basis in a majority of Francophone countries. The broadcasting of even occasional programs is an indication of major changes in attitudes about the subject.

Future URTNA Family Health Activities

Actions stimulated by the two Family Health Broadcast Workshops range from recognition of the need for regularly produced *Family Health Broadcast Bulletins*, to providing adequate follow up to the many project requests emanating from the workshops. New staff will be taken on by URTNA to initiate and monitor radio initiatives in URTNA-member countries and to provide technical assistance to help improve the quality of family health broadcasts.

For more information about the two workshops contact: Population Communication Services, Population Information Program, The Johns Hopkins University, 624 North Broadway, Baltimore, Maryland 21205, U.S.A. or URTNA, Boite Postal 3227, Dakar, Senegal ■

Microcomputer Update

In our continuing response to your requests for more information about microcomputer applications in developing countries, *DCR* is passing along information gathered from several sources.

Agriculture

According to *Micros in Management*, the former Microcomputer Clearinghouse newsletter, a highly recommended publication from Michigan State University (MSU) is: "*Microcomputer Statistical Packages for Agricultural Research*," *Working Paper #17* by Thomas Stilwell. This 23-page paper is one of many from the MSU series, *International Development Papers*. Nine statistical packages expressly designed for agricultural research are described therein. Single copies are free for AID personnel and Third World requesters, US$3/copy for others. It can be ordered from: MSU International Development Papers, Dept. of Agriculture Economics, 7 Agriculture Hall, Michigan State University, East Lansing, Michigan, USA, 48824.

A low-cost microcomputer program designed by scientists from MSU and the Agricultural University of Norway, supported by A.I.D.'s Alternative Rural Development Strategies Project, is now helping African scientists to design, manage, and analyze agricultural research experiments. With only brief training, MSTAT can be used by persons with no previous microcomputer experience, and can be run on most microcomputers. Training and software materials are available in English, Spanish, and French. For a brochure on the technical and general features of this program contact: Russell

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(Micros *continued from page 13*)

Freed, Institute of International Agriculture, 101 Agriculture Hall, Michigan State University, East Lansing, Michigan 48824. (517/355-0174)

Health

A software package called "Clinical Microcomputer Applications for Developing Countries," has recently come to our attention. The package is written especially for use in areas where medical services are often provided by paramedic personnel, and offers:

- diagnosis and treatment information for prevalent and difficult-to-diagnose diseases;
- family planning, high-risk pregnancy, immunization and nutrition information; incidence and prevalence reports for epidemiological surveillance; recordkeeping of medical and supply inventories for management decision making, for resupplying, and for use monitoring.

The package was developed as a collaborative effort between National Capitol Systems and Medical Logic International, using an interdisciplinary team of physicians, nurses, health systems analysts, and computer programmers. The modules are being translated into Arabic, French, and Spanish.

For further information contact Douglas Mackintosh at (703)671-3360 or write to: National Capitol Systems Inc , 5203 Leesburg Pike, Suite 1601, Falls Church, Virginia, 22041, U.S.A.

Computers Donated

The following article (somewhat longer) appeared in the May 1985 *The Business Edition of Development Forum*, by Robert Lawson.

Under a new agreement between Apple Computers and PACT, the New York-based consortium of development agencies, 150 microcomputers will become available to nonprofit, nongovernmental organizations (NGOs) over the next three years.

While Apple will donate 150 of its popular IIe computers, PACT will administer the project, determine which organizations are eligible to receive the systems, and provide whatever support and training is neeed by those selected.

As a condition of eligibility for the computer aid, PACT requires that NGOs, or consortia of NGOs, must have active projects in developing countries. They must be able to demonstrate that they have needs which a personal computer can help fulfill. Even though the [computer] systems are given free of charge, the NGO must also show that it has the resources to operate and maintain an Apple computer. Further, the grants are aimed at development organizations whose activities involve direct grassroots participation by project beneficiaries.

The computer system will include the Apple IIe, two disk drives, monochrome monitor, printer, telephone modem, diskettes, and printer ribbons.

Software accompanying the system will include: wordprocessing, an electronic spread sheet for budgeting and planning, database management for the storage and retrieval of information, and communications software for use with the telephone modem.

Application guidelines and additional information may be obtained by writing to. PACT, 777 United Nations Plaza, New York, NY 10017, U.S.A. Telephone (212)697-6222.

Computer News Connections

For our readers interested in keeping up with microcomputer applications in developing countries, the final issue of *Micros in Management* newsletter listed several widely circulated publication to refer to for up-to-date micro information. Among those listed:

Microelectronics Monitor, UN Industrial Development Organization, P.O. Box 300, A-1400, Vienna, Austria.

IBI Newsletter, Intergovernmental Bureau for Informatics, Viale Civilta del Lavoro 23, 00144 Rome, Italy. ■

(PANA *continued from page 16*)

Research Findings

Analysis of the data showed that there was a heavy concentration of political news from the national news agencies, international organizations, the NA-Pool and from the PANA headquarters. Considering the number of stories that dealt with visits of heads of state and ministers as well as with meetings and conferences, it appears that a conscious effort is being made to show that there is considerable interaction and cooperation between and among African and other Third World countries.

The NA-Pool contributed the largest percentage of political news with 68.4% of its total coverage. The Pool acted as a link between PANA and other Third World countries with most of its stories datelined outside Africa. It also reported stories of African relations with other Third World countries. Only 42% of Unesco-, FAO-, and ILO-transmitted material was of a political nature; whereas 48.7% of their coverage was economic and 21.4% was social.

Given that one of PANA's objectives is to gear information toward the promotion of development, one would have expected to see a reasonably large proportion of news falling into the economic and social categories. However, PANA contributed only 21.2% in these two categories. If, in terms of promoting African political solidarity PANA does quite well, in terms of social and economic information, it does poorly.

The expectation was that there would be less unfavorable news in PANA copy than, say, AFP (Agence France Presse) or AP (Associated Press) copy. However, neutral stories constituted the bulk of the output of all contributing agencies, ranging from 42.9% to 53.4%.

PANA's Contribution

Because of its regular link with the NA-Pool, PANA is making a modest but significant contribution to the development of Third World or South-South information flow. If, in the past Africans saw each other through the eyes of the transnational news agencies, they now possess an agency that enables them to see each other more directly. This, in itself, is a considerable achievement.

However, the fact that less than a quarter of the members of the Organization for African Unity (OAU) contribute stories to PANA should be a matter of some concern. As PANA itself has pointed out, some countries do not have adequate or appropriate transmission or reception facilities and therefore cannot take full advantage of the services provided by PANA. A much more important factor is that of tariffs. Many news agencies use telex for transmitting and receiving news, and do not enjoy special tariffs from their Posts and Telecommunications departments. However, this issue is being worked on at the present time.

Few stories were datelined Addis Ababa, the headquarters of both the OAU and the UN Economic Commission for Africa (ECA), two very important organs for the political evolution and economic development of Africa. One would have expected the OAU secretariat or information office to have been one of the major contributors to PANA, but this is not the case. This is cause for concern since PANA is a creation of the OAU in the first place.

PANA's Impact

One cannot accurately measure the impact of PANA on its clients after its first year of operation because no such evaluation has been undertaken by PANA or by any other agency. It is recommended that PANA undertake or commission a study to determine what its clients think of PANA's performance. This might provide better insight into the factors that have resulted in disappointing contributions, and help to determine how well PANA is fulfilling the expectations of the publics that it is intended to serve.

As noted, a large percentage of PANA's output was in the political category. Some stories dealt with political issues which were of such local interest that they were not likely to be picked up by other national news agencies to be re-transmitted to their clients. Similarly, most of the stories in the cultural category were about sports contests, which were not likely to be of much interest to users of PANA copy elsewhere. It may be necessary for PANA to establish guidelines for contributing news agencies concerning the type of news that will be of interest to their wider audience.

Currently, PANA transmits in either French or English, but not both. If PANA would transmit all of its copy in both languages, greater use might be made of its wire copy.

Further Research Needs

This study set out to establish a preliminary profile of PANA after one year of operation.

(*continued on page 15*)

Resources for Infant and Maternal Nutrition

Some helpful tips and information resources on infant and maternal nutrition that may be of interest to our readers in health communications recently appeared in a two-part series "Improving Infant and Maternal Nutrition" by Gayle Gibbons in *Mothers and Children*, a bulletin from the Clearinghouse on Infant Feeding and Maternal Nutrition.

Assessing Information Needs

Identifying some ways to organize and distribute information, the Clearinghouse focused on techniques that have proven effective in disseminating messages at the local, regional, and national levels. The following suggestions will help you assess your information needs and plan your nutrition communication strategy:

- identify your target audience;
- determine what kinds of information the target audience needs;
- examine sources of information currently available to the target audience;
- look at different options for reaching your target audience;
- use other information activities/channels to expand your audience;
- begin your information activities on a small scale;
- scale your activities to the staff and available budget;
- identify information activities of other organizations and government ministries to use in planning your own activities.

Information From the Field

According to *Mothers and Children*,

> "A vast amount of information exists on infant and maternal nutrition that people in the field need but do not have access to. . . . [Outlets] for previously unpublished information should be identified . . . to help nutrition workers monitor new research and to profit from the experiences of related projects."

The list that follows contains a wide variety of information sources, including newsletters, that can serve as useful models for those undertaking health and nutrition information activities.

- **Appropriate Health Resources & Technologies Action Group (AHRTAG), 85 Marylebone High Street, London WIM 3DE, United Kingdom**
  AHRTAG publishes a quarterly newsletter, *Dialogue on Diarrhea*, in English, French, and Arabic. Free to Third World subscribers. The newsletter focuses on issues of diarrheal disease control.
- **The Breastfeeding Information Group, P.O. Box 59436, Nairobi, Kenya**
  This breastfeeding support group publishes a bimonthly newsletter in English. (No price given) They also have published materials on how to start a breastfeeding support group.
- **Caribbean Food and Nutrition Institute (CFNI), P.O. Box 140, Mona, Kingston 7, Jamaica**
  CFNI publishes *Cajanus*, an English quarterly, free to developing countries, others US$12/year. They have a library and produce and distribute materials on infant feeding to the 17 Caribbean member-countries. A catalog of their materials is available.
- **Clearinghouse on Infant Feeding and Maternal Nutrition, American Public Health Association (APHA), 1015 15th Street, N.W., Washington, D.C. 20005, U.S.A.**
  APHA publishes *Mothers and Children* 3 times yearly, in English, French, and Spanish. It is free to developing countries, others US$5.00/year. The Clearinghouse is an international center for information and materials on all aspects of infant feeding and maternal nutrition. It provides bibliographies, documents, and referrals.
- **The Foundation for the Peoples of the South Pacific (FFPSP) P.O. Box 1493, Suva, Fiji**
  FFFSP publishes an English quarterly, *SuPaMINN*. (No price given) It covers regional maternal and infant nutrition activities, information sources, training activities, and new publications aimed at health professionals and women's groups.
- **International Children's Center, Chateau de Longchamp, Bois de Boulogne, F75016 Paris, France**
  The ICC publishes *Children in the Tropics*, a bi-monthly English, French, and Spanish newsletter. A yearly subscription is US$17.00. The Center encourages the study of all problems concerning childhood and the training and education of persons involved in work with children, emphasizing developing countries. They maintain a library and provide information.
- **International Centre for Diarrhoeal Disease Research (ICDDR) G.P.O. Box 128, Dhaka 2, Bangladesh**
  ICDDR publishes a bimonthly English-language newsletter, *Glimpse*, which features articles on new research and program activities on diarrheal disease primarily in Bangladesh and Asia. (No price given) Issues contain abstracts of recent journal articles, summaries of ongoing research projects and conferences, and descriptions of programs.
- **The Institute of Nutrition of Central America and Panama (INCAP), Apartado Postal 1188, Guatemala City, Guatemala**
  Suplemento Sobre Nutrición Materno-Infantil, Lactancia y Destete is INCAP's thrice yearly newsletter, published in Spanish only. (No price given) It covers Central American regional breastfeeding and maternal nutrition activities and issues. The newsletter is part of a larger information project run by INCAP. Information requests accepted.
- **Teaching Aids at Low Cost (TALC), Institute of Child Health, 30 Guildford St.,London WC1N 1EH, United Kingdom**
  TALC is an important source of books, slide sets, and flannelgraphs on nutrition and child health. The materials are designed for use in developing countries and are available at cost. They also publish an occasional newsletter that reviews other materials aimed at field practitioners. A catalog of TALC materials is available.
- **Voluntary Health Association of India, C-14, Community Center, Safdarjung Development Area, New Delhi, 110 016, India**
  VHAI publishes a bimonthly English-language newsletter, *Health for the Millions*. (No price given) This is a broad primary health care publication, intended for rural health and development practitioners. Issues are thematic, but also contain information about program activities in the regions of India VHAI is a large publisher of educational materials on many primary health care subjects. A catalog of print and audiovisual materials is available.
- **World Neighbors, 5116 North Portland Ave., Oklahoma City, Oklahoma 73112, U.S.A.**
  World Neighbors has prepared a number of overseas development materials including filmstrips, flipcharts, and booklets.
  Many of the filmstrips have been adapted for different regions of the world and are available in other languages. A catalog of print and film materials is available.

The Clearinghouse on Infant Feeding and Maternal Nutrition would like to hear more about other newsletters and information activities. Readers are encouraged to send samples of their newsletter or other materials to:

The Clearinghouse, c/o APHA, 1015 15th Street, Washington, D.C. 20005, U.S.A. ■

(PANA *continued from page 14)*

Given this specific objective, the scope was rather limited. Further studies might include:

- studying populations covered by PANA to determine if focus is balanced between the social elite and other population groups;
- comparing capital city/urban coverage with numbers and types of rural stories carried;
- measuring the amount of space PANA wire copy gives to continuing crises and to other "negative" news, with the space allocated by transnational news agencies to the same crises;
- comparing PANA's output for designated periods with a Western transnational news agencies (AP or AFP) to determine if the two follow fundamentally different philosophies, ideologies, or value systems. ■

Paul A.V. Ansah is director of the School of Journalism and Communications, University of Ghana. He recently worked on a research project on communication policies in Africa.

The Pan-African News Agency: A Preliminary Assessment

by Paul Ansah

This article examines the performance of the Pan-African News Agency (PANA) in the context of the role it intends to play towards establishing a more authentic voice for Africa, in accord with the values of the New World Information and Communication Order (NWICO). This article (somewhat longer) originally appeared in Media Development, *4/1984.*

The major objective of PANA is "to promote an effective exchange of political, economic, social, and cultural information among member states and to resolutely gear it towards the promotion of development." (From the Preamble of the PANA Convention.)

The Pan-African News Agency was established in May 1983 to voice African interests and aspirations, and correct the "distorted image" of Africa, its countries and peoples, resulting from partial and negative information published by foreign news agencies.

It was also felt that the flow of news that went in a north-south direction compelled the developing countries of the South to see each other through the perspectives of the powerful transnational news agencies whose interests and value systems did not coincide with those of the people in the Third World.

The purpose of our study was to establish a profile of PANA one year after it began operation. This should help to determine what PANA has done to provide the type of information that will balance the "partial and negative" image of Africa that the transnational news agencies are accused of depicting and to determine how well PANA is fulfilling the goals it set out to achieve.

PANA's Self Assessment

On the occasion of its first anniversary, PANA released a publication which was a balance sheet of its operations during the first year. This publication sums up the position of PANA thus: 'In the past, news coverage of Africa has tended to concentrate very heavily on the sensational—disasters, wars, assassinations. Seen through this prism, Africa appears a threatening and irrational place. PANA can help straighten this distorted image by providing detailed and continuous coverage of all aspects of life on the continent. Only this type of coverage can begin to make sense of Africa.'

According to this feature PANA had grown from its maiden transmission of 25 stories totaling 5,460 words from five national news agencies, to over 20,000 words a day from 15 national news agencies who transmit a total of 80 stories daily. Stories are also received from about 40 other countries on an irregular basis.

Not only does PANA receive and transmit stories from national news agencies, it also transmits news from the information departments of the SWAPO and the ANC liberation movements as well as from international organizations such as Unesco, FAO, ILO, and the European Economic Community (EEC). In addition, it transmits about 1,500 words a day from the Non-Aligned News Agencies Pool (NA-Pool). PANA could increase the volume of its daily transmissions, but it can transmit for only eight hours a day.

PANA depends on journalists seconded to its headquarters from about ten national news agencies. These journalists produce features and provide special coverage of major political, economic, and cultural events. Currently PANA transmits only in the languages in which stories are originally sent to it—either French or English, although many of PANA's own features and some international agency contributions are transmitted in both languages. Because most national news agencies do not have translation facilities of their own, they can only use copy that comes to them in a locally understood language. This may be one of the reasons there has been limited use of PANA copy

PANA itself is unable to assess how much of its material gets into the African mass media, because many African publications and radio stations do not cite their sources. PANA plans to add a photo service and to establish a data bank. It also plans to add Arabic as a transmitting language, and to increase its daily output to 30,000 words.

Methodology of the Study

PANA wire copy from April, May, and June 1984 were selected for this study. The Ghana News Agency made wire copy available to us that was received from PANA, namely the news releases for 64 out of the 91 days during that three-month period.

The material was then coded in terms of source, length, content, language, category, direction, and frequency. The two transmission languages were coded to find out in which language a greater volume of material was transmitted. The material was classified into four broad categories based on those used by PANA in its self assessment: political, economic, social, and cultural.

The material was also coded in terms of direction: favorable, unfavorable, and neutral. Favorable stories reflected harmony within and between nations—cooperation, development, economic growth, easing of tension. Within the unfavorable category were included all stories which depicted or suggested conflict, misunderstanding, crises, border disputes, human or natural disasters, poverty, and disease. What did not fall into either of these categories was classified as neutral.

(continued on page 14)

Development Communication Report

Clearinghouse on Development Communication

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In this issue we return to an earlier DCR *tradition. We are focusing on a single development sector—health In an upcoming edition we will look specifically at communication in agriculture. In both these ... new development approaches are underway, approaches which we feel are both worthy of special attention and applicable ... ctors as well.*

A shift in donor agencies (AID, WHO, UNICEF) towa... ams for oral rehydration, immunization, breastfeeding, and infant nutrition has caused health professionals ... mothers Social marketing, behavioral studies, village health practices, and ethnographic research are bei... ew child care behavior Already several of these new programs have had dramatic results. In Egypt, H... ong other countries, health and communication professionals in both the public and private sector... we feel can broaden and strengthen our audience's ability as communicators to make a positive contr...

Communication fo... lth Services

by Dr. Robert E. Black

In recent years, primary health ... grams in developing countries h... sized the utilization of simple ... assure child survival. These ... clude immunizations against ... atric infectious diseases, oral r... apy (ORT) for diarrhea, and b... growth monitoring to preve... Each of these techniques is kn... cious, with benefits demonst... trials and pilot studies. Howe... ness of these techniques in ... programs depends not only ... cious interventions, but also ... timal use by the target group.

System Constraints

Large investments directed at increasing the availability of these techniques through primary health care have often failed to accomplish the coverage necessary to have a substantial impact on child survival or nutritional ...

... ervices may ... ly, or not ... factors ... does not stop ... weight monitor... must be recognized ... or actions are, in most societies, ... accepted than therapeutic services. It is an ...

... observation that most developing ... ulations are still reluctant to im... r children against serious future ... t adopted, almost as soon as they ... ilable, the use of antibiotics and other ... tions for common self-limited ...

... ions have been used in health programs ... any years, yet it is estimated ... percent of the target age ... ing countries is currently ... nized with the six recom... . This is, in part, due to poor ... the vaccines. A measure of this ... in areas where vaccines are avail... opout rates after the first of the ... ree doses of DTP vaccines are as ... percent. Resistance to immuniza... from a limited understanding of ... ectious diseases and of the protec... effect of vaccines.

(continued on page 2)

I am pleased that this issue of *Developement Communication Report* is dedicated to Health Communications. Today there are so many new health technologies that can save the lives of millions of small children—oral rehydration therapy, immunization, improved infant feeding, and related child survival practices. More research needs to be done, but clearly the technologies we now have need to be rapidly adopted by health systems throughout the world. Communication is a fundamental part of this technology transfer.

Experiences from Honduras, The Gambia, Egypt, Bangladesh, Colombia, Indonesia, and Swaziland demonstrate that mass media, social marketing, and strategies for behavioral change work when well integrated into health delivery systems. This issue, timed to coincide with the second International Conference on Oral Rehydration Therapy, ICORT II, presents promising new findings in this field.

I hope that readers will be encouraged to apply some of the successes outlined here in their own programs.

M. Peter McPherson, Administrator
Agency for International Development

In this issue . . .

(Black continued from page 1)

Communicating for Acceptance

Health education and communication efforts are critical elements in improving individual acceptance of vaccines and of community participation in immunization programs In particular, communication efforts are needed to involve informal groups, especially women's groups, schoolteachers, and community leaders in promoting preventive health initiatives. (See *Colombian Crusade* in this issue.)

Oral rehydration therapy has a demonstrated efficacy in correcting dehydration and is felt to be an important household intervention to prevent dehydration, malnutrition and death. Recognition of the usefulness of this simple, inexpensive technology has led to its incorporation into national health care programs in most developing countries of the world. In spite of this recognized importance for the last decade, ORT was estimated by the World Health Organization to be appropriately used for only 4 percent of diarrheal episodes in children of developing countries in 1983. It is obvious, from evaluations of some ORT programs, that information on proper treatment of diarrhea is not being conveyed adequately to the public. Furthermore, this lack of knowledge is often abetted by the ignorance of the health workers, who are often themselves not treating diarrhea correctly

The communication of the ORT message to the public and to health workers at all levels is of increasing importance. The ORT message offers even greater challenges than the immunization message (primarily motivation to accept vaccination.) The ORT message must not only motivate individuals to use the "new" treatment but also must teach them how to use it. The message must be reinforced by health workers and community leaders, who must themselves be educated in the indications for and use of ORT. Furthermore, ORT must be used for every diarrheal episode, as many as eight per year in developing country children, not only on a few occasions as with immunizations. It is necessary that the new behavior become routine to the user, further accentuating the need for continuous communication of a consistent message and reinforcement of appropriate behavior.

Communicating Education

Some health programs can be cited for their successful use of communications techniques to achieve greater use of ORT The Oral Therapy Extension Program of the Bangladesh Rural Advancement Committee was initiated five years ago. This program is built around oral rehydration workers who receive training in a five-day course, three days in class and two in the field, and further training in teaching methods and communication skills to enable them to effectively deliver their ORT messages. These workers visit each household within their area and incorporate selected important points about ORT into their conversations with community residents. As they explain how to prepare the oral rehydration mixture, they actually prepare it in the home and then supervise the mothers in its preparation. The project's built-in evaluation system has demonstrated that 98 percent of households were able to make a safe, effective oral rehydration solution and that mothers remembered the key ORT messages as well after six months as after one month

Effective Mass Communication Strategies

Mass communication has also been used successfully in ORT programs. The Honduras Mass Media and Health Practices Project, implemented by the Academy for Educational Development, used a combination of radio, printed material, and interpersonal communication through health workers to popularize use of a new ORS product, *Litrosol* In an Egyptian project, developed jointly by the government and the John Snow Health Group, ORT use rose dramatically as a result of sophisticated communication techniques

Conclusion

These interventions illustrate several important steps in communication of health messages, namely: 1) analysis of the local vocabulary and beliefs, in the initial stages, to enable optimal message design and implementation, 2) pretesting as many messages, materials, and methods as possible; 3) focusing on carefully selected sets of objectives and behaviors, and 4) monitoring and improving the campaign while it is in progress.

Experience has shown that an understanding of cultural values and inclusion of health education and communications is essential to the delivery of basic health services. A WHO Expert Committee in 1983 concluded that "health, science, and technology can make a real impact only if the people themselves become full partners in health protection and promotion," and that health education must be integrated into health programs at all stages. ■

Dr Black is Professor and Chairman, Department of International Health, The Johns Hopkins University School of Hygiene and Public Health His work and research focuses on vaccine development, diarrheal disease control, epidemiology, and infectious diseases.

Vaccine Development Agreement

In September 1985, AID signed an agreement with the U.S. Public Health Service to develop new and improved vaccines for preventable diseases that plague developing countries. The first two vaccines to be tested under this program are an aerosolized measles vaccine, developed by Dr. Albert Sabin, which is expected to protect children as young as six months, and a vaccine against rotavirus diarrhea, the single most common cause of serious diarrhea in infants in most parts of the world.

Communication Works Across Cultures: Hard Data on ORT

by Anthony Meyer, Dennis Foote, and William Smith*

The Gambia and Honduras are extremely different countries. Yet from 1980 through 1984 the same communication and social marketing strategy was applied to teaching oral rehydration therapy (ORT) and related child survival practices in both countries. Within that strategy, each country developed campaigns that had their own character, peculiarities, and challenges. Nevertheless, data bridging three years and the two cultures show almost identical results, including sustained adoption of ORT and significant improvement in nutritional practices. This article will report on the most interesting similarities, differences, and data from the two countries, based on recently published longitudinal studies conducted by Stanford University and Applied Communication Technology.

The Setting

West Africa and Central America have a tremendous common problem: infant mortality. In both Honduras and The Gambia, diarrheal dehydration is the leading cause of death. Yet teaching about ORT to prevent dehydration due to diarrhea has major local constraints. There is a 3 percent female literacy rate in The Gambia, along with severe difficulty among 48 percent of females in interpreting two-dimensional pictures or drawings without assistance, a difficulty sometimes called "pictorial illiteracy." In both countries, the practice of purging and withholding food during diarrhea was common. In almost everything else relevant to an educational campaign, the countries were different. Spanish language and culture contrasted with The Gambian Wolof and Mandinga languages and tribal customs. Nuclear family dwellings of six to ten members in Honduras contrasted with extended family compounds of up to 100 members, including multiple wives, in The Gambia. Numerous private radio stations and publications in Honduras contrasted with one national station and relatively few print materials in The Gambia. In Honduras, locally packaged oral rehydration salts (ORS) were promoted under the product name of *Litrosol* In The Gambia, a water/sugar/salt (WSS) home-mix solution was promoted, while World Health Organization ORS packets were reserved for clinic use.

The Campaigns

The educational interventions in Honduras and The Gambia to teach ORT and related practices can be characterized as "campaigns" in the sense that highly specific objectives were pursued and multiple channels—radio, print materials, direct contact—were coordinated to support these objectives Yet the interventions in Honduras and The Gambia parted with usual campaign practices because of their extended vision. Although emphasis shifted among topics for limited periods of time during the interventions, the key communication methods and procedures for conducting the interventions would not end abruptly but become an ongoing part of the public health education process and the health care delivery system

What methods and procedures were applied? The interventions in Honduras and The Gambia adapted lessons learned from past experiences, drawing on the disciplines of social marketing, development communications, anthropology, and behavioral analysis in addition to the history of clinical experiences related to each objective. The methodological sequence was as follows:

- Village-level investigations were conducted to understand the local behavior, concepts, and vocabulary related to campaign objectives and to develop an audience profile. Focus groups, direct observations of practices in households, and in-depth interviews of local health personnel were used
- Educational objectives were ranked in terms of what the audience needed to know and do; how feasible and costly the recommended practices were; how the recommended practices related to already prevelant practices, and what would reinforce trial and adoption of the recommended practices.
- Messages were developed and prototype materials were pretested on the basis of audience and product analyses.
- Multiple channels—media, print, face-to-face—were coordinated to carry simple, noncontradictory messages that relied on the functional strengths of each channel
- Extensive monitoring of all systems permitted adaptation over time

The Evaluation

Stratified, random panels of approximately 750 to 1,000 households with posttest controls, were surveyed in each country—nationwide in The Gambia (600,000 population) and in Health Region I of Honduras (400,000 population)—in repeated waves over a three-year period. In Honduras, a mortality study in Health Region I and additional surveys to assess campaigns to support other health intervention activities were also conducted.

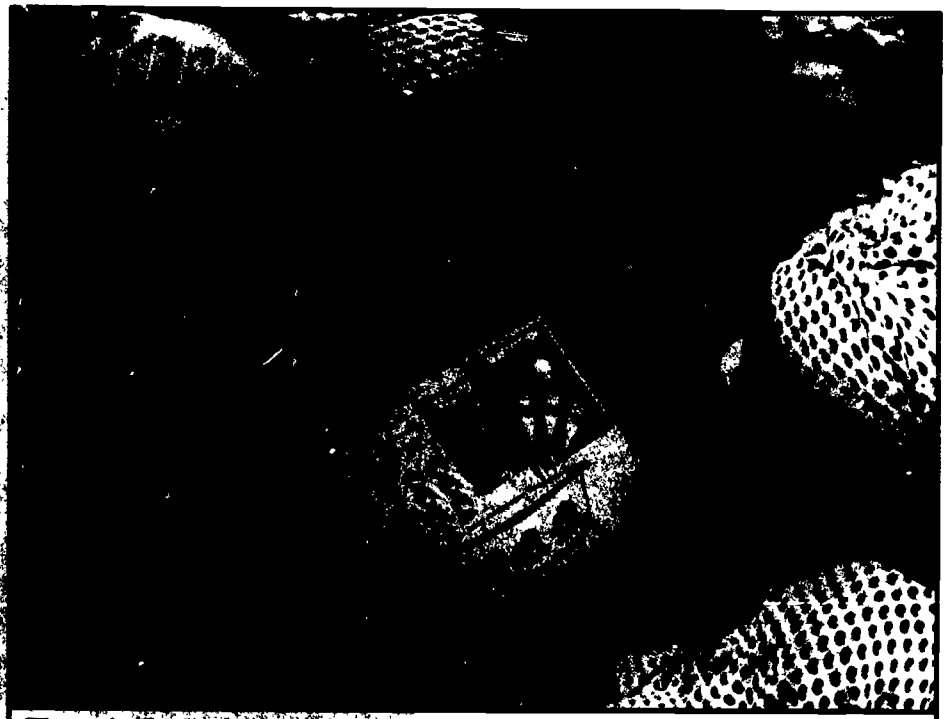
The overall evaluation plan examined a sequential model of changes, recognizing that changes in any individual does not necessarily follow the same pattern:

- Exposure—Was the audience involved in the campaign and how?
- Knowledge—Did the audience learn the campaign information from its exposure?
- Behavior—What did the audience do differently subsequent to their exposure?
- Health Status — What were the health outcomes?

The strength of an evaluation of this nature and the attributed impact of an intervention does not rest on one indicator alone, such as increased learning about ORT. Rather the power of such an evaluation is in the conver-

(continued on page 4)

*The opinions expressed here are the authors' and are not represented as the opinions or policies of AID.



Women in The Gambia learn the correct ORS recipe using a color-coded flyer and listening to broadcasts of how to interpret it.

(ORT continued from page 3)

gence of indicators across the "causal chain" and in the timing of changes of the sample population with specific intervention messages. The key objectives were evaluated in terms of the above profile of significant, sustained change in both countries. The magnitude of observed change substantially exceeded that which is commonly expected from commercial advertising or public education campaigns. In this respect the power of the intervention methodology is confirmed. Highlights of the evaluation will be reported here. Full reports and project descriptions are available as noted below.

The Gambia

Pictorial Illiteracy. One technique used with strong impact in The Gambia was the "Happy Baby Lottery." This was a contest of skill rather than chance and proved successful in overcoming the difficulty many Gambian women experience in interpreting two-dimensional graphics. Flyers with color-coded pictographic instructions for mixing the WSS solution were distributed nationally as "lottery" tickets. The radio served as the first line of interpretation. Mothers were instructed how to mix the WSS by being verbally led from the sugar section of the flyer, coded blue, through the salt section in yellow, to the water section in pink. Soda bottle caps with sugar and salt, and soda bottles of water were used to illustrate the recipe. Radio also directed mothers to second- and third-line sources of instructions. Selected village women who had been trained by health workers in how to instruct mothers in the mixing of the solution, were identified by red "happy baby" flags over their homes. For treatment of severe cases of diarrhea, the radio directed mothers to the health workers. Mothers were invited to attend one of 72 mixing contests being held around the country over a five-week period. Correct mixing of the WSS solution during the contest earned a plastic container; correct answers to questions about the administration of the solution earned a bar of soap. These winners were then eligible for a grand finale drawing of 15 who received radios as prizes

Gambian Learning and Behavior Changes. The "Lottery" in The Gambia marked the beginning of a two-year effort to teach WSS and related diarrheal control and infant feeding practices. The evaluation shows that the mothers learned about ORT and changed their behavior accordingly. An overview of the two-year data set indicates sustained adoption of WSS solution to treat diarrhea.

Gambian mothers first had to learn of the existence of a water/sugar/salt mixture for home treatment. Awareness reached a high of 90 percent of mothers by the end of the campaign. They then had to learn a formula for mixing the solution at home. The formula required that they know the three ingredients and the correct amounts of each. Questions about these were combined into an index; by the end of the campaign, 70 percent of mothers and all health workers achieved a perfect score of this mixing index.

These gains in knowledge were translated into changes in behavior. One result of having an appropriate home treatment for diarrhea was that more cases were treated at home, the percent of cases treated at home was 17 percent at the start, but averaged more than 50 percent for the entire second year

WSS displaces virtually all other home treatment; an average of over 90 percent of cases in the entire second year were given WSS if they were treated at home. Coverage of all cases with WSS treatment rose quickly and stayed high during the second year. At the beginning of the campaign only 4 percent of all diarrhea cases were treated with WSS, but during the second year an average of over 50 percent were treated with this solution

Other changes also resulted from campaign messages. The inappropriate practice of withholding foods other than breast milk during diarrhea fell to a tenth of its initial level (dropping from 32 percent to 3 percent). The feeding of solid foods during diarrheal episodes rose from 14 percent at the beginning of the campaign to 45 percent.

Honduras

The campaign in Health Region I of Honduras emphasizing ORT and related diarrheal control and infant feeding practices lasted two years, then expanded to the national level and to other topics during the third year—immunizations, malaria control, and compliance with tuberculosis treatment. The same method of village investigation, behavioral analysis, pretesting, integrated use of multiple channels, and monitoring were applied in developing and implementing a sustained, phased, public health communications intervention.

"The magnitude of observed change substantially exceeded that which is commonly expected from commercial advertising or public education campaigns."

Honduran mothers also learned and changed their practices significantly—and fewer of their children died of dehydration due to diarrhea.

ORS Usage. Litrosol was a newly introduced product, so there was no awareness of it before the campaign Within six months of starting the campaign, however, half the mothers could recall the product name. The percent of mothers who could recall the name *Litrosol* leveled off at about three-quarters of all women during the campaign's second year.

At the beginning of the campaign none of the Health Region I mothers had used *Litrosol*, but within six months more than one third (37 percent) of all surveyed mothers had tried it. By the end of the campaign over 60 percent of mothers had used *Litrosol*. Notably, not only had most mothers tried it, but the case treatment level with *Litrosol* rose to over 35 percent of all cases within two years Data from evaluation of follow-up efforts after the initial campaign indicate that at the end of three years, use rates were still at an impressive 30 percent of all cases

Mortality Drops. Tracing changes in mortality in developing-country settings with limited resources was the greatest challenge to evaluation Although tracing mortality could not be done adequately in The Gambia, in Honduras there were regional mortality statistics of sufficient reliability, covering an adequate time period, whereby a significant impact on mortality could be documented. Widespread use of *Litrosol* appears to have reduced diarrhea-related mortality by a substantial amount The proportion of deaths involving diarrhea among children younger than five fell from 40 percent in the two years prior to the campaign to 24 percent two years later. Total mortality also dropped by a slightly smaller amount.

The campaign methodology has subsequently been applied to tuberculosis, malaria, and immunizations as well as diarrhea. These campaigns also achieved high levels of exposure and knowledge change. For example, in the malaria campaign, knowledge that the reason for having one's house sprayed was to kill mosquitos nearly doubled, from 49 percent before the campaign to 94 percent afterwards.

Program Expansion

The project has been expanded into the new AID initiative, HEALTHCOM, which will use experience gained here and work in up to ten new countries, broadening the focus on ORT to include immunization, infant nutrition, breastfeeding, vector control, and other child survival technologies.

Reports on the Mass Media and Health Practices Project intervention and evaluation are available by writing to HEALTHCOM, c/o *DCR*. ■

Dr Meyer, a development communication specialist, is HEALTHCOM Project Manager in AID's Office of Education, Dr. Foote is President of Applied Communication Technology; and Dr Smith is Senior Technical Director of the HEALTHCOM Project and Senior Vice President at the Academy for Educational Development.

PTC'86 Forum

The Eighth Annual Forum of the Pacific Tele communications Council will be held January 12-15, 1986 in Honolulu, Hawaii. PTC'86 will focus on "Evolution of the Digital Pacific." English, Japanese, and Spanish simultaneous interpretation will be provided at plenary sessions. For information contact: Pacific Telecommunications Council, 1110 University Avenue, Suite #308, Honolulu, Hawaii 96826, Telephone (808) 941-3789. Telex 7430550PTC

Two-Way Radio for Rural Health Care Delivery

by Michelle Fryer, Stanley Burns, and Heather Hudson

Over the past six years, the MEDEX* two-way radio network has emerged as the most effective and reliable system of its kind in Guyana. Originally designed to ease the communication difficulties of medical personnel in the field, this two-way radio system is now fully incorporated into the administration of primary health care.

Background

Rural health care delivery poses formidable problems in developing countries. Not only are there shortages of physicians and facilities, but lack of adequate transportation and communications hinders the efforts of health care providers in the field. Faced with vast rural and remote areas without medical services and an acute national shortage of physicians, the Guyana Ministry of Health embarked upon a program in 1976, designed to train paraprofessional health workers, "medex," to serve these isolated areas. (Medex is the abbreviated form of "extension of physician" in French.) Initial funding for the project came from the Canadian International Development Research Centre (IDRC) and the U.S. Agency for International Development (AID), with training assistance from the University of Hawaii.

After their training in the capital city of Georgetown, medex were posted throughout the country to become the "front line" of the health care delivery system. However, once in the field, the medex were effectively isolated from their supervisors, their sources of drugs and supplies, and from each other.

The only developed transportation systems in Guyana are along the coast. Inland is the *riverain* region where transportation is primarily by boat. Farther inland is the hinterland, where jungle gives way to savannah, and where four-wheel drive vehicles and motorcycles can be used only in the dry season. In the rainy season, medex may be cut off from the people they serve for weeks. Infrequent air service links Georgetown with the larger interior towns.

Like the transportation system, the national telecommunications system is developed only along the coast. Communication by letter to the interior could take weeks or months. In an emergency, medex would try to send a message through one of the private radio systems, which were often inaccessible and unreliable. As a result of the limited transportation services and lack of communications, medex were unable to summon assistance in emergencies, to follow up on patients who had been sent to a hospital for treatment, or to order urgently needed drugs and supplies. Medex administrators and trainers were also concerned about the lack of contact with medex in the field who could not be supervised and could not take time away from their posts for continuing education.

To address these needs, AID funded a pilot project from 1979 to 1985 which established a dedicated two-way radio system for the MEDEX program. The initial network of ten sites has now been extended to twenty-eight sites, with plans for at least ten more

System Design

Site-to-site and site-to-headquarters distances range from 48 km to in excess of 400 km. Topographical constraints and extremes of distances coupled with acceptable reliability requirements, dictated the choice of a high-frequency, single-sideband two-way radio system.

The system design, chosen in consultation with the Guyana Telecommunications Corporation (GTC) which operates the national telephone network, is a low-powered system operating on three frequencies with sound quality similar to that of a taxi radio

During the first phase of the project, portable generators were used at some sites and solar panels at others to provide the system's power. After a year it was found that fuel for the generators was expensive and difficult to obtain, and that some generators had broken down. No problems were encountered with the solar panels, so generator-run units were replaced with the more efficient solar installations

Each site is equipped with a fully transistorized 25-watt Stoner SSB-40A transceiver, a three-element dipole antenna, a 12-volt automotive battery, a five-watt solar panel for trickle-charging the battery, and a set of hand tools

Operation and Maintenance

The approach taken to operation and maintenance of the system is as important as a sound technical design. To ensure that Guyanese personnel would be able to take full responsibility for the system, the project provided adequate training, local installation and maintenance, effective program management;

(continued on page 16)

**For the purpose of this article, medex refers to the paraprofessional health worker and MEDEX to the program.*

A Communication Strategy to Improve Nutrition in Indonesia

by Marcia Griffiths and Elizabeth Nobbe

The ability to meet the health needs and provide the essential health services to a community is both a promise and an expectation of a primary health care (PHC) project. Another important goal, establishing community-supported health care services, does not necessarily result in measurable or easily documented benefits that national governments may demand before assisting a local health service. Social marketing offers a way out of this dilemma. It helps to develop programs based on the needs and resources of the families that health programs serve, and at the same time it identifies types of behavior change that can be documented.

As an experimental project, the Nutrition Communication and Behavior Change Component (NCBC) of the Indonesian Nutrition Development Program (UPGK) showed how social marketing could further the national program's goal of significantly improving the nutrition of Indonesia's young children and pregnant and nursing women. The social marketing approach successfully developed nutrition communication materials that were responsive to the needs, desires, and resources of the communities, particularly of the mothers and volunteer nutrition workers.

The UPGK, begun in 1974, popularized community nutrition. Its clear, easily communicated and measured goal—the monthly increase in weight by each child under five—is promoted by a trained corps of volunteer nutrition workers, *kaders*, through a monthly weighing program.

NCBC Project Development

Between 1977 and 1979 Dr. I.B Mantra, NCBC Director, established administrative and community infrastructures modeled after UPGK in five culturally diverse areas in Indonesia.

In mid-1979, with technical assistance from Manoff International, the project departed from the approach of the national plan and embarked upon an unprecedented course with the formative evaluation of educational messages and a communication strategy. The success of the NCBC Component was to be judged by whether education—as the sole intervent on—could produce significant improvements in the nutritional status of children and the improved nutrient intake of pregnant and lactating women in project communities.

The first step was to design and execute qualitative research on the health and nutritional problems of children under three and pregnant and nursing women, consisting of in-depth household interviews, concept testing with mothers, and focus group interviews with *kaders* and community opinion leaders.

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A Focus on the Consumer: Social Marketing for Change

by L. Edward Lucaire

Social marketing (SM) is neither magical nor mystical It is merely the application of commercial marketing principles to advance a social cause, issue, behavior, product, or service. SM has added a framework to social efforts that heretofore lacked organization, and has inspired projects that otherwise might never have been undertaken.

In the United States, SM techniques have been particularly successful in the health field. The National Cancer Institute used marketing techniques to change the behaviors of U.S. women and health professionals regarding breast cancer detection. The National High Blood Pressure Education Program, using these same marketing techniques, has increased patient compliance with antihypertensive regimens. Likewise, the American Cancer Society developed a sound marketing program to convey the benefits of giving up smoking, especially for teenage girls.

Although advertising and other communications are central to social marketing, the discipline also depends upon other elements of what is called the marketing mix: product, price, place, and promotion. Social marketing is a cyclical process involving six steps: analysis; planning; development, testing, and refining elements of the plan, implementation, assessment of in-market effectiveness, and feedback.

Developing Country Applications

In developing countries, health has similarly been the greatest beneficiary to date of applied social marketing techniques Family planning programs and oral rehydration therapy (ORT) projects have used SM techniques effectively in numerous Third World countries. For instance, in Honduras oral rehydration salts (ORS) were first marketed in 1980 under the brand name of *Litrosol Litrosol* was heavily advertised on television and radio, and widely distributed through the existing health care system and by local village volunteers. By the end of the first year of the ORT campaign, 49 percent of the mothers had actually used *Litrosol* and 71 percent could recite the radio jingle composed for this campaign. More importantly, during the two-year campaign period, diarrhea-related mortality in children under the age of five dropped from 48 percent to 25 percent. Similar ORS marketing results have been achieved in Egypt and The Gambia. About 50 percent of Egyptian mothers had used ORT after one year of the program and over 50 percent of cases for the second year of the campaign in The Gambia used ORT.

These successful ORT efforts have attracted the interest of other international organizations involved in child survival, and social marketing is being integrated into their overall strategy. Last year UNICEF and the CRS Company, Ltd. in Nepal signed a contract to market their own oral rehydration salts under the brand name *Jeevan Jal.*

Social Marketing for Contraception

Social marketing has been even more widely applied in the sale of contraceptives in developing countries Contraceptive social marketing (CSM) programs are well-established in Bangladesh, Sri Lanka, India, Thailand, Nepal, Colombia, El Salvador, Jamaica, Mexico, and Egypt. More recently, programs have been established in Honduras, Guatemala, Barbados, St. Vincent, and St. Lucia. SOMARC (Social Marketing for Change) is a project funded by the US Agency for International Development (AID) It is working with existing CSM programs and also helping to launch new CSM programs in The Dominican Republic, Ghana, Indonesia, Kenya, Tunisia, Costa Rica, and other countries. Other health topics such as immunization, breastfeeding programs, and disease prevention efforts may also benefit from a marketing perspective

Market research is an essential aspect of the marketing process Research may be conducted to help make marketing decisions on brand names, pricing, target audience, product preferences, awareness attitudes, etc For the most part, local private-sector market research firms are hired to conduct contraceptive social marketing research.

Contraceptive products are often distributed through AID, although they also are available through other sources such as the International Planned Parenthood Federation or directly from manufacturers.

Local distributors and wholesalers are often used to channel products to hospitals, clinics, and retail outlets Some programs like Egypt's Family of the Future (FOF) developed its own distribution system and a staff of medical representatives to administer the program Contraceptive social marketing programs in Nepal and Bangladesh have their own sales forces as well as local advertising agencies who promote, publicize, and advertise contraceptive products. Thus, CSM programs are successfully functioning as legitimate marketing organizations in developing countries, and are using local private sector resources in the process.

The results of these programs are encouraging. In Egypt, 31.2 percent of contraceptive-age women and men use Family of the Future products. More importantly, FOF's aggressive promotion of its products has expanded the public's consciousness about family planning This promotion, almost certainly, has greatly contributed to the increased use of all contraceptives in Egypt. The National Family Planning Board in Jamaica, which produces *Panther* condoms and *Perle* oral contraceptives, has about 80 percent and 50 percent of their respective contraceptive markets Profamilia, the contraceptive social marketing program in Colombia, has a 31-percent share of that contraceptive market In all these countries, birth rates are declining

Conclusion

Social marketing has proven successful despite significant obstacles like cultural and religious resistance, lack of knowledge about the topic, illiteracy, and pricing constraints But SM is no shortcut for success; it requires both experience and sensitivity to local conditions. Fortunately, many developing countries now have their own marketing resources. Local private-sector advertising and marketing agencies are helping public and private sector programs. In countries where local resources are scarce, AID has created several programs to provide technical assistance in social marketing These include SOMARC, PRITECH, and HEALTHCOM. Contact the Clearinghouse on Development Communication, or your local USAID Mission for further information on any of these assistance programs. ■

Edward Lucaire is a Senior Associate with Needham Porter Novelli, a U.S marketing communications firm that provides assistance and technical advice to developing countries in sectors such as health and family planning.

Child Survival Management Course

A six-week child survival management course, including a two-week field practicum in Haiti is being offered by Boston University School of Medicine and School of Public Health from March 1 - April 15, 1986. This is an integrated course with enrollment limited to 25, intended for participants from countries with limited resources. It provides training in: essentials of child survival; introduction to health economics, management methods for health services; microcomputer applications; integrating health facility and program design; community participation; and field study techniques.

Applicants should have completed the equivalent of a bachelor's degree or other comparable technical or professional training after high school Applications must be received by January 15, 1986 For application information write to. Management for Child Survival Course, Office of Special Projects, Room A-310, Boston University School of Public Health, 80 East Concord Street, Boston, Massachusetts 02118, USA. Telephone (617) 247-6018. Telex: 200191BUHPI

A Focus on Behavior: The Role of Health Practices Studies

by Paul Touchette

Most health education programs use knowledge and attitude change as the primary measure of success, but knowledge is often a poor predictor of either use or proper use. Ninety percent of women in the Bangladesh Rural Advancement Committee (BRAC) rehydration therapy program learned the *Seven Points to Remember* about oral rehydration salts (ORS), but only eight percent of women in some locations of the program area actually used ORS to treat diarrhea. These results are common among development programs—it is often easier to teach facts, even change attitudes or beliefs than to alter behavior. This realization has led planners to focus on the specifics of a particular behavior, trying to assess not only what a mother must learn to improve her family's health, but how she already behaves and why she might not want to change.

Within the context of child survival, the mother is faced with numerous decisions such as:

- Why should I give up an old remedy for a new medicine?
- Why should I take a healthy child to a clinic to be stuck with a needle and then be fretful all night?
- How do I remember the correct ingredients in a home-mixed ORS solution?
- How do I determine whether my child is malnourished or just small?
- When do I introduce weaning foods and how do I determine which ones are best?
- How do I discuss having fewer children with my husband when he wants to have another male child?

Each question suggests a complex set of behavioral responses. New health practices require new responses, many of which are not well understood, believed in, or practiced. The role of behavioral analysis within this context is to probe the reason why a given practice continues, how a new health practice might be best introduced, and how such a practice can be designed, presented, and used to ensure that it is maintained over time.

Why Behavior Does Not Change

The experimental analysis of behavior suggests six circumstances that may contribute to the absence of desirable behavior, either singly or in combination. 1) Necessary skills or knowledge may be absent. For example, rural mothers often know that it is good to boil water, but they do not understand that boiling the water actually kills the parasites they fear. 2) The ability to identify when to alter the behavior may be undeveloped. Mothers know that some foods make their children ill, but do not know that the longer the food sits after preparation the more likely it is to cause illness when fed to their children. 3) Necessary materials or implements may be unavailable. ORS packets, for example, are often out of stock. 4) There may be no positive consequences for engaging in the behavior. Most preventive behavior, for example, produces no immediate results, but is beneficial in the long run. 5) There may be positive consequences for engaging in incompatible behavior, such as fasting during diarrhea. Fasting does cause the child's stool volume to decrease—a goal mothers want to achieve. 6) There may be punishing consequences which discourage the desired behavior pattern. During rehydration, for example, a child may vomit, or the diarrhea may appear to increase.

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Reaching Mothers in Swaziland: Preliminary Findings of a Child Survival Program

by Robert Hornik and Pamela Sankar

[This is a brief summary of the results from a still ongoing evaluation of the Swaziland Communication for Child Survival Project (HEALTHCOM). A final report will be published shortly with details that could not be incorporated into this version. It will be available from the authors.]

The Swaziland Diarrheal Disease Control campaign was a collaboration of the Ministry of Health of Swaziland, The Combatting Childhood Communicable Diseases project, and the AID Communication for Child Survival (HEALTHCOM) Project. It was based on earlier work in Swaziland as well as the previous Health Communications programs in Honduras and, in particular, in The Gambia. As in the other programs, it relied on a combination of mass media and face-to-face channels in an attempt to change practices related to the treatment of diarrheal disease.

Campaign Preparation

The preparatory phase of the campaign began in April 1984, with the formal campaign running from September 1984 through March 1985. The coordinator of diarrheal disease control activities, Gladys Matsebula, two health educators from the Public Health Unit of the Ministry of Health, Alfred Mndzebele and Bongani Magongo, and a technical advisor from the Academy for Educational Development, Dale Huntington, planned a three-pronged campaign: 1) radio programs to be developed in an intensive radio workshop and broadcast on current development programs carried on the national radio system; 2) printed materials including a flyer with mixing instructions and posters for display at health clinics and elsewhere; and 3) workshops to train the health staff, other extension personnel, and local volunteers in treatment of diarrheal diseases including use of oral rehydration therapy (ORT) for dehydration. Local volunteers and others involved in information dissemination were given yellow flags to display outside their homes to indicate they knew how to administer ORT. Eighteen staff training workshops covering about one third of the country were held during the first months of the campaign; 88 radio programs and spot announcements were produced; and 260,000 mixing flyers and 7,500 posters were printed and distributed.

The campaign focused on a few objectives, specifically 1) acceptance of a home-mixed, water/sugar/salt (WSS) solution as a treatment for diarrheal dehydration, 2) continued feeding during episodes of diarrhea, and 3) feeding with special foods after diarrheal episodes. The campaign particularly emphasized the introduction of a new formula for mixing the solution—one liter of water, eight soda bottle capfuls of sugar, and 1/2 capful of salt. This new formula replaced a previous one that contained one capful of salt which project medical advisors believed risked toxicity.

Campaign Evaluation

The evaluation, conducted by the Annenberg School of Communications at the University of Pennsylvania, reveals preliminary results suggesting that the campaign achieved noteworthy success, particularly in rates of adoption of recommended practices. Data sources included before- and after-campaign

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(**Behavior** *continued from page 7)*

What the Behaviorist Does

Behavioral analysis is designed to identify the relevance of each of the above six categories within the context of a specific culture, behavior, and/or individual. The behaviorist observes, questions, and tests behaviors, looking for the:

- cost to the individual of engaging in new practices,
- compatibility of new practices with existing patterns of behavior and cultural expectations,
- complexity of new practices,
- perceived and actual antecedents of a given practice,
- perceived and actual consequences of the practice, and
- observability of the target practice or its direct by-product.

How Behavioral Analysis Helps

During an immunization program in Honduras, behavioral observation and in-depth interviews in rural clinics revealed that many mothers were bringing in children who had already completed their vaccination series. Mothers could not read the complicated vaccination card; they did not know the number of doses needed to complete each series, so did not know when their child had finished the vaccination series. Mothers did, however, recognize the type of vaccination when it was applied because they observed where it was being applied on the child's body: polio—orally, measles—deeply in the arm, tuberculosis —more superficially in the arm, and DPT—in the hip. Nurses were chastising mothers, who frequently had walked miles to the clinic, because they had brought in a child who had already been immunized. Consequently, these mothers often advised neighbors not to go for needed vaccinations in the series.

Analysis of this behavior led to the development of a strategy that focused on designing an immunization card that mothers could understand, and that also served as positive reinforcement for completing the immunization series. The card graphically depicts each immunization and the number of shots needed to complete the series. The card functions as an educational tool for the health worker, a reminder for the mothers, and a reward device health workers use to praise mothers.

Another example comes from The Gambia, where the original design of a national "Happy Baby Lottery" was to be a standard promotional gimmick—the contest was to be announced on radio; numbered tickets with pictures of ORS mixing instructions were to be distributed; and a random drawing of lottery numbers would select the winners. Instead, an imaginative, behaviorally-inspired twist was added and successfully executed. Gambian women had to correctly mix an ORS solution in public. They learned to mix the solution through special radio broadcasts that explained the mixing pictures on a flyer that was distributed throughout the country. Actual mixing contests were then held in villages throughout the country. Local women demonstrated their ORS mixing proficiency before a judge and become eligible for a grand prize drawing. The "Happy Baby Lottery" moved beyond a simple promotional activity to being an exciting and effective vehicle for helping mothers to actually practice the new behavior on a massive scale.

Some Useful Principles

These two examples help demonstrate how behavioral approaches such as careful observation and informal incentives can be applied to field programs. Some of the most salient principles emerging from recent behavioral studies include:

- Observation of behavior within the broad context of the culture in which it is found
- Skillful arrangement of events so that reinforcement follows the desired behavior. Behaviorists argue that individuals can do a great deal to reinforce their own behavior.
- Individual recordkeeping or monitoring of behavior, for example, is of extreme importance. Graphs, visuals, and other concrete representations of progress can be important reminders and reinforcers for individuals adopting difficult new behaviors.
- Decisions of when and how to end a behavior change program should be systematic to ensure continued maintenance of the new practice. Fading of reinforcement, the gradual withdrawal of accompanying behaviors, the search for opportunities to practice new behaviors in the general environment, and the use of intermittent reinforcement should all be considered

The practice of behavioral analysis does not substitute for the insights or methodologies of other disciplines, many different fields contribute to our understanding of human behavior. Communications, sociology, anthropology, and economics provide important points of view. In fact, behavioral analysis can help to enhance the contributions of other disciplines and sources of information by highlighting the contributions they have to offer.

Behavioral analysis is not covert manipulation. It is, instead, a powerful way to keep our focus on the primary goal—widespread *adoptions* of critical new child survival *practices*. ■

Dr Touchette is Principal Psychologist and Associate Professor of Pediatrics at the University of California, Irvine where his research focuses on normal and abnormal attention patterns as they influence learning

Swaziland *continued from page 7)*

surveys, each with 450 rural mothers chosen through national random sampling procedures, and a diarrheal disease registry kept by 20 clinics which listed more than 10,000 children during the course of the campaign.

Exposure. *Nine of every ten mothers reported having had contact with at least one of the selected campaign channels.* Three out of four rural Swazi households have working radios, and of those more than 80 percent reported having listened to the programs that carried the messages The flyers, the only widely distributed printed materials, were recognized by three out of five mothers and were owned by one in five mothers As many as one-half of the mothers in areas where workshop training had taken place, reported some recent interaction with either clinic staff or local 'yellow flag' volunteers about oral rehydration therapy. About one-fourth of the mothers in other areas reported having had recent contact

Knowledge. *After the first six months of the campaign, more than one in five rural women had learned and could repeat the correct formula*—a substantial accomplishment considering that a previous formula, already known by some women, was being replaced with a new one It appears in fact, that some sources must still have been diffusing the old formula When knowledge of either the old or the new formula was counted as correct, the proportion knowing all three ingredients of the formula went from 20 percent before to 50 percent after the campaign.

Other campaign messages encouraged feeding during diarrheal episodes, and advocated special feeding afterwards. Although acceptance of feeding during diarrhea was little affected by the campaign (42 percent before and 53 percent afterwards), the perceived need for after-diarrhea feeding was substantially affected by the campaign (16 percent before versus 44 percent afterward). It has been suggested that there might have been conflicting messages from different sources about feeding during diarrhea—such as clinic staff and common-sense rejection of the notion that a child with diarrhea would be able to eat.

Practice. *By the third month of the campaign, 60 percent of the children had been treated with WSS or ORS—a level sustained over the remainder of the campaign* The effects of the campaign on actual practice were evaluated by examining two subsamples of women 1) those who reported they currently or within the past month had a child sick with diarrhea, and 2) those mothers who had brought their children into clinics for diarrheal treatment. Among the first group, 45 percent of the women said they had treated their child at home with WSS before the campaign; after the campaign 57 percent reported they had done so. This gain is more striking if one combines this report of use with the report of measured knowledge of the correct formula for mixing WSS. Counting either the old or new formula as correct, only 16 percent used WSS and knew the correct formula *before* the campaign; whereas 32 percent used WSS and knew the correct formula *after* the campaign. A second indicator, fundamentally consistent, gives a more optimistic picture: of the children coming to clinics at the start of the campaign, about 43 percent had been treated with oral rehydration therapy before coming to the clinic according to those bringing in children.

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(Swaziland, *continued from page 8*)

The consistency of these two indicators of current practice, although based on self-reports, suggests that change is occuring and that it is closely associated with campaign activities. The magnitude of the change, particularly if the clinic registry data is accepted, is consistent with a solid success for the campaign where substantial prior diffusion limited the possibility of large changes in practice.

Future Questions

These are the preliminary evaluation results. Analysis will continue for some months with subsequent reports on data from a study of the validity of self-report data; analyses of effects of exposure to campaign channels on individuals' learning and practice; and peoples' susceptibility to campaign messages. The final report will also discuss the extent of institutionalization of the HEALTHCOM methodology within the Swaziland Ministry of Health. ■

Robert Hornik is Associate Professor at the Annenberg School of Communications, University of Pennsylvania. He was principal investigator for the evaluation of health communication projects in Peru and elsewhere under the AID-sponsored Mass Media and Health Practices Project. Pamela Sankar is a Ph.D. candidate at the Annenberg School of Communications, University of Pennsylvania.

A Health Audio/ Video Series

The Food and Nutrition Program of the Faculty of Interdisciplinary Studies of the Pontificia Universidad Javeriana in Bogotá, Colombia, under the auspices of the United Nations University, has recently produced an audio and video series, "The Road to Health." The development of these programs included research and evaluation steps with the target audience, the results of which gave the necessary guidelines for health education needs, and appropriate communication channels.

The object of these programs is to educate low-income mothers about actions they can take to help the health and nutrition of children under five years of age.

The educational series, in Spanish, consists of 12 programs on (betamax) videotape of approximately 15 minutes each, and 17 programs on audiotape of approximately 10 minutes each.

The series is designed for use in educational discussions with groups of mothers, couples, or families, and to train extension workers in issues of health and nutrition.

For information on how to obtain this series contact: Patricia Avila de Halls, Facultad de Estudios Interdisciplinarios, Pontificia Universidad Javeriana, Carrera 10, No.65-48, Bogotá, Colombia.

Formative Research: Pretesting, Revising, and More Pretesting

by Margot Zimmerman and Lena Steckel

Formative research is defined as evaluation activities that occur during a project to determine if the objectives are being met and, if not, to modify the project's direction to ensure that they are. Thorough and extensive pretesting is the formative research technique that the Program for the Introduction and Adaptation of Contraceptive Technology (PIACT) and its sister organization, the Program for Appropriate Technology in Health (PATH), rely on to develop well-understood and culturally appropriate print materials.

Before materials are finalized or printed, an interviewer should pretest them with representatives of the target population to determine if the intended message is being conveyed and if it is clear and acceptable to them. Pretesting should be done while the materials are still in an unfinished state so audience-generated alterations can easily be made. Revised materials should likewise be tested until they communicate the information as intended.

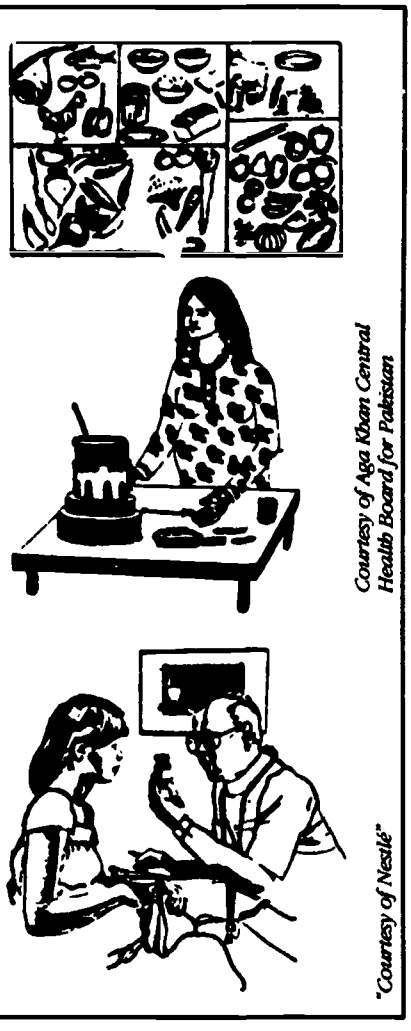
Since PIACT/PATH work with countries where large percentages of the population are nonliterate, its motivational and instructional materials rely on pictures (drawings, photographs, or a combination) to convey the message. Often, pictures are augmented by a line or two of simple text in the local language. This text also requires careful pretesting, for vocabulary selected by health workers or program managers may be too sophisticated for their clients.

The following examples from the field demonstrate the importance of pretesting to assure that print materials are appropriate to the group for whom they are being developed. Details that may at first appear unimportant can render a material useless and even offensive to the target audience.

Symbols. While designing illustrations for the message "*During pregnancy, take only medicine prescribed by a doctor*," researchers pretested a photograph from existing material that showed several medicine bottles with a red "X" superimposed over them. Pretesting results indicated that the illustrations did not convey the message that patients should use only medications prescribed by a doctor. Many respondents did not even see the "X." Others did not know it symbolized "don't," "no," or "danger," and, in fact felt that the message encouraged the use of medications.

Positive messages. The audience's negative reaction to the photograph described above prompted project staff to test two alternative pictures. The first photograph showed a doctor gesturing to a woman and telling her in simple words not to take a pill that had not been prescribed to her; the second photograph (see illustration adapted from the photograph) showed a doctor giving a pregnant woman some pills. Results of pretests showed that comprehension was higher with both of these photographs which were accompanied by simple texts, but a majority of women preferred the second photograph because it represented a positive message.

Use of common objects. Project staff in Pakistan, producing materials on prenatal care for rural women, thought a drawing of a health worker using a pointer to indicate proper foods on a wall chart would be interpreted as a message explaining the importance of a healthy diet during pregnancy. When the drawing was pretested, it was misinterpreted as a health worker shooting a gun. Obviously, these women had never seen anyone using a pointer while giving a demonstration! The illustration they chose depicts the food groups above the head of the health worker (see illustration).



Courtesy of Aga Khan Central Health Board for Pakistan

"Courtesy of Nestlé"

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Funding Organizations Look at Communications

The Fireworks Syndrome: WHO

by Jack Ling, Director
Division of Public Information and Education for Health

[The following piece has been adapted from a speech presented at the first ICORT Conference held in Washington, D.C., June 1983. We would like to thank Jack Ling for permitting us to reprint a portion of it in the DCR.*]*

There is traditionally a world of difference between information and education. The task of the former has consisted of collecting information and presenting it in an interesting way, often through the media, to different audiences. The information officer's responsibility is traditionally perceived to end there. Education, on the other hand, to be successful requires an act of participation on the part of the learner and an all-important dialogue between the educator and the learner. But in a broader sense, and certainly in recent years, the two have converged.

Two WHO meetings, "New Approaches in Health Education for Primary Health Care," and "New Policies in Primary Health Care," strongly endorsed an integrated strategy using both interpersonal and mediated communication in the planning and delivery of primary health care. To use media without links to the existing health care services and face-to-face contact would create what might be called a "fireworks syndrome," by analogy with a display of attractive fireworks which fizzle out after a few seconds in a darkened sky. On the other hand, person-to-person work, while recognized as the most effective method of teaching, will benefit greatly from close partnership with the media which can stimulate and help to sustain interest in health problems on the part of individuals, families, and communities.

The role of the media in the education of the public, as seen by WHO, can be summarized as follows:

- to help strengthen political will by appealing to policymakers;
- to raise general health consciousness and clarify options concerning actions that have a strong bearing on health;
- to inform decision-makers and the public about the latest developments in health sciences and publicize relevant experiences;
- to help deliver technical messages;
- to encourage dialogue and facilitate feedback from communities.

The two WHO meetings urged that health education workers should be learner-facilitators as well as teachers and participants who must work to stimulate community involvement. Health education is seen as the means to encourage and enable communities to identify their health problems and translate them into simple and realistic goals that they can monitor themselves.

It is important for us to learn from past experiences; the painful lessons of the 1950s and 1960s showed us that apparently successful technical programs were no more than "fireworks" in a dark sky. Only if attention were paid to building up the health system infrastructure so that the gain made by the specific program could be sustained, consolidated, and enlarged was there a chance of turning the fireworks into a permanent light. ■

The World Bank Addresses Health

by Margaret Valdivia, Project Officer
Population, Health, and Nutrition

The World Bank began allocating and distributing funds directly for health-related projects in 1980. Promotion of appropriate health behaviors is now a component of most population, health, and nutrition projects financed partly by the Bank.

Development Support Communication activities supported by the Population, Health, and Nutrition Department encompass public education, personal counselling, patient education and the promotion of behavioral, consumer, and attitudinal change in specific target groups, as well as traditional health education and community mobilization. The criteria used for selecting the approach and methodology to be applied in a particular program are technical feasibility, cost effectiveness, and appropriateness to the context of the program. The scope of a project can be national, local, or highly specific.

Among the activities the World Bank has supported are: making films for sensitization and training of health personnel; making film and TV documentaries and documentary dramas for young audiences on teenage pregnancy issues, marketing one or two highly specific nutrition interventions nationally and in defined geographic areas; communicating by radio with volunteer workers, preparing teaching and learning materials for use by community leaders, mounting large-scale multimedia national campaigns maintained over long periods, and producing print materials for non-literates for mass distribution. ■

UNICEF: The Potential of Social Marketing

by James Grant, Executive Director

[*The following is taken from UNICEF's* The State of the World's Children 1985.]

Today, the resources of the mass media—and the techniques of social marketing—are beginning to be used to put the techniques of a child survival revolution at the disposal of millions of parents: In Brazil, the equivalent of US$1 million a year in radio and television advertising time has been put behind a nationwide campaign to promote breastfeeding. In India, child survival messages are being proclaimed by advertisements on buses and billboards.

The potential of social marketing is just beginning to be explored. But already, there is a body of experience available to guide future efforts. First, it is clear that people's lives and behavior cannot be transformed simply by waving the magic wand of social marketing. Mass media messages about the need to boil water or to breastfeed or to feed a child more frequently cannot solve the problems of firewood shortage or maternity leave or give a mother more hours in the day.

Secondly, it has proved important to recognize the differences as well as the similarities between commercial and social marketing. Because social marketing campaigns usually seek a more important change in behavior and attitudes than a change in loyalties to a particular brand name, mass media messages in themselves are usually not enough. In the promotion of a more complex process such as oral rehydration therapy for example, mass media campaigns can be an important complement to but not an adequate substitute for practical face-to-face demonstrations by health workers or trained volunteers.

So far, the most common mistake of social marketing campaigns seems to be a concentration on the superficial aspects of commercial marketing techniques at the expense of its deeper disciplines. Research into how a target audience perceives its own problems and needs, into what sources of information have credibility, into what kinds of presentation are acceptable and what kinds of information are practicable, are all essential to campaigns which seek to bring about complex changes in human behavior. In developing such campaigns, considerable resources of time, money, and creativity need to be invested in message selection, media planning, analysis of message resistance, and monitoring of message response. A lack of professionalism in any one of these disciplines can easily diminish the effectiveness of a social marketing campaign. ■

A Communicator's Checklist

Social Marketing: New Imperative for Public Health, by Richard K Manoff (New York: Praeger Publishers, 1985) 279 pp.

The literature on social marketing has received an important addition with *Social Marketing: New Imperative for Public Health* by Richard Manoff. For the book not only provides time-tested, experience-based lessons on the fundamentals of designing and implementing a social marketing program, it also shares with the reader many valuable insights which, in total, create a treatise on the subject Not without a moral foundation, Manoff's book convincingly lays out a caring, compelling appeal to treat social marketing as a true imperative to public health advancement

Manoff's writings expose the reader not only to the "how" of social marketing but also to the "why." Lending further importance to the message, we develop a sense of what the prospects for future health care will be if we don't take full advantage of the potential of social marketing.

A well-crafted social marketing message designed for the mass media, this book reflects all the important steps required for penetrating, effective communication. It has a keen awareness of the target audience (in this case health promoters and communication planners worldwide); the problems requiring resolution are well defined; opposing viewpoints are recognized and addressed; benefits of following the suggested course of action are crystal clear, the viewpoint is made more convincing through examples; and the ever-important "call to action" is in sharp focus throughout the communication

A major theme in Manoff's book deals with the enormous opportunity to help right some of today's health care imbalances, especially those that befall the poor. While the gap can be closed by better health service delivery, so too, he argues, can it be shortened by smartly applying traditional marketing techniques to social development issues

Seeking to increase support for social marketing, Manoff directly, yet sensitively, confronts the questioning of mass media's role in social development. Rightly so, he challenges the thinking that failure to find conclusive, positive results in many social marketing programs calls into question the effectiveness of mass media for social causes. "How about the content of the messages in these 'failed' programs?" he asks. "Have we looked carefully at media delivery?" "Are we being truly persuasive in our appeals?" The role of mass media in influencing attitudes and decisions is undeniable. At its most basic level, there is no reason to think that *well-conceived* social development messages delivered via radio or TV should, in most cases, be without strong influence Manoff states "it is specious to argue that health and nutrition objectives are far more complex to achieve (than those of commercial products) certainly in nutrition we are dealing with the promotion of foods that are no more complicated than those in the commercial world. . . ."

A second Manoff theme ringing true is his call for a greater level of skill and aggressiveness in social marketing campaigns. He points out that "though marketing has demonstrated its usefulness for social goals, it is rarely carried out with the skill and thoroughness characteristic of the commercial world." He challenges the practitioners of social marketing to advance their level of expertise and insight and reap from social marketing all of its inherent potential The world's social development ills are demanding that social marketers of today and tomorrow be more creative. Manoff calls for them to push their thinking and steer clear of doing things "the expected way" In a loud voice, he calls for new energy.

Complementing his call for action, Manoff devotes considerable attention to detailing the entire process of a well-conceived social marketing effort. problem identification, objective and strategy setting; developmental research, message design, testing, media planning, coordination of forces, and tracking of results. Each step is framed with a view on "how it's done" in commercial marketing, yet is focused on the particular circumstances of the social marketer in the developing world At times though, the reader may find his critique of the developed world's marketing techniques to be paternalistic and somewhat unfair Examples from around the world, including four extensive case histories, are illuminating and help the reader to recognize the advantage in following the identified path.

One particularly valuable section deals with designing the social marketing message Here, Manoff addresses what this reviewer believes to be one of the major factors in social marketing program failure—media messages that are poorly planned and lacking sensitivity to the target's human condition. The reader is exposed to content, design, persuasion, and memorability factors that make the difference between a message that persuades and one that rings hollow. In light of the critical nature of this component of social marketing, it would have been better to have devoted even more space to the discussion of message ben-

(continued on page 19)

*(**Pretesting** continued from page 9)*

Extraneous detail. A government agency in Botswana, which had developed a booklet on the oral contraceptive, recently made changes in a few illustrations because in-depth field tests conducted after they printed and distributed small numbers of the booklet revealed a detail unnoticed during earlier interviews. Respondents were distracted by an image of the back of a man sitting in the clinic window which appeared in each of the pictures showing the clinic. The same illustration of the clinic was used throughout the booklet. When the booklet was reprinted for widespread distribution, the man was removed from the window to eliminate the distraction. This illustrates the importance of thorough field testing of a small run of a booklet or flier prior to mass printing.

Time. Messages about time are often difficult to communicate, especially to non- and semiliterate audiences. Groups with whom PIACT/PATH has worked have developed a variety of symbols to show the passage of days, weeks, months, and years. An illustration showing a woman tearing off a calendar page was well understood by Ecuadorean audiences to mean that one month had passed. But in many areas of Sierra Leone or in the Sudan, respondents did not recognize the Western calendar. Consequently other symbols were tested in these countries. Moons in Sierra Leone and moons and stars in the Sudan were identified as the symbols most widely understood to represent months.

In a contraceptive instructional booklet developed in Bangladesh, it was important to convey the message you must *"wait 5-10 minutes"* after using the foaming tablet. Since most Bangladeshis could not tell time, the artist first depicted the passing of time by showing water boiling. When this was not understood, project staff observed villagers' routines to see if they could find an activity that took 5-10 minutes to complete. They finally tested a drawing of a man and woman sitting on their bed with the man smoking a cigarette. Almost every respondent understood that the man was smoking and waiting. They did not necessarily know why the man was waiting, but they knew that he should wait as long as it took to finish a cigarette.

Text. The same word can have several meanings, and pretesting will reveal when a selected word interferes with message comprehension. When preparing materials to promote breastfeeding in a large New York City hospital, text was tested informing women that, if they know they will be away from home during feeding time, they can "express" their own milk into a clean cup. Although the visual illustration of this process was already understood, when respondents in a pretest were asked to read the texts, some became confused, thinking that the written message had something to do with breastfeeding in the subway (express train) system. When substitute words were used, *"you can take breast milk out by hand,"* the text reinforced the illustration and the message was clear to respondents.

Through pretesting, PIACT/PATH has learned that there can be a large discrepancy between what materials developers intend to convey and what the audience understands. Pretesting is an essential formative technique that builds upon information gathered during the materials development process, ensuring the message designer that the materials will effectively address the needs of the target audience. ■

Margot Zimmerman is Director of the PIACT/PATH Information, Education and Communications office in Washington, D.C. Lena Steckel is an Assistant Program Officer in PIACT/PATH's Washington, D.C office.

Please note in "A Communicator's Checklist", *DCR* #50, a book was reviewed under an incorrect title. *Bibliotech: The 1984/1985 Computer Cookbook* should have read *The 1984/1985 Computer Cookbook*. We regret this error.

Environmental Communication Conference

The Department of Natural Resources and Environmental Quality Board of Puerto Rico are co-sponsoring and hosting the "First Conference on Mass Communications and Environmental Protection in the Caribbean Region."

The three-day meeting will be held in Old San Juan, Puerto Rico from February 3-5, 1986. The dual purposes are to assess the current uses of mass media in this area, and to explore future applications for incorporating mass media into overall planning strategies for environmental management and protection.

Those interested in attending the conference, displaying environmental media materials or audiovisuals, or receiving published proceedings should contact Victoria Dompka, Conference Coordinator, Department of Natural Resources, P.O. Box 5887, Puerta de Tierra, Puerto Rico 00906 Telephone (809) 722-5501.

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Saving Children's Lives: A Communication Campaign in Egypt

By Dr. Norbert Hirschhorn

Diarrheal disease is the remaining major cause of death in Egyptian infants and toddlers under the age of three, accounting for over 60 percent of deaths in those age groups. As late as 1980 it was estimated that close to 150,000 deaths were associated with diarrhea. Studies showed that the great majority of these deaths were due to simple dehydration, "simple"—in the sense that death could have been prevented by proper oral rehydration therapy. Intravenous fluids were available but not to all children, especially in rural areas. Also, mothers were not aware of the dangers of dehydration and brought children into clinics too late. A pilot study proved conclusively that oral rehydration therapy (ORT), promoted by rural health clinics and at home, could reduce diarrhea-related deaths by 50 percent.

It was on the basis of this pilot study that the National Control of Diarrheal Diseases Project (NCDDP) was developed through a program agreement between the Government of the Arab Republic of Egypt and the US Agency for International Development. Signed in late 1982, the five-year project aimed to reduce child mortality from diarrhea by at least 25 percent. Work began in 1983 with the arrival of the technical assistance team from the John Snow Public Health Group (JSI).

Project Description

There are two features of this project that are central to its effective management: 1) the NCDDP enjoys a certain degree of autonomy to the extent that it can reach beyond the Ministry of Health to bring in specialists through grants and contracts, and it has the power to manage its own budget and personnel; 2) the NCDDP is not a group of separate program elements, but an integration of elements in time and concept: training of health workers; production, distribution and marketing of oral rehydration salts (ORS); monitoring and evaluation of the project; and education and promotion via television, radio, and other public media These aspects are all concurrently active and all are maintained and coordinated through the Secretariat, the technical arm of NCDDP.

The goal of the communications element, the focus of this article, is to teach, persuade, and change the behaviors of (a) all Egyptian mothers of children under three, and (b) other specific target groups, especially health personnel, pharmacists, mass media reporters, and decision-makers involved with the management of diarrhea and dehydration programs.

Planning for Communication

Data acquired through target audience research provides program planners with the most useful and valid information upon which to build a communication campaign. This holds true whether the activity is to select an appropriate logo to call attention to the campaign, or to determine the most effective channels through which to communicate social messages. T following elements of the NCDDP project were those that required considerable audience research and testing before being integrated into the ORT campaign throughout Egypt.

Logo. Four designs were selected from among ten submitted by independent artists and advertising agencies. Focus groups and brief interviews in public places on these four logos were carried out to determine audience response. The most popular design was again taken out and tested with other focus groups for more specific comments. Changes resulting from this final feedback were the color of the mother's dress from black to white—for cultural reasons; a wedding band drawn onto the mother's finger; a larger spoon; and a smile added to the mother's face (see logo illustration). While responses were being collected on mothers' reactions to the proposed logo, numerous subjective feelings were also being shared with the staff about illness, health care, and the mothers' devotion to children—all useful information for upcoming message design purposes.

Materials Design. Questioning the mothers who participated in focus groups helped project staff determine what amount of fluid a mother would find believable to give to a child with diarrhea. In addition, surveys showed that a 200cc packet of salts would be the most practical size for home use A plastic cup and spoon were also developed for distribution with the packet.

Naming the Solution. Field research showed that mothers favored simple names that either convey a warm feeling or that describe the *purpose* of the solution. An Arabic word meaning "for cure" (a common blessing upon taking a medicine) was selected, responding to mothers' voiced preference. However, doctors and pharmacists took exception to this name noting it was not suitable for prescribing purposes. The name finally chosen, *The Solution for the Treatment of Dehydration* served the dual functions of ease of identification for mothers as well as providing a precise prescription name for doctors and pharmacists. People now know it more simply as *The Solution.* Exemplified here is a case where selected audience research told project planners the wrong thing. Although mothers were the primary audience, doctors and pharmacists served as dispensers of the solution and should also have been consulted from the beginning in order to ensure broad acceptance of the product.

Identifying the Product with the Disease. Since oral rehydration does not stop diarrhea, another disease for which the therapy is effective must be identified. That "other" disease is dehydration One of the problems, particularly in the rural areas, was finding a familiar term to help mothers associate the symptoms they already recognize in their sick children with dehydration. An Egyptian Arabic word *gaffaff*—meaning agricultural-related dryness or drought—was found to best express the concept that project staff wanted to convey. Although use of *gaffaff* in this context is not always understood by all mothers, it does provide health care workers with another means of teaching some mothers to take action more quickly when their children are sick with diarrhea and are dehydrated or in danger of becoming so.

Message Design

NCDDP research into the entertainment and mass communication habits of the Egyptian public, both rural and urban, showed that over 90 percent of Egyptians have access to radio, and over two-thirds to television (over 90 percent in urban areas) This argued for assigning radio and particularly TV central roles in the dissemination of educational messages about diarrheal disease, and TV advertisements were developed

TV Production Sequence. Diarrheal disease experts were first consulted to learn the facts about the disease. Egyptian pediatricians and medical professors were then brought in to review the medical facts within an Egyptian context and to modify recommendations for the target audience. A "story board" (illustrations of visuals comprising the proposed TV ad) was then designed. Egyptian pediatricians were asked to review these for accuracy. At this stage of development, anthropologists took the "story board" and the accompanying script to villages and used focus groups and one-on-one techniques to solicit comments. After selected changes were made the TV ad was produced and reviewed by diarrheal disease experts and Egyptian pediatricians. This

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final film was *not* pretested; instead, an intensive post-campaign evaluation of the first broadcast campaign, timed for release in January-February 1984 as a pilot during the non-diarrhea season, was used to gather target audience reactions. The NCDDP ads have subsequently been found to be the most remembered of *any* public or commercial ad according to the posttests following the second and third campaigns in the summer of 1984 and 1985.

TV Testimonial Personality. Television history was made with the production of these ads. It was the first time a famous person was used to deliver a social-oriented message and only the second time the testimonial format was used on TV. The first pilot commercials featured the actor-comedian-social commentator, Fouad El Mohandes, known widely to children as "Uncle Fouad." Although "Uncle Fouad" was well received by a majority of mothers with young children and the commercials effectively transmitted the intended messages, the response was *powerfully negative* in five to eight percent of mothers surveyed. More importantly, doctors overwhelmingly rejected the image, asking *"How can a comedian teach about medicine?"* Even when "Uncle Fouad" was paired with an eminent physician, doctors persisted in rejecting this image.

This strong negative response called for a very different image to regain the confidence of the medical profession. To accomplish this, a well-known "motherly-appearing" actress was selected—Karima Mokhtar, who plays in soap operas and movies in Egypt. Her role as an advisor/counsellor in the ads proved highly acceptable among medical professionals and mothers alike.

Physicians, Pharmacists, and Nurses. Messages were designed as much for medical professionals as for mothers. Radio and television's "leveling" effect means *everyone* receives the same message, giving doctors, nurses, and pharmacists the opportunity to know what the general population knows. It provides them with a base upon which to continue educating their patients/customers. Health workers were also provided with a flood of well-produced professional materials (posters, a newsletter, scientific brochures) that were equally appreciated as there is generally a shortage of good resource materials for medical professionals in Egypt.

Results

What was the impact of this intense, nationwide campaign to reduce infant mortality related to diarrhea, and could such an impact be attributed to effective communication planning? Between early 1983 and late 1984, knowledge of dehydration rose from 32 percent to 90 percent; knowledge of ORS rose from 1.5 percent to 96 percent. Ninty-eight percent of all Egyptian pharmacies have ORS available and it is now the leading sale item (in volume) of all diarrhea-related drugs according to a survey of 300 pharmacists nationwide. Careful documentation shows that mass media alone increased the use of ORS from one percent to nearly 70 percent of episodes. Statistically significant, mortality reductions in children under two have been documented nationwide, approximating a 50-percent drop in diarrhea-associated deaths, concomitant with project activities. Monitoring of all process and outcome measures continues. The success of the NCDDP project in Egypt indicates that mass media can help change behavior, but that all other elements of a mass campaign must be equally well-planned and coordinated to achieve this success. ■

Dr. Hirschhorn is a lecturer at Harvard University's Department of Preventive and Social Medicine. He has had worldwide experience in implementing diarrheal control programs and in training health workers in maternal child health and development.

(NCBC continued from page 5)

Surveying was based on issues identified earlier by the Ministry of Health as most severe for the population overall including: protein-energy malnutrition in three age groups—infants 0-4 months, infants 5-8 months, and children 9-24 months old; infant diarrhea and dehydration; vitamin A deficiency; undernutrition of pregnant women; and undernutrition of women during lactation. The NCBC explored these problems in a subsample of the participating villages. A survey sheet of media habits was completed during the initial interview with mothers and at all focus group interviews.

The Communication Strategy

The qualitative investigation identified the need for change or reinforcement in particular nutrition-related behaviors. The target audience of mothers was segmented according to their needs during designated maternal stages and by the age-related dietary needs of their children under three years of age This meant only immediately useful information would be directed to mothers in these categories

The research showed that the cost to mothers of following the advice was at the most a few rupiahs (cents) more than they normally spent per day and was affordable for over 90 percent of the sample. Due to severe constraints on the mothers' time, most of the recommended behaviors demanded a small additional investment of their time; those that required extra time offered a substantial and perceptible reward.

Radio was available in many homes in the project areas, so broadcast messages were integrated into the project as an additional means of reaching mothers. The radio spots, besides bringing nutritional messages into the home, also identified *kaders* as a crucial source of information for mothers and children, thus increasing their prestige in the eyes of mothers.

"Action Posters" were designed to meet several strategic needs; first, to reinforce the *kaders'* advice in areas not reached by radio; second, to ensure accurate delivery of the messages at weighing sessions and home visits A poster was designed for each segment of the target audience The name of the target group was printed at the top of each poster and large, step-by-step illustrations of the recommended practices were featured below. A column of boxes under each illustration allowed mothers to record their compliance with the recommendations over a month's time

The project also addressed the *kaders'* expressed lack of confidence. They were trained how to use the educational materials that would be taken to mothers' homes. At weighing sessions *kaders* selected a poster according to the age of the child, then counseled the mother on what she should do, using the poster as a visual aid for her and as a reminder of the advice that should be given during this session. Thus, the posters served to reinforce the advice to mothers once they returned home, and to reinforce the *kaders'* training. Delivering the posters to the homes of mothers also gave *kaders* a purpose for making the visit since it provided them with something to offer in exchange for the mothers' time.

Project Evaluation

Addressing the same nutrition problems as the national program and operating with virtually the same activities and tools, the NCBC project achieved significantly different results. The 1981 evaluation showed that the social marketing approach had improved the nutritional status significantly in the target populations. Significant improvements in food intake and the nutritional status of the target populations, the ultimate tests of the strategy's effectiveness, were also recorded and could be attributed to behavioral changes stimulated by the project. These changes were reflected in: higher protein and calorie levels for project children and breastfeeding mothers; higher consumption of the the recommended foods by project children, an improved nutritional status for 40 percent of children in the project; at 23 months, an average weight of 1.5 kg. higher for project than nonproject children; and a significantly better growth rate in each experimental area for project children after five months of age.

In addition, project *kaders* offered more accurate, specific, and complete dietary advice to the target population than a sample of nonproject *kaders*. The evaluation also pointed to higher levels of performance by the project *kaders* than by their counterparts in nonproject communities in terms of community outreach and broader and more consistent coverage.

Cost Analysis

The NCBC case illustrates how the social marketing approach to educational programs fits the needs, resources, and desires of program participants. Social marketing made the fit possible by producing messages that addressed the most pressing nutrition and health problems with suggestions for practices that mothers could carry out and sustain

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A Nutrition Prescription for the Dominican Republic

The Applied Nutrition Education Project (ANEP) of Caritas-Dominican Republic and Catholic Relief Services works with families in 90 low-income Dominican communities to improve the nutritional status of children. This is done by encouraging families to better feed and care for children, and through community action projects to increase food production and sanitation.

From the outset, ANEP has placed prime importance on education and community promotion, seeking to develop a comprehensive communications strategy that reflects community needs and abilities. In designing the ANEP strategy, the lessons of Indonesia's Nutrition Communication and Behavior Change Component were applied, and the benefits of growth monitoring as a pivotal nutrition communication activity were exploited. Other ways in which ANEP reflects the Indonesian experience: its strategy is based on community participation through qualitative research, albeit through focus group rather than individual interviews; communication and education are the primary interventions; individual counseling in conjunction with growth monitoring plays a key role in the communications strategy; and education materials can be adapted by health promoters to meet individual needs. The project has produced promotional materials, materials for group education, materials to stimulate community action activities, and materials for individual counseling at growth monitoring sessions. The primary audience is mothers with children under five years of age.

ANEP has gone further with individual counseling than either the Nutrition Communication and Behavior Change Component (NCBC) of Indonesia or the Indonesian Family Nutrition Improvement Program (UPGK) by providing a tailored method and the tool for adapting the method to the mothers' individual resources. For personal counseling, a set of 12 laminated pictures, *portalaminas*, was produced to guide health promoters in counseling mothers at weighing sessions. Each 11 x 14 inch *lamina* has graphics on one side and a message for one of four segments of the target audience on the other. The project designed two *laminas* for each age group: one for children who have gained weight, and the other for children who haven't. Mothers of children who have gained weight are congratulated and encouraged to continue feeding as before. Promoters spend only a few minutes with these mothers. More time is spent with mothers of children who have not gained weight. In addition to offering these mothers specific suggestions for actions they should take, promoters ask the mothers how many of the recommendations they can actually carry out. As a reminder to these mothers of what they should try at home, ANEP developed take-home worksheets for mothers of non-gainers. Each worksheet has illustrated recommendations for a target group at the top of the page and boxes at the bottom. For example, a promoter asks the mother of a 9- to 23-month-old who has not gained weight whether she can realistically feed her child the recommended four meals a day. If the mother says she can only manage three, the promoter circles three of the four illustrated feedings and asks the mother to punch a hole in, or to mark the boxes as she follows the advice. ■

Communications assistance has been provided by Marcia Griffiths of Manoff International, and two consultants to the International Nutrition Communication Service.

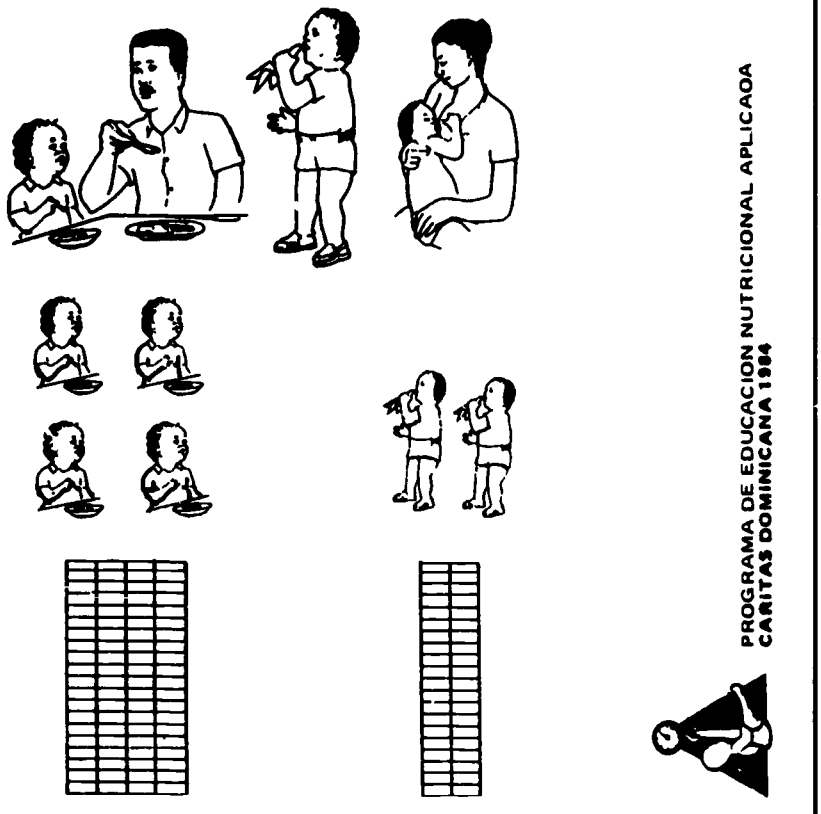
Distance Teaching Course Offered

A four-month course on distance teaching and its relevance for Third World countries will be held from April to July 1986 by the International Extension College and the Department of Education in Developing Countries of the University of London Institute of Education, at the Institute in London.

Course objectives are to analyze an educational problem in a participant's country and determine whether distance-teaching methods are appropriate to it; to make reasoned and informed choices between different methods of distance teaching; and to work out administrative arrangements for a distance-teaching system.

All participants should be graduates or trained teachers or have adequate relevant experience, have not less than six months' experience of working full-time in distance teaching or extension, and have a thorough command of English.

Application deadline is February 17, 1986. For further information and application forms contact: Departmental Secretary, Department of Education in Developing Countries, University of London Institute of Education, 20 Bedford Way, London WC1H 0AL, U.K. Telephone 01-636-1500.



Worksheet for mothers of children 9-23 months of age who have not gained weight Messages. Give the child the same food as the family eats. Give the child one more meal and a snack between meals for a total of four meals a day and two snacks Continue breastfeeding.

(TWR continued from page 5)

and a five-year stock of spare parts. A key element has been involvement from the beginning of GTC, whose technicians have been used to install and maintain the equipment under a contract with the Ministry of Health (MOH). Since the GTC and MOH have collaborated from the start, each has an equal stake in seeing the MEDEX network develop successfully. Additionally, continuity was ensured by involving the same technical assistance team throughout the planning and installation stages.

All medex are trained in the use, care, and maintenance of their radios in an intensive one-day training session. Each medex receives an illustrated training manual and a set of maintenance tools. They are taught how to communicate effectively over the radio and how to fill out the logs of all calls sent and received. Georgetown headquarters analyzes the logs to determine the use and reliability of the network.

A key person in the network is the full-time communications officer at MEDEX headquarters in Georgetown, who is responsible not only for communicating with the medex and controlling traffic on the network, but also for following up on their requests. This officer must locate a physician when an emergency call is received, determine the status of patients transferred to Georgetown or of delayed drug shipments, and provide other information upon request. The competence and dedication of this officer is vital to the successful operation of the network.

Radio Use

Medex keep their radio in their office and generally have it on "receive" mode for incoming calls from 8:30 a.m. to 4:30 p.m., Monday through Saturday. An analysis of logs during the first quarter of 1985 showed that 62 percent of all calls were for administrative purposes, such as to coordinate transportation needs, order drugs and supplies, supervise field personnel, and schedule health care personnel meetings. About 23 percent of all calls were related to medical uses such as consultations between field medex and doctors, continuing education, patient referrals and follow-up, emergency evacuations, or malaria control. Messages transmitted for community residents or other national agencies comprised the remaining 15 percent.

The pattern of radio use varies depending upon regional needs. Medex in remote locations rely more heavily on their radios than do their counterparts stationed where transportation and communication links are better. Medex in the hinterland, on the average, used their radios 1.5 times as much for administrative purposes as did medex in coastal or *riverain* areas, and twice as much for medical purposes.

Between 1980 and 1985, administrative uses of the network increased from 44 to 62 percent of all traffic while medical calls declined in volume from 31 to 23 percent. It should be noted that the absolute number of calls in all categories has, however, increased with the expansion of the network.

In addition to the already discussed radio traffic, MEDEX headquarters uses two-way radio (TWR) to provide consultative and educational support to their field workers. A biweekly program in continuing medical education provides inservice training at a distance. Every other Saturday Georgetown conducts a medical clinic by TWR. Brief lectures are delivered on field-generated topics such as malaria control and infant diarrhea. When a clinic has finished, medex are encouraged to ask questions and to discuss relevant community cases. Two weekly conference calls update medex on administrative actions, and a Georgetown operator calls each station once a week to conduct an equipment check.

Impact of TWR

Two-way radio has greatly improved rural primary health care delivery. It has substantially eased the coordination and management of remote medex locations. Administrative matters are also handled much more efficiently than before, particularly when requisitioning supplies and drugs.

Previously, drugs were ordered by mail or by messages passed through other government agencies. Medex often had to wait weeks for a reply, only to travel to Georgetown for follow-up. Such activity resulted in considerable expense to the MOH and in a temporary loss of medical services to rural communities. With TWR, medex can now follow up on administrative matters without ever having to leave a site.

TWR has also greatly improved the coordination of emergency evacuations. Transportation can be immediately arranged, referral centers alerted to the patient's impending arrival, facilities prepared, and a physician placed on call. In the past medex were forced to leave their patient and travel to the closest available radio, resulting in delays of hours or days—sometimes at the cost of a patient's life.

It should be noted, however, that while TWR can communicate the immediacy of a situation, poor roads and unreliable transport still limit the extent to which a medex can respond to community medical needs. Emergency evacuations which may now be coordinated in a matter of hours along the coast, may still be impossible during the rainy season in the hinterland.

Morale among medex has improved, particularly for those in more isolated stations. Medex report that their confidence grows as regular consultations and continuing education support enables them to provide better health care for their area. With TWR, medex have immediate access to a qualified doctor for consultation on diagnosis and treatment. Previously this was done by letter or personal visit. Medex also express enthusiasm about the value of the continuing education programs which keep them better informed than was possible before the installation of the system. In addition, medex feel that their status in the community has improved because of TWR. In many communities the network provides the only channel for communicating.

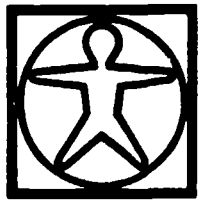
Conclusion

While need for and use of TWR seems to be greatest in remote locations, its utility remains constant throughout the network. Benefits of the system include.

- increased access to knowledgeable persons for administrative and managerial matters;
- improved supervision of field paraprofessionals;
- increased opportunities for medical consultation, patient referrals, and clinical follow-up;
- improved reporting of and response to emergency situations,
- increased communication between medex, community members, and other government agencies.

The benefits of the medex two-way radio system exemplify the important role telecommunications can play in the development process. Use of telecommunications for administration, supervision, coordination, consultation, and education can lead to improvements not only in the quality of rural health care, but also in supporting education and agricultural extension services. As the Guyana exprience demonstrates, rural communications can contribute to improving the quality of rural life in the developing world. ■

Michelle Fryer is a specialist in uses of radio for education. Dr Burns is Associate Professor, Department of Electrical Engineering, Iowa State University; Dr. Hudson is Associate Professor, College of Communication, University of Texas at Austin.



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potential uses for the volume. The format of the book is described, and selected lesson plans from the *Sourcebook* are presented: (a) Eating Good Food to be Healthy; (b) Night Blindness and Sick Eyes; (c) Eating Nutritious Foods for Healthy Eyes; and (d) Planning a School Garden. Appended are charts outlining the contents of the sourcebook, including topics and lesson presentations in each section, and related lessons in other subject areas are indicated for each key topic. Available from EDRS in microfiche for 97 cents or in paper copy for $7.40 ■

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Kenya's Radio Language Arts Project: Evaluation Results

by Rebecca L. Oxford

The Kenyan Radio Language Arts Project (RLAP) assessment has just been completed, documenting the effectiveness of interactive radio-based educational instruction. Analyses in the areas of listening, reading, speaking, and writing demonstrate the sometimes surprising results that children in radio classrooms consistently scored better than children in nonradio classrooms in *every* test.

The spring issue (#49) of *Development Communication Report* contained several articles describing various features of the RLAP that ran from 1979 to 1985. The project was sponsored by the Office of Education, Bureau for Science and Technology of the U.S. Agency for International Development and was conducted by the Academy for Educational Development in cooperation with the Kenya Institute of Education of the Ministry of Education, Science, and Technology. An evaluation of the project was carried out with the assistance of the Center for Applied Linguistics (CAL). Evaluation results came from a variety of sources, including language tests, observations, interviews, demographic and administrative records, and an attitude survey.

The Setting

A large proportion of the project's students were considerably transient. Only 22 percent of the total student population of 3,908 were "normal progression" students—that is, they advanced regularly through their education during the life of the project. Students who moved from the area, failed a standard (grade), dropped out, or were otherwise untrackable, comprised the remaining 78 percent of the total. Seven districts were included in the project—each district being represented by three schools. All the schools were located in rural areas, but their physical accessibility varied widely. Project staff rated radio reception as excellent in 79 percent of the schools, problematic in 18 percent, and poor in 3 percent.

The average age of teachers across all districts was 31.7 years, and the average age of headmasters was 38.3 years. While all headmasters in the summative evaluation were male, project teachers were mostly female. Teachers averaged 9.4 years of experience, and headmasters had served an average of 10.1 years in that position. Teachers had received an average of 9.8 years of education and headmasters 10.7 years.

Test Results

Tests were developed for listening and reading in Standards 1, 2, and 3, and in speaking and writing in Standards 2 and 3. The achievement tests were based on the official Kenya curriculum for those standards, so as to measure achievement against the curriculum Nearly all the differences were highly significant statistically, with a probability of less than 1 in 10,00 that the findings could have occurred "by chance."

Table 1 shows the performance of all project students. The most striking difference is in average listening scores: Standard 1 radio students scored nearly eight points higher than did their counterparts in the control group; Standard 2 and 3 radio students outperformed the control students by 4 points. These findings indicate that the interactive radio method, which emphasizes listening, resulted in greater learning gains by radio students. Similar findings, with somewhat higher averages for both groups, were found in analyses of students who progressed regularly through grades during the project.

Somewhat more surprising is the fact that the radio group also consistently outperformed the control group in reading, writing, and speaking. In these skill areas, the radio versus control group differences, while not always large, were statistically significant. In addition, although radio students did better than control students in writing, neither group performed particularly well in that subject.

This analysis also indicated that there was a positive relationship between the average number of years of teachers' teaching experience and higher achievement scores among the students.

Positive Attitudes Prevail

Unstructured interviews and observations were conducted by the RLAP field staff. Overwhelmingly positive attitudes about the project prevailed among project teachers and headmasters. One school offered to buy its own batteries if the project staff would provide the taped lessons so the children could continue using this method after the project ended. In another school, the project staff found a teacher following the radio teachers' notes and using many of the radio lessons in her conventional classroom not equipped with a radio.

A formal survey conducted in 1984 also indicated highly positive attitudes toward interactive radio instruction in general Eight of every ten teachers and headmasters felt that radio instruction was very helpful, while nearly all respondents felt it was somewhat helpful. Students' reactions to radio instruction were rated as positive by 91 percent of the teachers and 100 percent of the headmasters. Radio lessons were viewed as either good or excellent by 85 percent of the teachers and 97 percent of the headmasters. Educators generally felt that radio students performed better than other students in all four language areas, with greatest strength in listening and speaking. Both teachers (by 91 percent) and headmasters (by 97 percent) preferred teaching English with the radio. Eight out of ten teachers and nine out of ten headmasters said that radio instruction improved teaching skills. Nine out of ten teachers and headmasters wanted to continue using the radio lessons after the end of the project.

Significant Observations

Although the primary purpose of performing this analysis was to produce summative evaluation results, project staff members made some informal observations as they gathered formative data.

- The radio method forced systematic implementation of the Kenya curriculum.
- Good teachers mastered the technical details of the radio method and were able to "individualize" radio instruction to help children of different ability levels.
- The highly interactive nature of the instruction increased the frequency of student re-

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Table 1
Summary of RLAP Instruction Raw Score Results:
All Students

Standard	Reading		Listening		Writing		Speaking*	
	Radio	Control	Radio	Control	Radio	Control	Radio	Conrol
1	13.1	10.7	23.4	15.5	—	—	—	—
2	14.6	13.1	15.3	11.2	2.8	2.3	WT76.1	67.7
							M34.3	29.0
							G15.9	14.0
3	22.9	19.1	25.7	21.6	2 7	2.1	WT120.2	114.1
							M 46 4	39 1
							G 20.7	16.5

*Speaking test used a 10% sample of all students.
Subtests included Word Total (WT), Meaning (M), and Grammar (G).

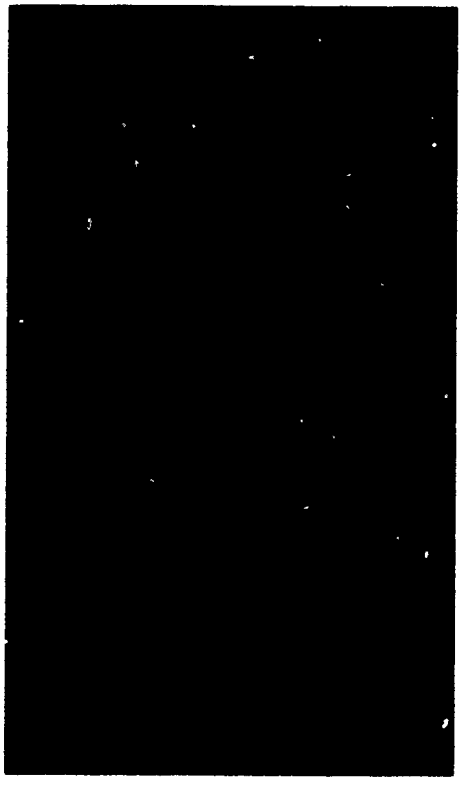
(RLAP continued from page 17)

sponses and the amount of time spent working on language tasks.
- Fewer discipline problems occurred in radio classrooms than in regular classrooms.
- Three times as much English instruction was presented in any half-hour block by radio than by conventional teaching means.
- The radio method, unlike the conventional method, used almost every item in the Kenya curriculum.
- Radio students appeared to have more self-confidence and enthusiasm than nonradio students.

Conclusion

With the conclusion of this assessment phase of the Kenyan Radio Language Arts Project, solid data now exist to document what participating teachers, administrators, project planners, and even students have said about this experimental project—it works. In fact, it works so well in all four language skill areas, particularly in listening comprehension, that instructors wanted to see the radio lessons continue after the experiment ended. ■

Dr. Oxford is an educational psychologist at the Center for Applied Linguistics and has a consulting firm, O-C Associates, Inc.



On File at ERIC

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- *Health Education Training Model. Training for Development. Peace Corps Manual No. T-11. 1983. 77pp (ED 254 659)*

Intended for preservice and inservice training of Peace Corps Community Health Volunteers, this selection of health education training materials presents a model designed to help community health workers become better facilitators and educators as they help motivate people toward a healthier and more self-reliant life The introduction provides suggestions for preparing for and carrying out the training program. The twelve sessions focus on: defining expectations and clarifying objectives of health education training; beginning the program; looking at community health and education; exchanging ideas about health education; working with a group; how people learn; the role of the Peace Corps volunteer as a community health worker; identifying community needs and resources; teaching about important health issues; developing and using appropriate teaching aids (one session on story telling and one on creating low-cost materials and equipment); and the Health Fair. Information provided for each session includes objectives, an overview, lists of resources and materials, preparation, activities, and handouts. Appendices include information on working with a group, evaluation ideas, a calendar for a ten-day training program, and a listing of selected resources and references. Available from EDRS in microfiche for 97 cents or in paper copy for $7.40.

- Moore, Thomas J. and others, eds. *Communicating with Mexican Americans. Por Su Buena Salud = Comunicando con Mexico Americanos: For Their Good Health Proceedings of the Conference (Houston, Texas, September 13-14, 1979).* 152 pp. (ED 249 036)

This conference focused on the role of the Mexican American's language, tradition, life style, health practices, and media utilization in the design of effective education and information programs. Representing various local, state, and national health, education, and media organizations, the 108 participants attended sessions on socio-cultural factors, health values, and perceptions that affect health communication, as well as the use and evaluation of media in disseminating health information. This study involved the design of a model health communications campaign to educate the Mexican American community about services provided by a health maintenance organization for cardiovascular disease. A media critique session provided participants with guidelines for content and production to use in designing health communication materials. Topics of the research presentations included the assessment of Hispanic knowledge, attitudes, and practices related to cancer for the purpose of education programs; alternative methods for presenting bilingual health education messages, and a videotape package on cancer health education designed to reach Hispanics. Available from EDRS in microfiche for 97 cents or in paper copy for $12.65.

- Colle, Royal D *Communication Planning for Effective Nutrition Programs* 1983. 36 pp. (ED 149 937)

Primary health care and nutrition have been linked with communication in a variety of well-publicized projects. This partnership between communication and nutrition was made necessary by the conflict between an expanded demand for services and limited resources for meeting the demand. Senior officials have a substantial role to play in seeing that their programs gain the full benefit of what an effective communication program can offer by accepting the responsibilities of: (a) examining the implications for communication of any program while it is in the planning stages; (b) insisting that communication or education people work within the framework of a communication strategy; and (c) providing communication resources. In planning, steps should include policy formation and development of a comprehensive strategy to meet program goals. With an understanding of the policy and comprehensive strategies that govern a project's overall efforts, communications specialists should start a process that includes analysis, strategy, implementation, evaluation, and next-step planning. Program officials should insist that top communication managers deal explicitly with the elements of principal objectives, best tenative solutions, audiences, media channels, theme/messages, and schedules. A summary chart of communication and education techniques includes methods, their advantages and disadvantages, and comments Available from EDRS in microfiche for 97 cents or in paper copy for $3.90.

- Van der Vynckt, Susan, and Ellen Barclay. *The Unesco Resource Pack for Nutrition Teaching-Learning: An Introduction to Volume I. Nutrition Education Series 8* 1984. 89 pp. (ED 254 495)

This guide provides an introduction to the *Unesco Sourcebook for Classroom Nutrition-Learning,* which is designed for both actual classroom use and teacher-training support material, with lesson plans, teaching methods, and learning activities. Nutrition information is presented in such a way that important concepts are not limited to nutrition and health classes, but can also be integrated into different subject areas within the general school curricula, including science, language arts, mathematics, social studies, and agriculture, as well as school meals. Lessons, which are provided in each subject area to cover related nutrition and health topics, include instructions for both student- and teacher-made instructional materials. This introduction to the sourcebook first presents a brief list of some

(continued on page 16)

(NCBC continued from page 14)

as often as three or four times a day. It helped the project find the most effective channels to deliver this information to mothers at the time they would be most responsive to it, and make these mothers aware of where they could find help. Finally, it helped the project develop an integrated media strategy and materials that would expand the effectiveness of each resource. ■

Marcia Griffiths is Senior Vice President of Manoff International Inc. Elizabeth Nobbe is Project Administrator and editor at Manoff International/Washington.

(Manoff continued from page 11)

efits. All too often, the inexperienced social marketer will create a message that is rich in detail but lacking in *human benefit* for the target audience. As social marketers, we must never lose sight of the reality that our target audience will only follow a suggested course of action if we convince them that it will make their lives or that of their families *easier, better, or richer*. In a family planning message, for example, "having fewer babies" is not an easily identified benefit; but "having a better life for the current children" is. Or recommending that you boil river water before using it because "doctors think you should," does not personally appeal to affected persons, whereas saying "the prevention of painful, life threatening illnesses" does present a real, human benefit to those who follow the practice. To lose sight of the actual benefit is to fail in communicating our message; and to fail is to waste an opportunity for social development.

Manoff nicely augments the instructional section of his book with invaluable lessons learned from his extensive work in the field. He includes, for example, well-honed insight on selecting a target audience and avoiding the common error of aiming at too broad an audience. Another lesson deals with the synergistic value of linking a social development program to other societal issues (e.g., family planning linked to child nutrition).

Social Marketing: A New Imperative for Public Health should come to be a valued addition to the library of social marketing students and practitioners worldwide. Appreciation for the work will result from its road map of the social marketing process, showing us not only the direction to travel, but also the hazards to avoid. I suspect it will also be valued for its sense of dedication and honesty to the practice of social marketing. But perhaps most importantly, Manoff's new book should be held in esteem for its voice of appeal, its rallying cry to health practitioners around the world. The current era of health education demands new and "better methodology to enlarge its reach and impact." Social marketing, with its tie to mass media and its proven success, is such a "new and better" methodology —a new opportunity that should be seized *now* to help all nations deal more effectively with their health problems. ■

Terry Peigh is a Vice President of Foote, Cone & Belding Communications, a worldwide commercial advertising firm. He is an instructor at the University of Chicago's Community and Family Study Center, and has co-authored two books on mass media for social development

Available for $32.95 from CBS Educational and Professional Publishing, Order Dept. 383 Madison Avenue, New York, NY 10017, USA.

A Guide for Primary Health Care: The MEDEX Series

by Richard A. Smith, John Rich, and Sunil Mehra

Since its publication in 1983, *The MEDEX Primary Health Care Series* has been distributed extensively, and today functions as a practical and flexible management and training device for new or existing primary health care (PHC) programs at various levels in 53 developing countries.

The 35-volume *MEDEX Series* was developed over an eight-year period by The MEDEX Group at the John A. Burns School of Medicine, University of Hawaii, numerous developing countries, and supported by the U.S. Agency for International Development. The primary health care techniques and educational materials found in this series were field-tested in Micronesia, and used in PHC programs in Thailand, Guyana, Pakistan, and Lesotho. It has taken the most important considerations in the development and expansion of PHC services and put them into a consistent and easily adapted format for developing countries. The *Series* can be used by planners, administrators, or trainers.

The materials are divided into curative, preventive, and promotional aspects of health care. The training curriculum is problem-oriented and therefore includes only information essential to training the worker to do his or her job. Sections within the *Series* cover: Systems Development Materials, Mid-Level Health Worker Training Materials; and Community Health Worker Training Materials. Currently, the *Series* is available only in English, although some sections have been translated into Spanish, French, Bengali, and Thai.

Since September 1983, this series has been requested and sent to 114 countries Described in *World Health Forum* as "a total teaching system," it has been distributed to government ministries, nongovernmental organizations, private consultants, nursing schools, and other institutions and programs that are training health personnel and managers of primary health care services in developing countries.

Correspondence with health care professionals in 53 of the 114 countries indicate that the *Series* is being used in 267 PHC programs and projects of varying sizes in developing countries. Further documentation about applications of the *Series* is being gathered from a questionnaire sent to recipients of the manuals. A network of users of the *Series* is being developed as well, to expand its use through the sharing of adaptations, changes, and translations. Further communications and visits to selected sites where materials are in use are also being planned.

Recognition that nurses should play a particularly important role in PHC has led to significant interest on the part of international and national nursing organizations. The MEDEX Group has recently received requests for the *Series* from 31 nursing schools in eleven additional countries interested in revising nursing curricula to reflect a reorientation toward primary health care.

Projects with sectoral interests such as oral rehydration therapy, immunization, nutrition, and community sanitation, have used the materials to strengthen their own efforts An example is a set of learning packages produced by WHO/UNICEF to be used in 17 countries One quarter of the materials contained in the packages were taken directly from the *MEDEX Series*.

India's National Institute of Health and Family Welfare has used parts of the *Series* as the basis for management training, to be conducted nationally in over 50 training institutions for doctors, nurses, and other PHC health personnel. Another example of its versatility was its use as a guide for designing and building a health center in Burkina Faso that would reflect the needs of that facility.

During the past two years, information about the availability of the *Series* has been spreading worldwide To strengthen this process, the MEDEX Group continues to provide copies upon request in an effort to extend the growing network of users.

For further information about this series contact: The MEDEX Group, John A Burns School of Medicine, University of Hawaii, 1833 Kalakaua Avenue, #700, Honolulu, Hawaii 96815, USA. ■

Dr. Smith, John Rich, and Sunil Mehra are with The MEDEX Group, University of Hawaii School of Medicine. Smith is the Director of MEDEX, Rich is a Curriculum and Instructional Development Specialist, and Mehra is a Communications Development Specialist.

The Colombian National Immunization Crusade: Coordination and Communication

This is "Pitin," a cartoon character symbolizing a healthy, happy, *immunized* child, who served as mascot in a 1984 Colombian mass immunization crusade.

In 1984 the Colombian National Health System coordinated a massive immunization crusade in order to vaccinate as many children in the country as possible against a number of common childhood diseases. Collaborating with the Colombian Government were the Pan American Health Organization/WHO, UNICEF, and UNDP. The communication strategies that were designed for this crusade helped the Health System o successfully vaccinate over 800,000 children on three separate days.

The possibility of a mass immunization campaign was first discussed during Colombian National Health Week in April 1984 with the idea of building on the initial child immunization activities that occurred during that week. Just two months later, Colombia launched a nationwide crusade to immunize nearly one million children under the age of four against diphtheria, measles, polio, tetanus, and whooping cough on three designated days; one day each in June, July, and August of 1984.

In order to accomplish this ambitious goal, Colombia had to organize and mobilize its resources to overcome the kinds of shortcomings that may be found in large scale campaigns, such as a lack of coordination of personnel, communications, transportation, or financing.

Channeling Strategy

The need to involve multiple communication channels was recognized from the start. Before the Crusade began, the Ministry of Health, with assistance from the Pan American Health Organization and the World Health Organization, developed a channeling strategy. This strategy established an aggressive child identification process through direct health promotion activities. Health workers accompanied by community leaders visited households before each vaccination date to spread news of the Crusade. and more importantly, to identify children needing immunization. They collected information on each child such as name, age, sex, address and vaccinations needed. Children were then "channeled" to the appropriate health facility for vaccination on the prescribed dates. These visits provided important personal communication between individual households and the health centers or health posts during the Crusade. The channeling strategy also facilitated the evaluation phase since children's vaccination progress was tracked through the end of the Crusade. The impact of the Crusade was therefore more more easily measured both during and after the vaccination activities Also, since records were kept on each child, the strategy allowed for follow-up vaccination of those children with incomplete schedules.

Getting Started

Communication of technical procedures was carried out by the Colombian Red Cross More than 13,000 Red Cross members were trained as vaccinators. Sixteen thousand volunteers were trained in the channeling strategy and immunization techniques or received instruction in technical and administrative procedures, such as cold chain standards, organization of health posts, and record keeping. A booklet on technical and administative norms was developed and distributed to more than 10,000 vaccination posts, and training in these standard procedures ensured uniformity throughout the country.

"... the press, TV, and radio played a major role in dramatically increasing the outreach capability..."

During the Crusade, both information and evaluation reports were distributed. Information reports were released every two hours on vaccination days, summarizing data on the number of children vaccinated in each health post. The mass media stimulated the Crusade by broadcasting these reports which fostered a wholesome rivalry between the different localities. The evaluation reports provided information on the results of the Crusade at the local, regional, and national levels.

Many political and social groups were called upon to extend the communication network established for this national effort. The President and the First Lady actively promoted the Crusade by conducting inauguration ceremonies on each of the three vaccination days at the Presidential Palace. The Ministries of Health and of the Interior sent representatives to municipalities to encourage their cooperation and support of health personnel. The Ministry of Education solicited departmental directors and over 200,000 teachers to help disseminate promotional materials. Air, sea, and river transportation was provided by the Ministry of Defense to deliver vaccines and set up vaccination posts in remote areas. The Catholic Church provided motivational materials, organized activities, and distributed messages about child health and immunization before the start of the Crusade. Other private, volunteer, and recreational groups offered financial support for publicity, transportation, and mobilization of community members at the local level

Mass Media Contributions

Mass media made a fundamental contribution to the accomplishments of the Crusade. The press, television, and radio played a major role in dramatically increasing the outreach capability and focusing the population on child health and development. For example, Colombia's largest newspaper, *El Tiempo,* using the Crusade's mascot, Pitin, carried health messages to its largely urban readers, and alerted them to the upcoming vaccination days. Many other newspapers followed suit and adopted Pitin in their articles, helping to further spread the news of the Crusade. Calendars showing Pitin next to the vaccination dates were printed and distributed. Other printed materials such as growth charts with child immunization records, information on breastfeeding, nutrition, and treatment of diarrheal disease were developed and made available to parents at the vaccination sites. News programs on the national television and radio station carried stories of the Crusade efforts that reached an estimated ten to twelve million people Well-known entertainers broadcast hourly appeals to parents to bring their children in for vaccination. The radio also carried hourly Crusade updates and encouraged people to participate. Other television and radio stations broadcast similar messages and programs to urban and rural areas assuring extensive coverage throughout the country.

Results

The results of the Crusade are impressive. During the first vaccination day 804,053 children, or 87 6 percent of the target group, came for vaccinations. The second day of vaccinations brought in 854,570 children, or 93 1 percent During the third and final round on August 25, 1984, 860,000 children, or 93.7 percent of the target group, were vaccinated.

The statistics clearly attest to a well-planned and executed campaign. The role that communications played in educating and mobilizing a large portion of the Colombian population was unquestionably a central factor in making the Crusade a success. ■

This article was adapted from *Assignment Children—A Journal Concerned with Children, Women and Youth in Development,* 65/68, 1984, UNICEF, by Robert J. Vittel, Information Assistant, Clearinghouse on Development Communication.

Clearinghouse On Development Communication

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In recent years, considerable research has been done on visual literacy and how to use visual materials effectively in developing countries. We are devoting a section of this issue to the purpose of visuals, how to use them in training, and how peoples' understanding can be improved through appropriate exposure to and use of these materials

The Purpose of Visuals

by Ralph Wileman

A visual aid is a device through which the learning process may be encouraged or carried on through the sense of sight. Visual aids can take many forms: they may be real objects, models, printed illustrations, photographic prints, filmstrips, video, or motion pictures. A visual often incorporates graphic devices (such as an arrow to direct the viewer's eye to a specific part of an object), as well as words to enhance a message.

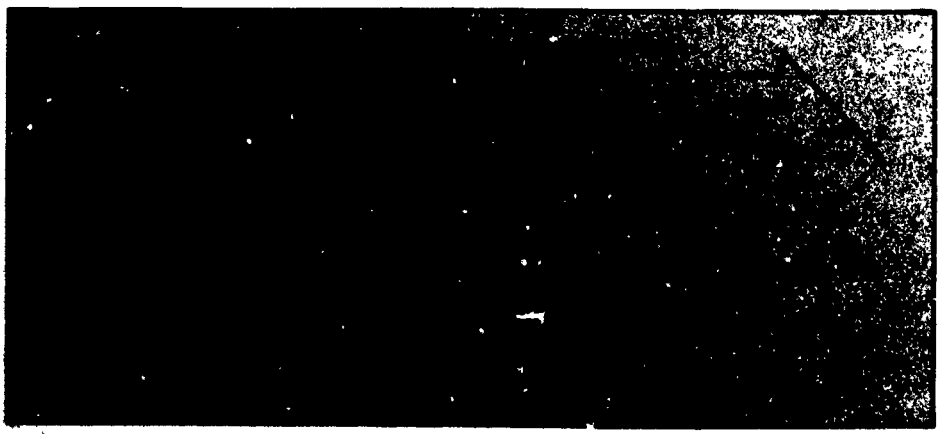
A visual should be produced in the format which best presents the idea or explanation to the audience. Visuals are used to explain concrete processes (how to prepare a rehydration mixture), as well as abstract ideas (the philosophy behind cooperative efforts). There is ample research to show that using visuals is both an efficient and an effective way to communicate many kinds of ideas.

Acquiring Visual Skills

The ability to understand visuals is an acquired, not an automatic skill. Picture comprehension, pictorial depth perception, and the meaning of the techniques often employed in printed illustrations must be learned. Visual aids must, therefore, be designed or selected based upon the extent to which the intended audience has been exposed to visual aids and has learned to understand them. It is sometimes assumed that a visual aid serves its purpose if the intended audience can name the items displayed or describe the portrayed condition or activity. This, however, is a simplified approach to judging the value of visual aids. The audience may well be able to describe the visuals and yet not understand the messages they are meant to convey.

Effective communication through visual aids is as complex and difficult to achieve as is communication through language. This is especially true in attempting to produce visual aids to instruct people who have limited experience with them. To achieve good communication through the use of visual aids, the total communication process must be considered. The figure below lists some of the important questions we need to ask about the visuals we use to teach or to communicate. Basic educational goals parallel these questions. This figure clearly illustrates the complex task of communicating through visual aids.

(*Continued on page 2*)



Evaluation: Past and Present

by Peter Spain

Evaluation is at once both overpraised and underestimated. Too often, evaluation has been asked to be something it is not, and not asked often enough to do what it can do best. Recent experience has clarified evaluation's role, especially its specific contribution to achieving project results. My purpose here is to sketch the main aspects of evaluation's traditional role, contrast traditional evaluation with the evolved and evolving role that evaluation is playing today, and then show how evaluation fits into any process for getting things done.

Evaluation Past. . . .

Traditionally, evaluation has been an after-the-fact exercise for those projects that can afford it. Evaluation was viewed as quite an enlightened thing to do, really, a sign of open-mindedness and a willingness to learn. But evaluation was a luxury, possible only in projects underwritten by donors of particular largess. Evaluation was not used to improve current projects but, instead, to plan and improve future ones.

Traditionally, evaluation has been performed by an outside consultant or team. The outsiders contributed not only their particular skills in data gathering and analysis, but also the requisite objectivity much in the manner of basic scientific research. Evaluation carried out in this manner was retrospective – sifting through evidence, questioning participants, drawing inferences, and then rendering a verdict about project success or failure. For the people who ran the project, the matter was out of their hands.

Traditionally, the relationship between project people and evaluators has been adversarial. Project people were often threatened by the possible discrepancy between what *they* thought they should have done and what the *evaluators* thought should have been done on the project. Because evaluators and project people were not necessarily working from the same agenda, the possibility for the development of an adversarial relationship was high.

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In this issue . . .

AED
International Division

(**Wileman** *continued from page 1*)

The first question to ask is, "Is it perceived?" Attention is captured, at least momentarily, when viewers discern there is something new or different to look at in their field of vision This is especially important when the visuals used to teach are posters or other visual media that must capture the viewers' attention without external verbal prompts from a health worker or teacher. The visual must also be "readable." "Can the audience see and read the pictures and/or words we have displayed?" Readability is affected not only by how we render the display, but also by the distance from the display to the furthest viewer If people in the last few rows of a classroom cannot read or see your flipchart on crop rotation, then accomplishing your educational goals will be difficult, if not impossible.

Second, "Is the visual identified as intended?" An enlarged photograph of an insect may be understood to be an insect, but the audience may believe their crops are safe since the pests on their crops are much smaller creatures than the insect in the photograph.

Third, "Is the visual culturally appropriate for the intended audience?" In some cultures, depicting a woman smoking a cigarette would not be acceptable and might cause that audience to reject the message. Visuals of people's attire, their living conditions, or even their standing or sitting posture must be acceptable for them to be effective

Fourth, "Does the visual depict something that is important to and valued by the audience?" If the visual is meant to instruct the viewer in the painting of a house, and house painting is of no importance to the viewer, there is little chance the visual will hold his/her attention.

Fifth, "Is the visual memorable?" An image that is remembered is one that will be recalled and used An abstract image of a mother nursing her child may or may not be understood by the intended audience, whereas clearly representative figures are likely to be more memorable

The objective of this questioning is to determine if the intended audience can identify, "read," and understand the visual image However, the ability to identify what is seen is not enough The intended audience also must believe what they see, value what they see, and be convinced by what they see. Only then will the real educational goal – to change attitudes and behaviors – be accomplished. Field testing and other research techniques are required procedures for today's visual communicator The systematic gathering of data about how visuals are perceived, read, identified, valued, or remembered can help advance both the art and the science of communicating with visuals ■

Ralph Wileman is director of the Educational Media and Instructional Design training program at the University of North Carolina, Chapel Hill, and has worked in many countries, training health workers in designing and producing educational materials

(**Murphy** *continued from page 4*)

participants formed an association to promote the use of visual materials in family planning, training, and education.

Participants from Burkina Faso, Mali, Mauritius, and Togo have integrated sessions in visual communication into their ongoing family planning training programs. With INTRAH assistance, Rwanda has conducted two two-week workshops replicating the training they received in Mali for their own local needs. Although it is too soon to measure the concrete outcomes of the Mauritius workshop, the Philippines' participants have already scheduled an integrated visual and group communication workshop in mid-1986 for the family planning field trainers in their organization.

From INTRAH's experience, it is clear that family planning educators and trainers can develop and use effective visual communication in their training when encouraged to be resourceful and creative in the application of those skills using local resources in their home environment. The inclusion of visual communication skills in the training of health workers contributes toward their self-sufficiency and ability to develop effective health training and education programs. ■

Catherine Murphy has worked as a trainer and instructional developer in international health since 1975. She is currently INTRAH's Training/Materials Officer at the University of North Carolina-Chapel Hill.

Course on Managing Health Audiovisual Materials

A course that explores the techniques of managing a collection of audiovisuals – selection, evaluation, cataloguing, classification, storage, retrieval, maintenance of materials and equipment – the role that the audiovisual resources person can play within educational or medical institutions, is being offered by The British Life Assurance Trust for Health Education (BLAT) at the request of the World Health Organization This course is intended for people without formal library training who are responsible for running libraries or resource centers, particularly in developing countries, and librarians wishing to extend their professional skills to help them cope with audiovisual materials. There will be a strong emphasis on practical work. It will be held in London from August 5-21, 1986. The closing date for applications is April 16, 1986.

Further details can be obtained from Ms B S. Carney, Information Officer, BLAT Centre for Health and Medical Education, BMA House, Tavistock Sq., London WC1H 9JP. (Telephone: 01-388-7976).

Learning to Use Visual Training Materials

by Mari Clark

There is a long-running debate about whether trainers should be instructed in how to develop and use visual training materials. Discussions about the desirability and practicality of taking time for this type of training often are based on misconceptions that have restricted the use of this potentially powerful communication tool. Time is seldom scheduled to teach visual thinking, designing, and communicating during training of trainer sessions. Trainers rarely use visuals other than flipcharts with lists of key words or objectives in these sessions. If they do use pictures, films, or other visuals for training purposes, they often fail to select and apply them effectively toward specific training objectives. The following points address the lack of appropriate visual communication training and offer suggestions for strengthening visual communication in the training of trainers.

Misconceptions

Many trainers consider visuals for training to be a technical area requiring high-level skills in design, drawing, and audiovisual equipment operation. Because trainers are busy and need to focus on only the essentials during the brief span of a training course, they often set aside visuals and how to use them as luxuries that are "nice but not necessary." This attitude is influenced by traditional Western formal education where all too often pictures are looked upon as learning materials for small children, and the reading of textbooks with many words and few pictures as the province of adults.

When trainers do use visuals, there is a tendency to focus only on their potential for information transmission – as illustrations for lectures in the form of charts, picture slides, or films – rather than using them to involve the learners actively in the training session. Related to this is the frequent lack of attention paid to effective use of visuals in terms of timing, cultural appropriateness, and smoothness in presentation. Often there is too much dependence placed upon a polished visual presentation to convey a message. Experience shows that even the best designed visual is only a distraction when shown at the wrong time, to the wrong people, or handled in the wrong way. The common theme connecting these misconceptions is that visuals are seen as separate products rather than an integrated part of the training process.

Learning by Doing

Avoidance of visuals based on these or other misconceptions is unfortunate because their use, combined with participatory training techniques and effective verbal communication, is a powerful means of conveying abstract ideas in a visual context, and adds a concrete element to the planning process. It is important to keep in mind that effective use of visuals in training is as important as their design in influencing learning and behavior change. Research and practical experience indicate that they are most effective when combined with nonformal education techniques that enable questioning and problem solving as well as transmission of information. Visual aids, when combined with these techniques, not only transfer information; they can stimulate discussion, provide a focus for problem identification and problem solving, and involve people actively in the learning process within small group and individual activities.

Working with learners to develop visual aids is an effective means of learning by doing In the process of developing visuals, trainees broaden and reinforce their learning about the ideas or messages represented It also

(*Continued on page 4*)

Visual Communication Training for Family Planning Workers

by Catherine Murphy

Is it possible to turn a non-artist health worker into a producer, user, and trainer of visual communication techniques for health teaching? Based on the results of numerous visual communication workshops conducted by the Program for International Training in Health (INTRAH), the answer is an emphatic "yes."

With funding from the Agency for International Development, the INTRAH Program has developed various family planning training workshops for selected African, Near Eastern, and Asian countries. One of the identified needs among some of the host countries was for family planning workers to acquire skills to develop their own visual materials and then to use them in family planning education or training of other health workers. A two-week visual communication workshop was designed to address this need, and such workshops have now been conducted in Kenya, Somalia, Sierra Leone, Mali, Tunisia, and Rwanda.

During these family planning visual communication workshops, the first step is to explore the rationale for using visual communication methods for various general health training or educational problems. Participants then proceed through a ten-step process for planning, producing, and using visual communication materials and methods. The first step in this process examines the six teaching questions which serve as the foundation for visual communication. These questions are:

1. WHOM am I teaching?
2. WHAT do I want them to be able to do?
3. WHERE and HOW LONG will the instruction take place?
4. What teaching METHOD or METHODS will I use?
5. What VISUAL AIDS will I use?
6. How will I know how EFFECTIVE the instruction was?

The process then outlines visual thinking skills, and design considerations that form the basis for visual message design. These skills enable participants to judge what makes a good visual and to sketch visuals which illustrate concepts, data, and processes. The workshops focus on developing practical skills. Participants decide what topics will be discussed depending upon their own needs or interests. They work in small groups and individually on visual communication problems with guidance from trainers on designing, pretesting, and producing visual materials then demonstrating how they will be used for teaching other family planning trainers

An important element of these workshops is the emphasis placed on making training relevant to local resources and needs. This is accomplished by creating models and picture series and other visuals from locally available raw materials, facilities, and human and material resources. Emphasis is also placed on developing materials on topics that the participants have identified as needed by their target audiences. Finally, INTRAH works with national co-trainers to design, conduct, and modify the training process itself. Once the national co-trainers develop basic skills in visual communication training, they begin contributing their own ideas for techniques and materials that are locally and culturally relevant. Through practice and technical assistance these national trainers learn how to conduct visual communication training on their own.

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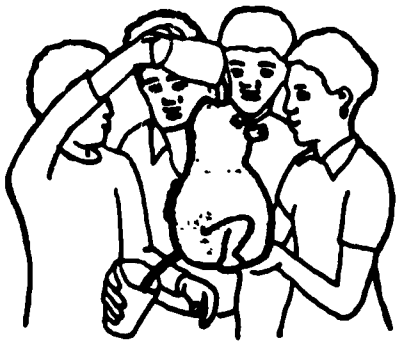
(**Clark** *continued from page 3*)

strengthens the communication skills of the learners. An understanding of how to pretest visuals is also important to assess the materials and to learn about the interests of the audience for whom the training is intended. The following visuals illustrate some of these applications.



Making visual aids is very useful in helping learners discover solutions to problems. Mothers and children can learn about diarrhea and dehydration by making their own "baby" from clay, tin cans, plastic bottles, or gourds. They can experiment with the principle of rehydration by pouring water into the "baby" and mending the different openings with "food."

You could use this picture as the basis for a discussion by asking, "What do you think this picture is about?" Often this is the only question you will need to ask. To keep the discussion going, you might ask, "Who are these people?" "What is happening in the picture?" or "How do the people feel about it?"

Selection of Visuals

Specific needs of trainers vary considerably in the selection, design, and use of visuals depending on the tasks and resources of the trainers. For some, the selection and use of visuals are the primary needs. Given a primary training situation, they need to decide what, if any, visuals will help them accomplish their goals and how to use those visuals most effectively with particular training techniques. For others who work with artists, basic skills in visuals design help them communicate more effectively and avoid miscommunication that wastes hours of planning and drawing time. Those who have no artist and few resources also need skills in visual design to develop their own visuals or to use simple techniques to adapt existing materials for their specific training needs. In all these instances, how to make visuals is not nearly as important as how to select, design, and use visuals and to effectively integrate visuals with participatory training techniques.

Below are some suggestions for strengthening visual communication in the training of trainers:

1. Use good examples of visual models throughout the training.
2. Display examples of good visuals related to the topics so trainees can handle them.
3. Give trainees opportunities to practice selecting and using visuals effectively with a variety of training techniques.
4. Provide opportunities for trainer and trainee feedback on selection and use of visuals with training techniques.
5. Use visuals to explore the basics of effective visual communication and what hinders communication. (See the bibliography at the end of this article)

For trainees who need to work with artists or must develop their own visuals.

1. Provide practice exercises in communicating visually.
2. Demonstrate and practice planning visual training materials based on training objectives.
3. Demonstrate and practice pretesting materials, emphasizing this as a means to learn about the audience as well as the effectiveness of the materials.
4. Demonstrate and practice simple techniques for adapting and making visuals by tracing parts of existing materials. ■

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Mari Clark is currently finishing her doctoral dissertation in anthropology. She was formerly associated with CPH International, Chicago where she directed the development of the Peace Corps training manual for the Control of Childhood Communicable Diseases Project.

(**Murphy** *continued from page 3*)

Multi-Country Training

INTRAH has further expanded the use of visual communication in health training by conducting multi-country family planning visual communication workshops. Two of these have been conducted in Africa: one in Mali in July 1984 for participants from nine French-speaking countries, and one in Mauritius in August 1985 with ten English-speaking countries participating. The participants in the international workshops were national-level trainers of family planning workers or national-level family planning educators of the general population in their countries. They learned the same skills in how to design, adapt, pretest, produce, and use visual communication methods as the participants at the in-country workshops.

However, national level trainers' and educators' job responsibilities include training of other trainers and workers as well. Therefore, they developed action plans during the workshops which integrate visual communication skills training into existing family planning training through curriculum changes and workshops on developing visual materials. In order to develop these action plans, a third week was added to the workshop. During this week, participants identified curriculum areas in their own family planning training programs which could be strengthened by the introduction of visual communication skills. They developed workshop plans and practiced conducting sessions on visual communication topics.

These international workshops provided the participants with opportunities not possible with in-country workshops. There was considerable cross-cultural and informational exchange among the countries represented in the workshops. Time was set aside daily for participants to share and discuss family planning educational materials developed and used in their own countries. A session on traditional talking and singing techniques explored the use of visuals with traditional storytelling, parables, and songs used for educational purposes.

Outcomes of International Training

The most obvious workshop outcomes were the visual materials and techniques that the participants carried back to their work sites to use and share with others. Other results were the participants' workshop plans and individual action plans that spell out strategies for developing and using visual materials and teaching others these skills as well. In Mali, the

(*Continued on page 2*)

From Nicaragua to Thailand: Adaptating Interactive Radio Instruction

by Jamesine Friend, Klaus Galda, and Barbara Searle

Many developing nations are unable to provide adequate instruction in their primary school classrooms because they lack economic and human resources, especially in remote rural areas. One of the quickest and most reliable ways to alleviate this problem is to provide *interactive radio instruction*, a proven technology for use in poorly equipped schools with undertrained and overworked teachers.

The technology of interactive radio instruction, although quite new, has already proved itself to be very effective in improving the quality of instruction in diverse subjects and countries. It has been used to teach mathematics in Nicaragua, English as a second language in Kenya, and reading in the Dominican Republic (see *DCR* #49). Extensive evaluation of these programs shows significant improvements in children's achievement scores. In Nicaragua, for instance, an evaluation of a first grade class showed that average mathematics test scores increased from 39 percent to 65 percent.

Implementation costs, when used with large numbers of students, is very low – less than one dollar per year per student. Unfortunately, many nations who would like to use interactive radio instruction and who can afford the implementation cost of the lessons, do not have funds available for developing completely new lessons, and would also like to implement it at more than one grade level per year. Development costs to produce a high-quality, year-long series runs between $300,000 and $500,000, due largely to the careful planning and the extensive field testing required to produce such lessons.

A possible solution to this dilemma is to adapt interactive radio lessons that have already been prepared for another country rather than developing a completely new series. The questions are whether existing lessons can be adapted for another country's needs, and whether such an adaptation would change the materials so much that the quality of the original product would be significantly reduced.

Adaptation Process

The opportunity to investigate these questions arose in 1980, when Thailand decided to adapt the Radio Mathematics lessons from Nicaragua, and use them on a small scale to determine if they would be appropriate for a Thai audience. In Thailand there is a major disparity in the quality of education between urban and rural schools, and it was hoped that the use of radio instruction, which would be uniform throughout the country, could help to reduce this difference.

Although radio instruction has been used with considerable success in Thailand for many years, there were no courses in mathematics for elementary school comparable to the course designed for Nicaragua. At that time, adaptation of such materials had never been done in Thailand, so it was decided to adapt only the second grade, and to pilot test the lessons rigorously in a small number of schools before planning nationwide usage.

Because all the original scripts were written in Spanish, the first and major adaptation was to translate the lessons into Thai – a considerable task due to the dissimilarity of the two languages. Adaptations also were needed in the songs, games, and jokes that are an integral part of the lessons, and required comprehensive rewriting to reflect Thai culture. Geographic references, names of common fruits, and other culturally related components of the scripts were also changed.

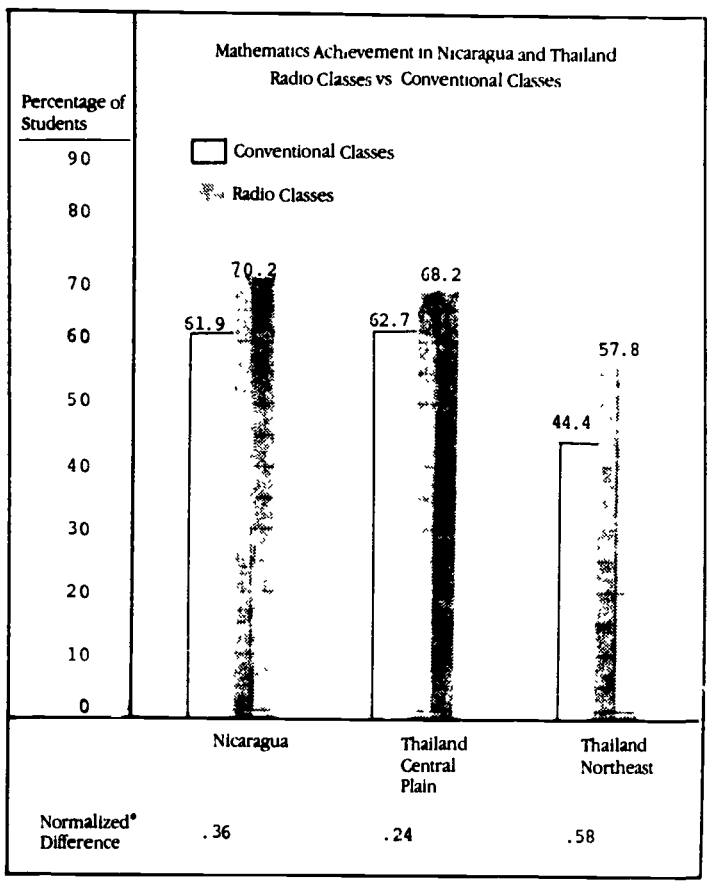
Fewer content changes were required; for example, instruction in division was added to the lesson plans. For the most part, however, Thai mathematics curriculum for early grades was quite similar to the Nicaraguan mathematics curriculum. Adapting to the standard educational radio series already in place in Thailand which lasts 32 weeks, the total number of lessons was reduced from 175 to 160, calling for some lesson incorporation and deletions

Lessons Begin

Broadcasting began in May 1980, the beginning of the Thai school year. The pilot study was located in two areas of the country the Central Plain region near Bangkok, and the Northeast, a very isolated, poor region of the country. Lessons were broadcast daily to second grade children in 16 schools in each region. At the end of the school year the children were given a special posttest to assess their abilities in mathematics At the same time, children in 32 non-radio classes, similarly divided between the two regions, were given the same test to establish comparative data to that of the children in radio classrooms

(*Continued on page 11*)

Graph No. 1



*A measure of improvemnt when comparing different populations $D = \frac{\text{mean (experimental)} - \text{mean (control)}}{\text{SD (control)}}$

A Communicator's Checklist

1 The Promise of Literacy, by H.S. Bhola, et al, (Baden-Baden, West Germany: NOMOS Publishers, 1983) 283 pp.

The Promise of Literacy reports the proceedings of the 1982 International Seminar on Literacy held in Udaipur, India. H.S. Bhola, of Indiana University, and Josef Muller and Piet Dijkstra, both of the German Foundation for International Development, were coauthors of the report. The seminar itself was one of a number of international conferences which have been convened over the last two decades to discuss adult literacy training. In fact, to read *The Promise of Literacy* by itself is like reading a passage out of context.

The Udaipur Seminar focused specifically on the "mass campaign" strategy for adult literacy training. The rationale for this focus is explained in the introduction as follows: "In most parts of the Third World, barring a few happy exceptions, literacy work has been in the form of experimental projects and cautious pilot programs. Strategies used have seldom been bold or commensurate with the size of the problem." One such bolder measure is the mass campaign which has proven to be a promising strategy. As the Udaipur Declaration maintains, "The clear lessons from efforts in many countries is that nationally motivated mass campaigns can banish illiteracy regardless of the adversity of conditions a country faces."

Convinced of the efficacy of the mass literacy campaign, the organizers of the Udaipur Seminar attempted to provide a forum for government planners and literacy experts and practitioners already experienced in conducting mass campaigns to compare and contrast strategies with each other and to share what they had learned with representatives of countries presently in the process of planning and implementing campaigns. To provide a common point of reference for the discussions, the organizers structured the seminar around a Unesco-commissioned study by H.S. Bhola, *Campaigning for Literacy*, in which eight different historically significant campaigns form the basis for a comparative study of the campaign strategy. Bhola included in his study a well-written theoretical overview of how to plan campaigns in a chapter entitled "Planning, Implementing, and Evaluating Literacy Campaigns: A Memorandum to Decision Makers." The seminar participants found this "Memorandum" to be "a useful and systematic elaboration of planning, implementation, and evaluation of literacy campaigns, programs, and projects." Consequently, it appears again in its entirety in chapter six of *The Promise of Literacy*.

One of the important contributions of conferences such as the one in Udaipur is that resulting publications like *Campaigning for Literacy*, *The Promise of Literacy*, and the more recent. *One Billion Illiterates* together provide a historical overview of many of the mass campaigns undertaken around the world Unfortunately, some of the campaign reports from the Udaipur Seminar in particular are overly brief or too shrouded in official government rhetoric to be informative.

The "Udaipur Literacy Declaration," a significant document which summarizes the conclusions reached at this Seminar, is also included One of the noteworthy conclusions is that, although most successful campaigns are characteristic of "societies in the midst of profound and structural changes," any society, regardless of the political system, "can activate forces for change and create a supportive political environment." The introduction to the book echoes this conclusion when it claims that the necessary, and indeed, a sufficient condition for mounting a successful mass literacy campaign is "the existence of the national will to mobilize national imagination and national resources." Such claims stem from the comparative evidence that, although most of the successful literacy campaigns have occurred in the context of revolutionary movements, some countries, most notably Brazil, have managed to conduct campaigns in non-revolutionary environments, as well as from evidence from countries like Nicaragua that campaigns do not depend so much on big budgets as on a national popular will to eradicate illiteracy.

In general, this book contains an informative section on the theory and practice of conducting mass literacy campaigns, and an important declaration which once again calls for literacy to be placed as a priority on the international development agenda. To be understood in context, however, *The Promise of Literacy* should be read as part of the informal series of publications which have emerged as the working papers or reports of other international adult education and literacy conferences. ■

Recommended Reading:

Bataille L., editor, *A Turning Point for Literacy*, Oxford: Pergamon Press, 1975

Bhola H.S., *Campaigning for Literacy*, Paris: Unesco, 1982.

Carron G. and Bordia A., editors, *Issues in Planning and Implementing National Literacy Programmes*, Paris: Unesco, 1985.

Fordham P., editor, *One Billion Illiterates: One Billion Reasons for Action*, Toronto: ICAE and Bonn: DSE, 1985.

World Conference of Ministers of Education on the Eradication of Illiteracy: Final Report, Paris: Unesco, 1965.

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Available from NOMOS Publishers, P O. Box 610, D-7570, Baden-Baden, West Germany for 38 German Marks approximately US$16. Free for developing country readers from. German Foundation for International Development, Hans-Bockler-Str 5, D-5300, Bonn 3, West Germany

2 Scientific Research and Social Goals:Towards a New Development Model, Federico Mayor, ed. (Oxford: Pergamon Press, 1982) 236 pp.

This collection of essays focuses on the relationship of social priorities and scientific research as a new basis for national and international development. The goal of this lofty endeavor is to redefine development in human terms, to replace the emphasis on material goods of the industrialized nations, with the human needs and limited resources of the developing world. Technology and the products of scientific investigation, it is argued, should be redirected to the concerns of world poverty, technology transfer, and the effective use of available knowledge; and only through the reorganization of international priorities and the redirection of scientific efforts will such goals be reached.

The volume is the result of the "Research and Human Needs" program that was conceived at a symposium/workshop in Venice in December 1975. The book "discusses the results so far achieved, and what they imply for the future."

The individual presentations represent a number of disciplines, countries, and styles, divided into three sections: concepts and philosophy, methodological approaches, and practical programs in different parts of the world. The essays are written as speeches and retain a sense of purpose and polemic which suggest the political and policy orientation of the book, yet, this dialogue with the unseen governments, policy-makers, and interested public is illustrative of the lack of coherent editing or logical progression of ideas. In this sense, the book will be of interest to individuals looking for an introduction to the idea of socially appropriate development, but will not provide a satisfactory exploration of the subject for those deeply involved in the field. The humanistic/scientific dilemma is well known in most development agencies and university settings such that the real importance and impact of these essays will be on the general public and political domains. The editor has included a number of essays by individuals who

are not normally considered authorities on development, such as the actress Bibi Anderssen, but who add a new dimension to the discussion by the inclusion of the arts and humanities in the overall human needs framework.

A possible criticism of the volume is the unqualified assumption that science is good, or on the other hand, that "good science" cannot have a specific applied objective without striking "a mortal blow." It is unclear what the ultimate "good" of science will be and what contribution scientific endeavor will make to the problems of the developing world. Nonetheless, the idea that the power of science – both in the metaphorical and technological – should be linked to social priorities is a significant statement and organizing principle for research institutes, programs, and international funding. The argument that knowledge, science, and intellectual skills should be placed in the service of people is a moral imperative; this book begins a discussion of how such an imperative can overcome the problems of national boundaries, cultural values, and economic constraints.

One of the most successful papers is by K. Soedjatmoko, Rector of the UN University, who reviews the national policy implications of the basic needs model. By examining each sector of a developing economy, including health, housing, education, food, land reform, and cultural, legal, political, and ideological policies, he evaluates the problems and questions which will arise with the application of the basic needs model. He concludes by reminding us that "the massive intellectual effort and the staying power which a continuing dialogue requires can only be generated and maintained when ... mutual trust ... mutual faith in the basic qualities of the other people ... and a willingness to suspend final judgement for a long period of time" are a part of the common commitment that has been made. This level of commitment that has been made. This level of commitment and the importance of human relationships still remains the basic medium for development and successful social change ■

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Available for US$39.00 from Pergamon Press, Inc., Maxwell House, Fairview Park, Elmsford, New York, 10523, U.S.A., Attn.: Book Order Department.

3 Technology Policy and Development: A Third World Perspective, Pradip K. Ghosh, ed. (Westport, Connecticut, Greenwood Press, 1984) 593 pp.

Developing country technology policy has been most noted for its absence, so a collection of recent essays from developing countries on the subject sounds intriguing. Unfortunately, *Technology Policy and Development: A Third World Perspective* is not that book. This collection includes a mix of articles by industrialized country authors, many written in the early 1970s, and a few reprints of articles and publications from the U.N. Conference on Technology and Development and the U.N. Industrial Development Organization. A statistical section includes some very general U.N. economic data for the 1970s, developing country research and development expenditures and the number of engineers and scientists in the early 1970s, and developing country expenses for technology transfer in the 1960s. An annotated list of pertinent books, articles, and institutions occupies almost a third of the book. Too many of the articles are hopelessly out of date. Attitudes and understanding of what is appropriate technology have evolved considerably since 1973 when Robin Clarke published the essay reprinted here. William Eiler's 1980 article uncritically quotes a prediction that photovoltaic cells will cost 50 cents per peal: watt in developing countries in 1986. The article on science and technology in black Africa was first published in 1973. An article on industrial and technology policy in Tanzania describes policies in detail, but provides no insight on whether these policies are to blame for the country's current problems. Several of the articles are still relevant, if not timely. Charles Weiss and his colleagues at the World Bank offer good generic advice in "Guiding Technological Change." The forbidding sounding "Technological Self-Reliance of the Developing Countries: Toward Operational Strategies," by the U.N. Industrial Development Organization is a comprehensive statement of developing country attitudes toward international patent policy, transnational corporations, and the industrialized countries, and of technology policy options open to the developing world. Denis Goulet provides an insightful commentary on the role of values in technology policy, and the UNCTAD review of developing country technical progress from 1950 to 1975 includes useful historical data.

Technology Policy and Development is most successful as a bibliographical reference. The 190-page annotated bibliography of books, articles, and other bibliographies is a handy guide to pre-1982 literature. The statistical section is a useful lesson in how little is known about science and technology activities in the developing countries. The essays provide a historical portrait of what the U.N. and Western development specialists were thinking about technology and development in the 1970s, but the book does not deliver what its title promises – developing country thoughts and actions on technology policy. ■

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Available for US$49.95 from Greenwood Press, 88 Post Road West, Box 5007, Westport, Connecticut 06881, U.S.A.

On File at ERIC

Documents recently entered in the ERIC (Educational Resources Information Center) files include an overview of communication and technology in development, a report on a theater-for-development workshop, a handbook for film producers, and a study and manuals on the use of audiovisual materials

All these documents are available in microfiche, and all but one in paper copy, from the ERIC Document Reproduction Service (EDRS), 3900 Wheeler Ave., Alexandria, Virginia 22304, U.S.A. Be sure to include the ED number and payment in U.S. funds for the price listed plus shipping. Shipping costs may be calculated on the basis of three microfiche per ounce and 75 microfiche or pages of paper copy per pound.

● *Beyond the Flipchart. Three Decades of Development Communication.* 1985, 45pp. (ED 259 710).

For more than a decade, the Academy for Educational Development's Clearinghouse on Development Communication has collected information and chronicled trends in the application of communications technology to development. This paper summarizes what the Academy has learned about communication and development from various perspectives and discusses the future use of new technologies Areas covered include: (a) strategies (media based, instructional design, participation, and marketing); (b) the importance of language, culture, and politics, (c) the development sector (agriculture, family planning, education, health, nutrition); (d) technology (television, radio, print media, traditional and folk media, other media, telecommunications, computers); and (e) lessons for the future (audience orientation, targeting areas for change, media networks) Examples of successful communications projects are included to illustrate the positive impact of media intervention on education and training. Available from the Clearinghouse on Development Communication, 1255 Twenty-third Street, NW, Washington, DC 20037, or from EDRS in microfiche only for 75 cents.

● Kidd, Ross. *From People's Theatre for Revolution to Popular Theatre for Reconstruction: Diary of a Zimbabwean Workshop.* CESO Verhandeling No. 33 1984. 95pp. (ED 259 694).

Focusing on the experience of one of seven working groups at a theater-for-development (TFD) workshop in Zimbabwe, this report details the process followed by many groups, and reveals some of the major learnings, dilemmas, contradictions, strengths, and limiting factors found in a practical village-based TFD process. This drama form is described as an experimental collaborative process designed to take theater out of urban enclaves and make it accessible to the masses, presenting such

(Continued on page 10)

(**Spain** *continued from page 1*)

Traditionally, evaluation has sought to answer the questions "What is wrong?" "What is the problem?" and – inevitably – "Who is to blame?" At the conclusion of a project when people's work was evaluated, there was little they could say to counter a negative evaluation. Since the project was already over, they could not make the indicated adjustments, and since involvement in future projects could be jeopardized by a negative evaluation, the evaluation exercise represented, for these people, a substantial personal threat.

Traditionally, evaluation has often been confused with policy analysis. The evaluator has been looked upon as someone who tells people what they should do or what they should have done. There is, however, a very important distinction between these two functions. Policy analysis properly combines the wisdom, experience, and judgment of a group of people to determine what to do (policy), and to determine later if what has been done should have been done. The evaluator's role is more narrow: the evaluator determines what has been done, so actual results can be compared with the desired results.

The characteristics elaborated above have long been assumed to be standard characteristics of the evaluation process. I wish to challenge these assumptions, to show how evaluation can play a more useful role in project implementation. Indeed, many evaluation practitioners have gradually moved toward more constructive uses of evaluation, precisely because they have gone beyond assumptions.

Evaluation Present. . . .

Evaluation occurs throughout the project. The traditional assumption that evaluation occurs after-the-fact implies that evaluation cannot contribute to the outcome of the project, but only to a cumulative body of "lessons learned" that persons undertaking new projects might consult and follow. The most critical and limiting corollary of the traditional assumption – that evaluation was to be done after the project – was that project people somehow could not state the results they wanted beforehand, or measure where they stood in terms of those results until it was too late to do anything to change what had happened. It was assumed project people could not control what was happening once the project had started. More recently, however, evaluation has been recognized as a valuable tool to help project people achieve their goals.

Evaluation can, in fact, be carried out at any stage of the project – before, during, and after – as a way of measuring the actual situation vis-a-vis the project's desired results. Thus, *what is required for a good evaluation* – before getting out statistics books, plugging in a computer, or designing a specific data-gathering method – *is a clear statement by the project people of the desired results, in measurable terms.* Defining measurable indicators of desired results defines and clarifies the evaluator's task. It also requires that project people understand what is happening *before* the project (baseline evaluation), and *during* the project (formative evaluation) in terms of those same, precise, measurable indicators. The baseline evaluation will aid greatly in project design, and the formative evaluation will allow the project team to change things while there is still time to affect project outcomes.

From this perspective, evaluation is integrated into the project as a way to get things done. Always using the desired results of the project as the criteria, evaluators can look at what is happening before and during the project to guide project design and implementation.

Evaluation is an essential function, not a luxury. When evaluation is done after the project, results are used not by the project people whose work is being evaluated, but often by a nebulous group of future implementors in similar settings. Theoretically, they would take the evaluation results, find the similarities between the evaluated project and the contemplated project, apply useful lessons, and then move onward and upward on the basis of this continually cumulating body of lessons learned. In reality, future implementors take too little time to study the state of their art, and often say that few lessons are directly applicable anyway. When these future implementors are the only beneficiaries of evaluation, the sponsors of the project to be evaluated may hesitate to pay for something which is not of direct use to them.

Thus, evaluation appeared to be a luxury, something peripheral to the project itself, and something whose value for other projects was hard to determine. But when evaluation becomes part of the fabric of project implementation, as a stimulus to the achievement of clearly stated results and as a monitor of measurable indicators of those results, the project itself becomes the chief beneficiary of evaluation. No longer a luxury, evaluation is seen as essential for getting things done.

Once the sponsors are convinced that evaluation is vital to accomplishing the desired results, they can justify this investment on solid grounds – the alternative being to gamble that the project is and will continue to achieve those desired results.

Evaluation should be done by insiders. To the degree that an evaluation is complex, the project team needs to include persons with the requisite technical skills who bring with them a blend of social science, statistics, and computer analysis. They should be brought in to work for the project's desired results and remain with the project from start to finish. Traditionally, evaluators have been outsiders – people not concerned with the project's desired results, who came on the scene at the end of the project. Also, grounds for using outside evaluators went further, that is, to maintain objectivity and to maintain the standards of scientific experimentation. Perhaps objectivity is important if you look at evaluation only as a post-mortem assessment of what happened. Objectivity implies a definite distance on the part of the evaluator. To the extent that accurate, timely information about results can contribute to the project, however, evaluation should not be objective, but rather be used to get those results.

Similarly, maintaining standards of scientific experimentation poses a problem when applied rigorously to evaluation. If evaluation stays above the battle, not offering its findings to the project team because of a desire to be "scientific," neither science nor the project benefits. A project is not an experiment – intervening simply to see what happens. A project has desired results and needs to evaluate interventions regularly in terms of those desired results. While an experiment is value-free, a project is not. Achieving the desired results of the project is the ultimate goal, and the evaluation process is used to determine whether progress is being made toward that end.

Evaluation is not adversarial. Evaluation has often been a threat to many project participants, and justly so. When used only retrospectively and when not arising from a predetermined project agenda, evaluation can easily become a negative and damaging experience for a person. Even the best people can design and implement a project that does not achieve – without mid-course corrections – what they had hoped for. When used only retrospectively, evaluation offers no constructive guidelines to the project; and, if the evaluation is negative – implicitly or explicitly – the blame falls on those associated with the project. A retrospective evaluation deals only with success and failure, with praise and blame, and is rightly perceived as a threat.

In contrast, when evaluation is integrated into the project, both at the baseline and during the formative stages, the focus shifts from success and failure – praise and blame, to *improvement*. More importantly, focus shifts from the evaluation of persons to the evaluation of methods. When an evaluation is carried out during a project, and when this information is made available to those who are committed to achieving its desired results, it is possible to change methods in mid-course.

Evaluation clearly becomes a scrutiny of methods in terms of improving desired results and not a personal ordeal in terms of success or failure. This depersonalization of evaluation is not incidental. It stems directly from the project's articulation of its desired results at the beginning, and from ongoing assessment while the project can still be improved. In the absence of desired results, people will work off their own, separate agendas and be vulnerable to criticism from people with other agendas. The work becomes personalized. With everyone focused on the same agenda, however, the project team need not question themselves when improvement is needed. It is the methods, not the people, that need changing.

Evaluation differs from policy analysis. In the absence of good policy analysis, evaluators are often brought in to determine what should be done. It is commonly believed that evaluators can and should tell people what to do, testifying to a lack of good policy analysis. Policy analysis should determine the desired results for an enterprise, as well as the measurable indicators of those desired results.

(*Continued on page 12*)

Participatory Radio in Arequipa

by Jane Duran

In the city of Arequipa, located in the mountains of southern Peru, a participatory radio project is attempting to motivate young people to become more involved in their communities' self-help activities. This project is supported by the British Council's Educational Projects Fund, and its focus is the production of a weekly magazine-format radio program called *Inquietudes*, or "concerns, feelings that motivate." *Inquietudes* is broadcast by the local religious and cultural radio station *Radio San Martín* and is aimed at young people between the ages of 16 and 23. With this three-year project, running from 1983 to 1986, the British Council provides a studio and on-site recording equipment and materials, training programs and resources, and a London-based project consultant, and local support from the British Council office in Lima.

The catalyst for the project is a small group of volunteers working for a production center called COAMCOS *(la Comisión Arquidiocesana de Medios de Comunicación Social de Arequipa)*. Since 1975 COAMCOS has been producing an average of ten weekly cultural and religious radio programs broadcast locally on behalf of the Archdiocese, but prior to the *Inquietudes* program, the production team had had no experience in community based, participatory radio. Funding and time constraints argued in favor of selecting a priority target audience and limiting output to a 24-minute weekly program. After considerable audience research, the team decided to focus on young people in the *pueblos jovenes*, or "young villages" of Arequipa in the hope that this sector can be motivated to play a more active role in the community.

Pueblos Jovenes

The *pueblos jovenes* surrounding Arequipa number well over three hundred, and house a majority of the population of the province of Arequipa. They are populated mainly by migrants from other regions of Peru, and are in varying stages of development depending on factors such as the length of time established, proximity to the city, the degree to which communities have organized themselves, and support from local organizations. For many villages, however, economic and social problems are acute. Many lack essential services: running water, electricity, sewage and rubbish disposal, and adequate health facilities and schools, while unemployment is widespread. Few formal communication networks exist between the *pueblos jovenes* to facilitate an exchange of information on community development activities, and enable communities to learn from each others' experiences. One of the purposes of the COAMCOS project is to provide a forum in which listeners can talk to each other about local problems and how they might work to solve them, while drawing on the experience of communities which have organized self-help projects.

An essential underpinning to the project is its link with a local grass roots organization called CIRCA (*la Federación de Circulos Sociales Católicos de Arequipa*). CIRCA is a religious institution with branches in 43 *pueblos jovenes* where it has established clubs and centers that support community development activities. A CIRCA coordinator works closely with the COAMCOS team in all phases of *Inquietudes* program development. CIRCA also helped the team to carry out their audience research activities, and is an invaluable source of contacts needed to engage community participation in program production and evaluation.

Training

The COAMCOS team has received training at several stages of the project to build on their previous experience and skills in order to meet the special demands of a participatory radio project. Training emphasized audience research techniques; on-location recording skills; program formats involving listener participation; training skills to enable the team to train community groups to produce their own materials; and evaluation techniques for gathering listener feedback. The team members also needed to learn about other developments in the field of participatory and educational radio so as to operate in a wider context and draw on these experiences as sources of ideas.

Two team members attended a course for educational radio trainers at the *Centro de Teleducación, Pontificia Universidad Católica del Perú*, who then gave other COAMCOS members and CIRCA representatives basic training in research, production, and evaluation skills. These same team members also visited an established community radio project in Puno, Peru, *Radio Onda Azul* (see *DCR* #48) where they were able to observe listener participation in action. This exposure to the potential of participatory radio subsequently influenced the final shape of the COAMCOS project.

As a result of their training, the team was able to develop an effective audience research strategy. Group discussions and surveys provided the team with socioeconomic information on the *pueblos jovenes* and identified young people as a priority group heretofore marginally involved in community development activities. Further target group research revealed that there was a strong interest among the respondents to participate in program production.

The project also provided two intensive on-site training workshops run by a BBC specialist. The first, in January-February 1984, provided further basic production training for team members and CIRCA representatives Using the audience research gathered earlier, program format, content, and style for *Inquietudes* were developed at this time. The magazine format was selected as the best way to present information and ideas on a wide range of topics and issues relevant to young people from the *pueblos jovenes*. This format, with its organization into discrete sections, also accomodated the time constraints of the team, who could work only at night and on weekends. It enabled the team members to work independently when time permitted, although planning and final compilation would be a team effort

A second on-site training workshop occurred a year later. During this workshop, the BBC specialist and the team reassessed *Inquietudes* based on an interim evaluation survey carried out by the team in the *pueblos jovenes* The training concentrated on those production and training skills which needed to be strengthened in view of ways in which the project had developed Changes on program strategy and content were also made at this time.

Program Evolution

Since March 1984, *Inquietudes* has offered young people a forum where they can discuss issues that concern them. Community news and announcements are increasingly presented by members of the communities themselves; some presentations are produced entirely by groups of young people from the villages who were trained by the COAMCOS team. The program features local musicians and presents ideas for new activities in which young people can participate, while providing a channel for information on community projects. While maintaining the magazine format, *Inquietudes* may take the form of a "special" devoted to an individual village, recorded on location, and emphasizing problems and self-help projects to improve conditions. Content is lively and varied, increasingly carrying the voices of young people from the *pueblos jovenes* rather than those of the COAMCOS team members which had initially dominated the programs

Evaluation

Evaluation is an integral part of this project Listeners' comments and suggestions are broadcast on *Inquietudes* and program changes also reflect survey information gathered by the team. Another form of evaluation occurs with regular contact between the field team, the London-based Media Group, and BBC specialists. Copies of all transmitted tapes are sent to London together with "letter cassettes" in which the COAMCOS team discusses new developments and problems, allowing for regular project monitoring and rapid response time

Since the first broadcasts of *Inquietudes*, the team has concentrated on increasing the involvement of their listeners in the various production stages of the program. This effort has been successful as the young people from many of the communities regularly participate in production activities. Seen in a wider context, the COAMCOS project is only one of a variety of existing activities in Peru in the field of participatory radio. Some of these rely on the most rudimentary facilities, such as public address systems in market places or villages to disseminate community programs Other radio activities are implemented by local groups

(Continued on page 10)

(**Duran** *continued from page 9*)

who acquire time on commercial stations for individual programs; while a few radio stations sponsored by religious organizations broadcast a wide range of listener-based programming.

Although participatory radio in Peru is still overshadowed by traditional commercial radio programming, there is now some awareness of its potential impact and use as some communities are given access to a communication channel which can help them to achieve their self-development goals. ■

Jane Duran is a Media Officer with the British Council's Media Group, and advises on training and resources for radio and its applications for education and development.

Addendum

Dr. Norbert Hirschhorn, who contributed the article "Saving Children's Lives: A Communication Campaign in Egypt," in *DCR* #51 is Vice President of the John Snow Health Group, Boston, Massachusetts.

(**ERIC** *continued from page 7*)

common concerns as crop production, water shortages, immunization, literacy, and family planning. A day-by-day diary account of this working group provides an overview of, and describes the specific tasks involved with, the production of a "theater *pungwe*" – people's theater. A TFD model lists educational objectives for the drama process and defines the objectives of the workshop: (a) to train development cadres and theater artists in TFD, and (b) to start a TFD program in the Murewa area of Zimbabwe as a training and popular education/culture program. The report concludes with an analysis of the workshop, including constraints, relationship with villagers, organizational strategy, and teamwork. An extensive bibliography is included. Available from the Center for the Study of Education in Developing Countries, Badhuisweg 251, P.O. Box 90734, 2509 LS, The Hague, The Netherlands, or from EDRS in microfiche for 75 cents or paper copy for $7.20.

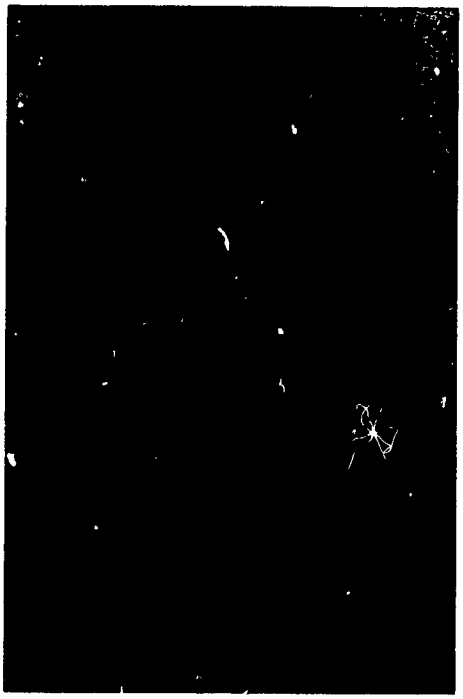
● *Communicating with Pictures. P-8A.* 1976. 28pp. (ED 257 437).

In early 1976, the National Development Service of Nepal and UNICEF conducted a study designed to determine whether it would be possible to communicate ideas and information to Nepalese villagers who could not read by using pictures only, the kinds of pictures that would be most meaningful for villagers, and whether different colors had special meanings for them. Teams of data collectors went to nine different parts of Nepal and conducted interviews with more than 400 adult villagers from various groups; none of the villagers interviewed had ever been to school. The researchers showed the villagers a variety of pictures and colors and noted their responses. The main findings of the study indicate that villagers tend to "read" pictures very literally and do not expect to receive ideas from them; villagers do not necessarily look at pictures from left to right, or assume that there is any connection between pictures in a series; pictures that try to convey ideas or instructions often use symbols that are not understood by villagers; villagers are interested in and attracted by pictures, even though they may need help to interpret them; realistic pictures with a minimum of background detail are the easiest for them to understand; and pictures showing a lot of different objects are not well understood. Available from EDRS in microfiche for 75 cents or in paper copy for $3.60.

● *Working with Villagers. Media Resource Book: Skill Exercises, Line Drawings, Recipes for Making Teaching Tools and Materials. Activities, Media Skills, and Sample Lessons for Training Fieldworkers in Home Economics and Family Planning.* 1977. 103pp. (ED 258 567).

Designed for use in conducting media production training with Peace Corps fieldworkers, this manual is divided into three sections: skill exercises, line drawings, and directions for making art supplies from easily obtainable resources. Nineteen step-by-step skill exercises cover basic cutting, wet and dry mounting, simple drawing, freehand lettering, cutting and enlarging, tracing, and making blackboard stencils. Guidelines are also given for using blackboards, flannelgraphs, and flipcharts with village audiences. Suggestions for effective utilization of color and design describe creative ways to enhance visuals, and simple line drawings of frequently used subjects are provided for fieldworkers to trace, copy, and enlarge. The concluding section contains recipes for making such low cost materials as paste, ink, dyes, paints, rubber cement, and modeling clay. Available from EDRS in microfiche for 75 cents or in paper copy for $9.00. ■

Barbara B. Minor is Publications Coordinator, ERIC Clearinghouse on Information Resources, School of Education, Syracuse University, Syracuse, New York 13244-2340, U.S.A.



Editing and Publications Training Course

The International Rice Research Institute in the Philippines (IRRI) and the Canadian International Development Research Center are offering agricultural communicators an editing and publications training course at IRRI. The course will be offered twice in 1986 and twice in 1987. This is an intensive four-month program for eight to ten participants each session. It is a "hands-on" training experience for those already engaged in editing and publication at national or related research and extension institutions. Candidates should be 25-45 years old; have a B.S. or M.S. degree; have at least two years related experience; and be proficient in English.

For information contact: The Director of Research and Training, IRRI, P.O. Box 933, Manila, Philippines.

(**AMT** *continued from page 11*)

short radio spots, jingles, and/or interviews; directing the same message to different audience groups (say, educating fathers and children – as well as mothers – about oral rehydration therapy); and adding sound effects and music to productions. Recommendations such as these are often provided by Network participants.

Contributions from the Network's participants are crucial in compiling subsequent packets. In fact, the only requirement for receiving the free script packets is that an enclosed information poll be filled out and returned to DCFRN headquarters. Questions from a recent survey asked which items were found to be the most useful; what crops, livestock, pests, and diseases are found in the communicator's area; what the terrain, soil, and climate conditions are like; and whether or not farmers can read and keep financial and other farm records. There is also room for comments and suggestions. This data is then collected, analyzed, and integrated into later packets.

In addition to radio broadcasts, DCFRN information has been used in newspaper articles, posters, classroom teaching, video tapes, TV shows, loudspeaker broadcasts, and puppet shows.

Overall, DCFRN has proven itself as an educational tool. Feedback from participants shows that farmers who listen to these broadcasts use the information that pertains to their particular needs. The Developing Countries Farm Radio Network is steadily growing as a development educator of small farmers as envisioned by Atkins nearly a decade ago.

To contact the Network, write to:
Developing Country Farm Radio Network, English Language Division, c/o Massey-Ferguson Ltd., 595 Bay St. Toronto, Ontario M5G 2C3 Canada
or
Developing Country Farm Radio Network, French & Spanish Language Division, c/o University of Guelph, Guelph, Ontario N1G 2W1 Canada ■

William Amt is Program Assistant at the Clearinghouse.

(**Friend** *continued from page 5*)

Results of this comparison showed that the radio students were superior to the non-radio students in both Nicaragua and Thailand, particularly in rural Northeast Thailand (see graph). The normalized difference of .58, for students in Northeast Thailand, is of a magnitude rarely reached in educational interventions. Reducing the disparity of educational opportunity between the less and more developed parts of the country was the primary goal of this project, and it appears this experiment has very successfully achieved this end.

However, we still have not answered one of the questions posed at the beginning of the article: "Was there a noticeable decrease in lesson quality in the process of adapting the lessons to a different language and culture?" To answer this question, we turn to a comparison with Nicaraguan data.

Comparing Results

The test used for the evaluation in Thailand was adapted from one used for the same purpose in Nicaragua. Over 80 percent of the items in the Thai test and the Nicaraguan test were the same, and comparisons made here are based on only those items.

Graph 1 shows the results of the two pilot-study regions in Thailand, comparing the results from Nicaragua. It is evident that the Nicaragua study and the Thai Central Plain study yielded very similar results; the non-radio classes in both countries have close to the same achievement levels, as do the radio classes. However, an indication of a slight degradation in the quality of the lessons when adapted from Nicaragua is evident in somewhat greater differences in Nicaraguan scores between radio and non-radio classes than was found in the Thai Central Plain.

The striking fact shown on this graph is that the radio-instructed students in the Thai Northeast study gained more, comparatively, than either of the other groups – even more than the radio-instructed students from Nicaragua. Although the quality of the lessons decreases slightly in the adaptation process, it is apparent that they are still enormously successful in the remote rural regions where they are most needed.

The success of the Thai version of the radio mathematics lessons amply demonstrates that well-designed interactive radio instruction can retain its educational effectiveness when adapted for use in countries quite different from the one for which they were originally intended. It is to the credit of the Thai staff that the educational effectiveness of the original lessons was well maintained while the tone of the programs became distinctly Thai. ■

Jamestne Friend was Field Director of the Radio Mathematics Project in Nicaragua, and is currently president of Friend Dialogues, Inc., an educational consulting firm. Klaus Galda was a Field Director of the Radio Mathematics Project in Nicaragua and was Director of the Radio Science Project. Barbara Searle was Project Director of the Nicaraguan Radio Mathematics Project and is now with the East Asia and Pacific Education Division of the World Bank.

DCFRN: A Radio Network for Small Farmers

by William Amt

As the populations of developing countries continue to grow, land formerly used for cultivating small-scale, domestic-consumption crops is increasingly appropriated for large-scale, export-oriented crops. This process puts pressure on the subsistence-level farmer to grow more crops on less land. Traditional farming methods usually cannot deal with this challenge effectively, and small-scale farmers have largely been by-passed by a majority of development programs aimed at increasing food supplies in the Third World. To help solve this predicament, the mass media are playing an increasingly important role in changing small farmers' behavior in order to improve national agricultural self-reliance, nutrition, and the welfare of small producers The Developing Countries Farm Radio Network (DCFRN) is one such media group.

Founded in 1979, DCFRN is sponsored by Massey Ferguson Ltd., Canada, a farm implement manufacturing company, the Canadian International Development Agency, and the University of Guelph, and operates under the guidance of an Advisory Committee comprised of sponsor representatives and specialists in international development, agriculture, communications, and education. It is under the direction of George Atkins, former Senior Agricultural Commentator with the Canadian Broadcasting Corporation.

Practical agriculture related information is collected and taped for radio broadcast and supplied without cost to radio stations and other organizations involved in disseminating agricultural information for the purpose of "serving agriculture, the basic industry" throughout the developing world. DCFRN is committed to assisting small farmers to increase their food supplies by using established radio stations and other local channels of communication to spread agricultural information. The success of this effort is perhaps best evidenced by the fact that although only nine packets have been produced and distributed to date, over 500 broadcasters or organizations in more than 100 countries disseminate DCFRN information to an estimated 100,000,000 listeners in about 100 languages.

Information Gathering Process

DCFRN is divided into two divisions. Administrative headquarters and the English Language Division are located in Massey-Furgeson's Toronto office; while French and Spanish services are housed on the campus of the University of Guelph in Guelph, Ontario where, when called upon, University faculty and staff can assist with technical research on agriculture and nutrition information.

Information is assembled on appropriate and inexpensive technologies used by innovative grass roots-level farmers in the developing world to increase food production, decrease post-harvest losses, and to make more efficient use of food. This information comes from on-site interviews with small farmers, farm broadcasters, extension workers, health workers, scientists, and university and government officials; printed materials; and feedback from questionnaires that are included in each information packet.

Information on agricultural or nutritional innovations must meet several rigorous criteria to be put on tape and then be disseminated by DCFRN. They should have been developed, tested, and proven in the developing world, as well as be adaptable in other developing countries. There should be no, or very low implementation costs, relying only on local resources, and requiring neither chemicals nor unfamiliar types of plants or breeds of animals

After the materials are gathered on a variety of topics, radio scripts are prepared in a culturally and religiously neutral style in order to appeal to as many listeners as possible. A personable, informal style is followed, as if one farmer were advising another They are written simply so that local broadcasters and other agricultural communicators – writers, agricultural extensionists, educators, and health workers – can readily interpret the materials linguistically and culturally for their audience The scripts (including illustrations to help the communicator understand what he or she is conveying to the audience), or scripts and illustrations along with a cassette recording of the scripts are available in English, French, and Spanish. Taped segments run between two and ten minutes, depending on the subject matter. Scripts cover a wide variety of agricultural or health and nutrition issues, all within a rural development context. Agricultural topics have ranged from improving manure to getting more milk from dairy cows, from controlling worm eggs and germs that spread disease to marketing farm goods. Each packet also contains at least one segment on rural health problems.

The Blue Sheet

Enclosed in every packet is *The Blue Sheet*, DCFRN's newsletter for participants in the Network. As well as providing up-to-date information about the Network, it covers other development issues not found in the radio scripts. Topics such as Women in Development, the International Year of the Forest, and improving communication techniques are included in this newsletter. "The Professional Improvement Corner," a regular column in *The Blue Sheet*, gives pointers on how to make broadcasts more captivating for listeners. Suggestions include using the mini-drama format,

(*Continued on page 10*)

Briefly Noted

by Robert Vittel and William Amt

The International Rice Research Institute (IRRI) has put out a useful publication for non-English-speaking countries entitled, *Copublication: IRRI Design, Procedures, and Policies for Multilanguage Publication in Agriculture*. IRRI found that many of the people who could benefit from its publications do not speak English. This booklet explains how the language barrier is overcome via the process of copublication, whereby IRRI works closely with private publishers in developing countries to translate, layout, edit, print, and distribute IRRI materials.

Another handy publication coming out of IRRI is a very extensive compilation of titles on Third World agricultural science and production. Entitled *Publications on International Agriculture Research and Development*, this 560-page catalog comprehensively lists the major publications and audiovisuals of all the International Agricultural Research Centers (IARCs) around the world. An in-depth subject index assists the user in locating available materials in countless fields of agricultural science. Materials are listed for each of the IARCs, preceded by a short description of the center and an address. Annual reports and conference proceedings are also listed. This catalog is sure to be useful to libraries and organizations working in international agriculture. It is available in English only for US$10.20. Both publications are available from the International Rice Research Institute, P.O. Box 933, Manila, Philippines.

For those francophones interested in a synopsis of the problems of African publishing, *Direct*, a French bi-monthly about educational technologies, contains an article in its issue No. 4/1984 entitled, *Le Livre en Afrique Francophone*. A number of statistics (for instance: Africa, with 10 percent of the world's population, produces 1.4 percent of the world's publications, while Europe, with only 4.5 percent of the world's population, produces 45.6 percent of the world's publications), as well as the arguments that existing books are too often found in the city, too academic, too expensive, and too French (or English), suggest that Africa is in need of more accessible and appropriate reading materials for a much wider reading public. *Direct* is available from ACCT-Direct, 13, Quai André Citroen, 75015 Paris, France.

Kumarian Press has published two complementary books that discuss ways in which integrated rural development projects can be made to be lasting and effective.

In *Managing Rural Development with Small Farmer Participation*, Coralie Bryant and Louise White acknowledge that participatory development is a crucial element of the general theme of development. Their book focuses more on the issues of promoting equity and decentralization, expanding and managing participation, developing local institutions, social learning, collective action, and reorienting bureaucratic attitudes. It's an excellent outline (but should not be thought of as a manual) for developers and communicators in need of ideas of how to construct a well-rooted project.

Implementation for Sustainability: Lessons from Integrated Rural Development is a somewhat expanded version of Bryant and White's book. Written by George Honadle and Jerry VanSant, its theme is that project designers, managers, and field workers must be ever-mindful of the need for local projects to continue effectively after outside support ends. By substantiating theory with case study experiences, this book analyzes both macro (national) and micro (local) alternative approaches to delivering and managing goods and services, and suggests ways of avoiding project failure. Bryant and White's book is available in soft cover for US$7.95, and Honadle and VanSant's costs US$22.50 for hard cover and US$12.50 for soft cover. Write: Kumarian Press, 630 Oakwood Avenue, Suite 119, West Hartford, CT, 06110, U.S.A. ■

Both authors work at the Clearinghouse

Asia-Pacific Broadcasting Union Prizes Announced

The 1985 ABU Radio and Television prize winners were announced recently in Seoul, Korea. Three Radio prizes are awarded to promote the production of radio programs of a high standard which are intended to raise educational and cultural levels and to strengthen international understanding among the peoples of the countries of ABU members.

The prize for radio programs for children, for a production which entertains and educates youngsters under 12, was awarded to Radio New Zealand for "Grampa's Place" – an imaginative and professional production directed to an audience of three to five year-olds.

The 1985 Hoso Bunka Foundation, a Japanese philanthropic organization, awards a radio prize to a program presenting traditional music that preserves and enriches the cultural heritage of the country or territory in which it was produced. This year's prize went to Radio Bangladesh for *"Jal Ranger Gaan."* The program is a sensitive blend of music, narration and sound effects that simultaneously tells of the hardships of daily life faced by the fishing communities of Bangladesh.

ABU's 1985 Radio Prize, judged on the theme "Youth in a Changing Society," was awarded to the Australian Broadcasting Corporation for "The Whole World Loves You," a radio play that made imaginative and excellent use of the radio medium to examine tensions in child/adult relationships.

For a list of the television prizes given this year, 1986 entry forms, and further information write to: Asia-Pacific Broadcasting Union, c/o Nippon Hoso Kyokai 2-2-1 Jinnan, Shibuya-ku, Tokyo 150, Japan. Cable ABUNI, Tokyo. Telex: J22377 (RADIO NHK) Tokyo.

(Spain *continued from page 8*)

Evaluators can provide the data and the analysis of data to policy-makers, but as evaluators they should not make policy decisions. Evaluation can contribute to policy-making the empirical base that policy-makers hover above. Evaluators can also push them to state measurable indicators for the results they want. It is a policy-maker's job to state the measurements needed to assess the status of their plans. If they have good evaluators working with them, they can concentrate on specific questions, confident that the evaluators can provide the answers. Policy people ask the questions – evaluators answer them. Without firm policy direction, the evaluator is lost. If a project team asks the evaluator to provide direction, this is a good indication that the project itself is without direction. An alert evaluator can contribute most effectively in this situation by helping project people articulate the results they want and help them determine the corresponding measurable indicators of those results.

This is evaluation for results: evaluation is an integral part of getting any job done. No longer a post-mortem operation separate from the task of achieving the project's desired results, no longer a luxury carried out by people outside the project, no longer confused with scientific experimentation or policy analysis, and no longer a threat to the very people most committed to the project's desired results – evaluation is becoming recognized as a constructive tool that can help to achieve desired results. ■

Peter Spain is currently a project officer for the Academy for Educational Development, working on the PRITECH health project.

Cornell University Communication Courses

Between June 8 and July 4, 1986 Cornell University again offers its Communication Planning and Strategy (CPS) course designed for officials and decision-makers in agriculture, health, nutrition, family planning, and rural development, as well as for those in information and communication positions related to th sectors. The focus will be on designing c munication strategies and mobilizing sources for communication components projects. Enrollment is limited to 25. course fee is US$1400, and housing appr mately $650.

Also, a three-part video communicat workshop is being offered from June 1 to 12, 1986. The first part will give particip "hands-on" experience in how to use the p tapac video, pre- and post-production p ning, basics of scripting, in-camera editin second session offers a four-week indepe ent learning experience; and a third i one-week workshop covering concepts r ed to manipulating the components of vide the electronic editing process.

For course applications contact: Dr. R Colle, CPS-85, Cornell University, 640 Stev Avenue, Ithaca, New York 14850, U.S.A., Te 937478. Telephone (607)256-6500.

Clearinghouse On Development Communication

dcr

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Whether in the hands of illiterates in Mali and India or television programmers in Niger and the Maldives, vid... work. Projects in agriculture, liter... and family planning are using ...deo as a tool for ... fundraising, bottom-... communication, community-to-c... ...on dissemination.

Half-inch (via... ...eo) equipment is popular among villag... ...ed in community development wo... ...e it is lightweight, compact, portable, and ...e. The advantages of its design, bo... ...n at the same time be a disadvantage – if ...re... down, it must be replaced rather ... ...ired. The one- and two-inch equipment req... Western television broadcast stand... ...proven inappropriate for local production ...opment programming. The trend ...oward 3/4-inch videotape equipment which ...e, repairable, and appropriate for ... community level. At the same time, the pictu... ...y is acceptable for television broad... ...en its purpose is development communica... ...t as it is used in Western countri... ...mmunity-access channels. The facilities whe... ...cians are trained for television bro... ...g provide a place where equipment can be ... and where video users throughou... ...ntry can be trained.

The following ... illustrate the role of video and television in ...ment and demonstrate the potent... ...resource. There is a lot happening out th...

DCR invited D... a Talbert ... ...tion on video use in developing c... ...tries because of her particular interest in th... Talbert, has been involved in dev... ...ment education and communication for t... ...ec... For the last seven years, she has b... ...ing video as a communic... ...to... She has used it in teaching Englis... ...a foreign language at Harvard and Georgetown Univ... ...ies; in counseling women seeking ... ...t is Vice President of Health and Education Resources.

Music Carries a Message to Youths

by Patrick L. Coleman

Who would have predicted that the most widely played song in Mexico in March 1986 would be a special record designed to encourage young people to be sexually responsible and not to bring into the world "children of bread and water," children they could not care for?

"It's OK to say 'no,' " is the message of a unique new family planning and health communication project designed to reach young people in 11 Spanish-speaking countries of Latin America and the Caribbean. The countries include Bolivia, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Panama. and Peru. What makes this ambitious regional project so unique is not just the message – or the remarkable success of the first song – but the combination of materials that were produced, the way they were produced, and how they are now being used throughout the region.

The Population Communication Services project in The Johns Hopkins School of Hygiene and Public Health (JHU/PCS) has been working in Latin America and elsewhere for four years to support innovative family planning communication projects. It became clear to us that one key group was not being reached – young people aged 13 to 18 who comprise approximately 30 percent of the total population in Latin America. The fertility and sexual behavior of young people have a significant impact on their own lives, their community, their country, and the region. Early pregnancy is a major health and social problem throughout the region and the world. Adolescent mothers are ill-prepared psychologically, physically, financially, and socially to accept the responsibilities of motherhood.

(Continued on page 2)

Linking Knowledge Systems in the South Pacific

by George M. Beal and K. Robert Kern

Agriculture is the leading economic activity in most of the small island countries of the South Pacific. That vital sector embraces a remarkably wide spectrum of crops ranging from coconuts, cocoa, and coffee for export, to indigenous roots. There is also a wide variation in enterprises, production practices, types of producers, and marketing practices.

Most of the islands were governed until recently by European powers, which had led to foreign influence in some segments of island agriculture, mainly focused on export crops; little attention had been given to food crops.

When islanders gained political independence, and under quickening population pressure in many cases, the concern for food crops and the interests of small landholders took on a broader national perspective. And over the last two decades, many of the islands have put some elements of an agricultural knowledge system into place.

Government-sponsored organizations now function in agricultural research, extension, education, libraries, and communications. They tend to be unique to each country, since great distances – both geographic and experiential – stand between the real-life conditions in the islands and models from developed society systems that some tried to copy or impose.

Since 1983, the Institute of Culture and Communication of the East-West Center has collaborated with the International Service for National Agricultural Research (ISNAR) in research and continuing consultations with the South Pacific island nations of Fiji, Western Samoa, and Tonga. This work has focused on the organizations and people involved in the knowledge systems in an effort to understand how the different systems are linked, how communication flows among them, and how the exchange of information can be improved.

(Continued on page 14)

In this issue . . .

AED
International Division

(**Coleman** *continued from page 1*)

The Best Audience: Urban Youth

To address this problem the JHU/PCS decided to develop a regional Latin American project to make young people more sharply aware of the personal advantages to them of responsible parenthood. Socio-demographics and marketing studies have shown that young people living in urban areas are more homogeneous than any other segment of the population in the region and are easier to reach. This makes them a particularly appropriate audience for global advertising, in which one set of materials that crosses national barriers can be produced for a large group of people.

JHU/PCS put together a financial, marketing, and institutional package. The finances were provided through the U.S. Agency for International Development. Development and marketing of the materials was contracted by JHU/PCS to Fuentes y Fomento Intercontinentales, S.A. (FFI), a commercial marketing firm located in Mexico. Institutional tie-in was through JHU/PCS contacts with organizations in the 11 Spanish-speaking countries that have active programs with young people.

Analysis showed that the common denominator for young people throughout the region is music. We decided to produce two songs, each with a music video, pressed on each side of 45 rpm single records and enclosed in a full size, full-color, two-sided record jacket which folds out into a poster.

The next step was to refine the general message of sexual responsibility to a specific message, one that young people would listen to and that would not offend others. Feedback from institutions throughout the region showed that responsible sexuality is a very sensitive subject both for young people and for the whole community Messages had to be acceptable to the social, cultural, and religious values of the countries and to the requirements of the mass media.

Focus groups with young people indicated that youth would listen to the following messages: 1) young people should be sexually responsible for their actions; 2) it's OK to say 'no,' that is, the concept of postponing sex; 3) young men as well as women should be sexually responsible; 4) young people can go to specific identified places for professional counseling or guidance; and 5) positive role models are helpful for young people who want to be responsible.

Once the messages were developed, we had to find persuasive messengers. The concept of youth speaking to youth about sexuality has been demonstrated to be most convincing. Thus, with the help of professional recording companies, JHU/PCS and FFI looked for young singers who were commercially successful, who believed in the concept of responsible sexuality, and who wanted to participate in this type of project The final selections were Tatiana, a young Mexican woman who is rapidly developing into a commercial star, and Johnny, a young Puerto Rican man who was previously with the most popular young Latin American singing group, *Menudo*.

Once the artists and the messages had been identified, a contest was held for the music and lyrics, with more than 20 professional composers participating. The choice was narrowed to five songs, which were pretested in rough form, with three different groups of young people The two favorite songs, *Cuando Estemos Juntos*, "When We Are Together," by the Argentine composer, Juan Carlos Norona, and *Detente*, "Wait," by the Mexican composer and singer, Prisma, were recorded. Music videos and radio and television commercials were then produced

An underlying concern built into the design of this project was that the materials must appeal to young people as popular songs, not as educational materials. We wanted the songs to be played on radio stations just like any other popular song, and the music videos to be played on television stations just like any other video. We expected that the radio and television commercials would be played only if the radio and television stations were paid to do so. At the same time, we hoped for some collaboration by the government-owned educational stations and perhaps by a few socially conscious media managers and owners.

The marketing plan was conservative. We estimated that the songs would be played an average of three times a day on radio stations playing Spanish language music, and television stations would broadcast the music videos, while newspapers, magazines, and journals would occasionally publish articles related to the project. This was all considered "free" promotion for the products, based on their commercial viability.

Marketing Plans Widened

Support for a larger marketing plan came from an unexpected source. EMI Capitol, the record company for Tatiana, the female singer, wanted to put the two songs on her next album which would be launched simultaneously with this project. A major multinational recording company was willing to put its prestige and the skills of its marketing and promotion departments behind a social communication project! As a result, radio stations would feel they were not taking any risks by playing a song with a social purpose, they would consider that these materials were commercial products with a social message incorporated into them. This was the very concept that we were trying to promote. The record company's support also made the materials more available because they could be sold through a vast commercial network, not just through the institutions we were working with.

The marketing of what became known as the "Tatiana & Johnny Project" included sending:

- copies of the record to 3,020 radio stations,
- copies of the record and music videos to 250 television stations,
- press kits to 350 newspapers, magazines, and journals,
- brochures about the project to 3,500 media representatives throughout the region,
- seven bimonthly press releases to radio, television, and press personnel throughout the region.

(*Continued on page 3*)

At the same time JHU/PCS, through FFI, contracted with key radio stations in the 11 countries to broadcast the two radio spots (commercials) developed for the campaign. No funds were available for broadcasting the television spots that were developed, as the cost is exorbitant. It was hoped that local institutions could persuade stations to allot some free time to show them. The first spot promoted each song. The second spot also included a message at the end linking each institution in the 11 countries to the Tatiana and Johnny materials, and inviting young people to call, write, or visit these institutions for additional guidance or counseling about sexuality.

The local institutions were provided with copies of the 45 rpm record to give away to promote activities with young people. Since we thought the selected institutions would be the only source of the single record, we hoped young people would be attracted to it and want the record. The local institutions were encouraged to give the record only to those whom they felt were truly interested in this theme and to set up contests, focus groups, call-ins with radio stations, and other promotional activities. They also were urged to work with the record company representative in their areas to develop joint activities.

EMI Capitol agreed to pay JHU/PCS royalties for the right to use the two project songs as part of its commercial distribution of Tatiana's record. This provides more promotion and visibility for the messages as well as income to be reinvested in further activities for young people in the region.

Enthusiastic Reception

Initial reaction to the project has been overwhelming. In Mexico, even before the first song was launched, the most popular live television variety program – reaching some 150 million people every Sunday – asked to premiere the first video. Immediately, the song was enthusiastically accepted by young people and radio stations. Our initial calculation of three radio broadcasts per day was far short of reality – which sometimes reaches 15 to 20 broadcasts daily. Monitoring by record companies and radio stations in Mexico shows that the song was number one on the hit parade within six weeks after its release.

The song is also becoming a commercial hit in other countries. As of March 1986, the local institutions reported that letters and requests for their services increased anywhere from 200 percent to 2,000 percent, all within two to four weeks of initial promotion. This increase occurred before direct local institutional promotion began. In addition, the radio stations and the record company have received calls and letters of thanks from young people.

Lessons for the Future

Several lessons have been learned from this project that can guide future social development communication projects.

1. Choose the most appropriate medium to reach the intended audience, in this case, popular music.
2. Enlist professionals experienced in the chosen medium to be sure of the best available resources, both human and material.
3. Develop a high-quality product that will attract the commercial sector. Commercial support for a social message defrays expenses, assures wider dissemination of the message, and may generate income for program expansion.
4. Use a medium, in this case popular music, which has a big regional and national audience. This enables a large-scale project to draw on resources not readily available to a local organization working alone and brings additional attention to the project because of its international scope.

JHU/PCS worked closely with FFI and local institutions to ensure that the products of this project would be responsible and socially acceptable. Mixing the commercial and social sectors worked in this case because both groups cooperated to achieve the results each wanted while respecting the interests and needs of the other. ■

Patrick L. Coleman is Project Director of Population Communication Services, The Johns Hopkins University, Baltimore, Maryland. He has worked in social development communication for more than 12 years, primarily in Latin America.

Tatiana and Johnny performing in the music video Detente.

Making an Agricultural Video

by Melissa Beck-Yazman

Winrock International Institute for Agricultural Development, a nonprofit organization committed to agricultural and rural development, has been involved in video production since 1976. We have focused on agricultural education and training, information dissemination, and promotion of appropriate agricultural techniques initially in the U.S., and now increasingly in developing countries.

At the request of control Data Corporation (CDC), Winrock International produced an educational course, *Dual-purpose Goat Management Series*, for Caribbean and potentially for Latin American countries which offers a series of nine videos on basic goat husbandry. The audience was to be agricultural extension agents and farmers in these two regions who would learn how to improve milk and meat production from goats.

Site Selection

The video was filmed in Haiti and Mexico. These locations were chosen for two reasons. First, they are representative of the environment of the primary (English-speaking Caribbean) and secondary (Latin American) target audiences. Secondly, Winrock had contacts in both Haiti and Mexico who could serve as hosts and counterparts for the production team.

Winrock's Goat Improvement Project in Haiti provided an excellent Caribbean location, with local farm workers who were available for on-camera talent, and a project manager who also served as the customs liaison, logistics coordinator, and interpreter. In Mexico, professional contacts through Winrock led us to a veterinarian who teaches at a university in Mexico City and owns a goat farm. He provided the location, talent, and subject-matter expertise at this site. Local farmers and extension workers in both countries were eager to cooperate as on-camera talent.

Preproduction Considerations

We faced different preproduction problems in each country. In Haiti, we were able to bring in our own equipment and personnel. In Mexico, however, the customs procedures proved so complex that we risked having our equipment impounded. To avoid this, we rented video equipment in Mexico City where both equipment and trained video specialists are readily available.

Scouting the selected locations prior to the actual filming gave us the chance to carefully plan the scenes we would take at each location. We were also able to get information on transportation, equipment rental, reliable battery supplies, housing accommodations, and other preproduction concerns.

Script Development

The narration for the videos was fully scripted which allowed for the possible future dub-

(*Continued on page 4*)

Video: A Development Tool for Women

by Deborah Ziska

"The 'New Decade' will see women overcome their lack of experience with the media technology, realize its potential, and use it to improve their social and economic condition." Heather Royes, Ph.D, Jamaica

For nearly 40 years, OEF International (formerly Overseas Education Fund) has been working in developing countries, training low-income women to turn simple skills and local resources into income-producing business enterprises. OEF also develops and field-tests unique training methodologies focused on the needs of these women.

Based on its investigation of the use of various communication technologies to resolve a wide range of development problems, OEF has concluded that video offers a novel opportunity for women to become more active participants in program design, development, implementation, and evaluation. Current programs throughout the developing world are successfully using video to increase women's participation in social and economic development. OEF found that the potential of video for women is clear in areas such as instructional modules in small enterprise development and group organization; presentation of training techniques for working with women; analysis and evaluation of training techniques in the field; integration of women beneficiaries in project evaluation; use of video equipment as a communication tool by women themselves; marketing and fund raising; and the motivation and mobilization of women to implement their own community and business enterprise development.

Planning the Program

In July 1985, with funding from the Women in Development Office of the U.S. Agency for International Development and the Kunstadter Family Foundation, OEF convened a meeting in Nairobi, Kenya to discuss video as a development tool for women. Women with a wide spectrum of experience in the use of video for development joined in. Representation ranged from the sophisticated Food and Agricultural Organization – supporting agricultural training programs that use integrated communication systems featuring video, to simple, yet effective uses of video in Nepal for project evaluation featuring interviews with women beneficiaries.

Participants included Subhadra Belbase of Nepal, Ayesha Imam of Nigeria, Sima Wali, an Afghan refugee in the U.S., Clara de Souze of Peru, Georgina Aviles Marin of Mexico, Elma Lisk-Anani of Sierra Leone, Heather Royes of Jamaica, as well as Xaio Chun-Lin from the People's Republic of China who had learned video production from the late Martha Stuart, widely recognized for having successfully put video technology in the hands of hundreds of women throughout the developing world. (See "Video in the Village" elsewhere in this

We shared experiences and explored how women could benefit more from this technology. At these meetings it was also decided to hold a workshop at the *NGO Forum '85*, which met concurrently with the *UN Decade Conference on Women* in Nairobi. A report generated from the meetings preceding the *Forum* includes case examples, advantages, and obstacles to using video for women in development programs, some of which are summarized below.

Advantages

1. Video can be used at convenient times and places.
2. Video is effective with illiterate or multilingual groups.
3. Video can bridge cultural differences, helping women to share common concerns and goals.
4. Video facilitates group discussion, motivating women to work together and to organize for community development.
5. Video boosts women's self-confidence and encourages their self-development.
6. Video facilitates communication between funders and women beneficiaries.
7. Video simplifies technical information and improves comprehension of such materials.
8. Video can be a cost-effective training tool.

Obstacles to Video Use

1. Electric power is often lacking or erratic in developing countries.
2. The communication components of women's projects are poorly funded.
3. Technical training is lacking, particularly for women.
4. Spare parts for video equipment are difficult to find in developing countries.
5. Compatability of video standards and formats between organizations and countries is poor.
6. Importation restrictions and theft of equipment in developing countries aggravate the equipment shortage.
7. Cost of equipment is high when compared to slidetapes, flannelboards, and radio.
8. Video is often controlled by urban "elites" or foreign organizations.

The advantages far outweigh the obstacles for women using video when considering the opportunity it gives them to control a medium and to communicate with each other across cultural, linguistic, and geographic boundaries.

To obtain OEF's 40-page report, *Video Technology Applications for Development Projects Designed to Benefit Women*, send a US$7.50 check payable to OEF International, 2101 L Street, N.W., #916, Washington, D.C. 20037, USA. Please add 20 percent to cover airmail costs where appropriate.

Deborah Ziska is Director of Media and Video Projects, OEF International.

(**Beck-Yazman** *continued from page 3*)

bing of a second language without editing the video again. Since the primary audience lives in the English-speaking Caribbean, a narrator with a West Indian accent was selected.

When we make a video in one language only, a formal script is not prepared. Instead, an outline and storyboard are developed, but the "narration" is obtained from interviews which are then edited and merged to create the message. For example, farmers are asked questions that are designed to elicit specific types of answers; the result is farmers teaching farmers. While using nonprofessional talent is risky business – not all farmers have golden voices – we have had remarkably good luck. Generally, they are relaxed and readily discuss topics familiar to them.

Since Winrock has in-house production facilities and uses a small crew, costs for video projects have averaged $300 to $600 per finished minute. The production crew usually consists of just a videographer, either a writer or an audio technician, and a subject-matter expert. Working with such a small crew requires careful planning and flexibility among those involved. The video specialist and subject-matter specialist must have an understanding of each other's expertise, trust each other, and be aware of their responsibilities from the outset.

Final Distribution

Control Data has responsibility for film distribution and field testing of the *Goat Management Series*. Although the evaluation results have not yet been released, Winrock staff has used the series in workshops and seminars and, so far, feedback has been positive. Most of our videos are handled by the donor agency since Winrock does not have the staff or resources to duplicate and distribute what it produces.

Although there are unique problems associated with using video in developing countries, this rapidly evolving technology has already proven itself to be an extremely popular and effective tool for transferring agricultural technology. ■

Melissa Beck-Yazman has been a communications specialist for Winrock International for five years

Video Education Articles

Direct, a bimonthly bulletin published in French by ACCT (Agence de Coopération Culturelle et Technique), supplies its readers with current information on various applications of educational technologies worldwide. A recent issue (#6/1985), focuses on educational video, with articles on topics such as the best uses of audiovisuals in education; descriptions of the different educational video hardware now available; the evolution of video training; and the strained relationship between the pedagogical and technical aspects of educational video production. This and other issues of *Direct* are available from : ACCT, 13, Quai André Critoën, 75015 Paris, France.

Taking Video on the Road in the Philippines

by Jean E. Andersen and
Anita H. MacDougall

The experiences of the Nutrition Center of the Philippines (NCP) suggest that the effectiveness of development communication can benefit from a systematic approach and the evolution of "high-tech" into appropriate technology.

It was ten years ago that the Nutrition Center of the Philippines decided to test video-vans (vehicles containing video playback equipment that are driven to communities to promote social programs through videotapes) as a key component of their nutrition program for preschool children. After a two-year pilot project demonstrated effectiveness in experimental versus control villages, the program was implemented in critical areas nationwide. Continuing evaluation has shown not only where improvements are needed, but also a persistent success in increasing mothers' nutrition-related knowledge and improving preschoolers' nutritional status. Cost-effectiveness studies have indicated that these improvements have apparently been accomplished at a cost comparable to or less than other types of field interventions that have such data.

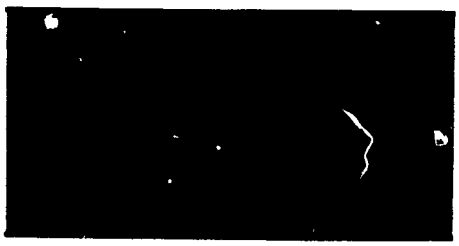
Impact Evaluation

In 1979, a comparative study was made among rural villages: with no intervention (comparison group); with only a village nutrition worker (BNS-only group); with a village nutrition worker and short exposure to the video-vans (VTRS group); and with a village nutrition worker and longer exposure to the video-vans (VTRL group). Results comparing these groups showed significant differences related to amount of intervention. For example, mothers in the VTRL group were 55 percent more likely than mothers in the comparison group to describe feeding their children meals containing items from all three basic food groups recommended in the videos. Mothers in the VTRL group were nearly five times more likely than mothers in the BNS-only group to name "Nutri-Pak" (a locally produced food supplement providing 50 percent of the daily required protein and 30 percent of the calories) as a good snack food for their children. They were 71 percent more likely to correctly describe the features and benefits to their children of "Nutri-Pak" as it was presented by the village workers and videos. There were also significant differences in child nutritional status consistent with amount of intervention. For example, regarding percent standard weight for age, using the Harvard standards and the "Gomez Classification" and comparing VTRL to BNS-only, the VTRL group showed 25 percent less moderate-to-severe malnutrition and 29 percent more mild malnutrition-to-normal nutrition. The average number of children weighed per group was 506. This demonstrated success of the video-van concept gained support of donor agencies which supplied 30 more vans.

In a follow-up study in 1981 in the same villages, improvements in nutritional status continued, with an additional 17 percent decrease in moderate to severe malnutrition and a 12 percent increase in mild malnutrition to normal nutrition. Similar results were obtained in another impact study of 48 rural villages receiving the same intervention in another part of the Philippines with measures taken in 1981, 1982, and 1983.

Careful accounting was done on all expenses related to the program in 1981. management, field personnel, training of field personnel, development of videotapes and other materials, and daily operating expenses, as well as a five-year depreciation allocation for video playback equipment and vehicles.

It is difficult to make comparisons between studies regarding cost-effectiveness. Calculation standards differ, methods and measurement definitions differ, as do sample sizes, price data, and cost of materials depending on seasonal and yearly changes. Nevertheless, some data has been compiled for comparative purposes from programs similar to the Nutri-Bus project: mass media and mass media with local workers. One example is from a 1981 mass media nutrition education project also implemented in the Philippines. Per-child costs per year where mothers' reports indicated positive changes in nutritional practices came to US$15-$29; whereas the Nutri-Bus project calculated a US$5 per-year, per-child cost where mothers reported similar changes in nutritional practices.



Communication Model

Major factors in the success of the Philippine program are certainly the abilities, talents, and dedication of the Nutrition Center staff and management. Another factor that may help account for the continuing success of this intervention model is the use of the "ABC Model for Developing Communication to Change Behavior." This model utilizes a systematic process of developing communication materials built upon the:

- analysis of the abilities, experiences, beliefs, customs, current practices and preferences of the audience (mothers of preschool children);
- explicit specification of the behaviors or skills mothers need in order to improve the nutritional status of their children;
- definition of how much behavior change of each type will constitute a worthwhile level of effect;
- analysis of each behavior or skill sought and how the mothers can best be helped to learn to make the necessary changes;
- development of training materials that provide active participation of the learner and frequent opportunities for positive feedback to increase learning and foster self-reliance;
- emphasis on communicating through realistic visuals,
- careful pretesting and revision of draft materials until they are effective in bringing about the changes sought;
- periodic, statistical field evaluations.

The development process outlined above is guided by a series of worksheets and aids that help the Nutrition Center staff perform each step, after they have completed a ten-week training program. To deal with the problem of turnover among trained staff and provide quality control and consistency of what is taught, microcomputer-based tutorial programs are being developed to teach the use of the "ABC Model" to each new person.

All audience analysis, design, development, and production of the videotapes is done by NCP staff. Topics include growth monitoring, oral rehydration therapy, breastfeeding, immunization, family planning, and nutrition. Tapes are shot either on location or in a small studio at NCP and produced in six dialects. The studio has two complete, portable 3/4-inch U-matic systems with cameras and an editing system. Half-inch playback machines are used for the video-vans.

Information and Feedback System

After the systematic development and production of the video modules, a fleet of Jeep-type vans (called Nutri-Buses) regularly visits the villages. Each van is equipped with a TV monitor, Betamax player, and public address system. A driver-technician operates and maintains the vehicle and the audiovideo equipment. A "communicator," who is a registered nurse with one month's training in communication techniques and community organization, rides each van. She pauses the tape at designated points, using the loudspeaker system to encourage discussion and decisions from the viewers. She provides feedback and reinforcement during these discussions and solicits comments about the videotape. She also sells Nutri-Pak, at a nominal price, after the video showing Nutri-Pak is produced by the Nutrition Center and priced to cover operating costs.

With equipment, vans, and personnel deployed from one end of the Philippines to the other, it was clear that innovations would be necessary to keep the vans running on schedule, the video equipment in good working order, videotapes reflective of local needs, supplies available, and the personnel motivated. To deal with this challenge, a unique information gathering and feedback system has been developed and tested. During village visits the communicator records on a preprinted checklist, information about the village, arrival and departure time, audience size, audience interaction responses, video playback quality, Nutri-Pak sales' date, and materials distributed to

(Continued on page 6)

(Andersen continued from page 5)

the village nutrition/health worker. A new activity, added since the last impact evaluation study, is a counseling interview by the communicator with two mothers of malnourished children in each village. This allows the communicator to gather monthly information which includes child's weight data, mother's interview answers, household observations, and advised nutrition and health care actions. The data gathered by the communicator on her two households per village per month is also entered on a special preprinted checklist.

At the end of each month the communicator working in the provinces sends her completed forms to Manila. Throughout the archipelago of the Philippines there are currently 60 communicators who each cover 40-45 villages per month. They reach 5,400 targeted children in 2,700 villages, resulting in 8,100 checklists containing a wealth of information about the population in the provinces that would not previously have been easily accessible. Upon arrival in the capital, the pencil-coded information on the checklists is read by an inexpensive optical mark-reading machine connected to a microcomputer.

The information produced by this system has greatly improved the project and its day-to-day administration. Village communicators send the mothers' interview responses to the project managers who generate computerized summaries of this information. This is then shared with the communicator. This cycling of information enables a level of communication and support that can address the needs of the mothers and the workers in the provinces. Software used in the program is a mixture of custom and off-the-shelf packaged programs. Hardware used is a team of Apple II and Macintosh computers.

Several levels of monthly feedback letters and reports are generated by the computers, including information on previous months for comparison, and then provided to:

- the communicator – a summary of performance data plus computer-generated messages congratulating good performance and suggesting performance improvements; emphasis is on providing support and information to improve the nutritional status of the children;
- the communicator's supervisor – a graphic summary of the communicator team's performance, allowing rapid comparison of communicator performance; overall area summary data are also presented;
- middle management – copies of an individual communicator's letters and area progress reports which can be used to guide support to the area coordinator, communicator, mothers and children through training, recruiting, materials development or program revisions;
- senior management – graphs of performance across areas, plus a database which can be queried regarding the trend of the children's nutritional status, diseases prevalent, mothers' nutrition and health care knowledge, frequency of videotapes shown, effectiveness of the videotapes, reasons why visits were not conducted, food supplement sold and other activities of the communicator. Senior management can now carry out the managerial cycle of planning, implementing, and evaluating the project's overall viability and its individual components internally, and also report to external funders and agencies.

A carefully controlled, one-year pilot study using a similar video-van approach was done in rural Thailand. Significant differences were found in nutritional status between experimental and control groups as well as differences regarding knowledge and reported practices, especially for breastfeeding. The Thai project will be reported in a future issue of *DCR*.

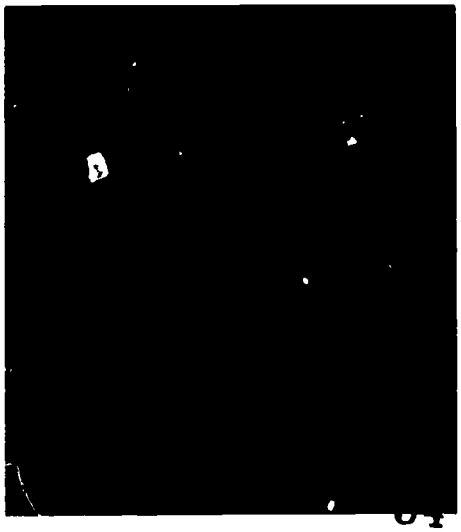
For further information about this project write to: Development Communications Consultants, P.O. Box 515, Oyster Bay, New York 11771, USA. ■

Jean E. Andersen is president of Development Communications Consultants (DCC) and specializes in communication for behavior change.

Anita H. MacDougall is vice president of DCC and specializes in management information systems.

Development Seminar Offered

The University of Minnesota is offering its annual *Development Project Evaluation Seminar* from September 15-26, 1986. This two-week course focuses on a practical approach to project evaluation. Through presentations, training exercises, case analyses, and group interaction, participants will consider evaluation approaches and strategies for establishing evaluations useful to decision-makers The cost is US$2200 for courses and lodging Meals and transportation are extra. For more information contact Fred Hoefer, 405 Coffey Hall, University of Minnesota, 1420 Eckles Ave , St. Paul, Minnesota 55108, USA.



IPDC Update

A Daily Newspaper for The Gambia

A daily newspaper in The Gambia is now a reality thanks to support from Unesco's Special Fund, the International Programme for the Development of Communication (IPDC). Replacing a weekly, *Gambia News Bulletin*, the inauguration of a daily paper in November 1985 was preceded by a one-month training course for 12 local journalists and the installation of offset printing equipment. The paper will receive stories from the Gambia News Agency which was recently installed as part of the West/Central African New Agencies Development (WANAD) network. This US$2,500,000 project, a joint effort by the Federal Republic of Germany and Unesco, enables news collection and dissemination, particularly between urban and rural areas, in eight countries (Benin, Congo, The Gambia, Ghana, Guinea, Mali, Niger, and Nigeria) with a combined population of 115 million people. WANAD, in turn, will provide a solid foundation for the Dakar-based Pan African News Agency (PANA) for news exchange throughout the continent and with agencies outside the region.
(Reprinted from Unesco: Facts and Figures No 7, Oct/Dec 1985)

Broadcast Training in the Pacific

Another collaborative effort between IPDC and a Federal Republic of Germany foundation, Friedrich-Ebert-Stiftung (FES), will soon provide training for broadcasters from the South Pacific island nations of Papua New Guinea, Western Samoa, and Fiji.

This US$1,200,000 project, with training provided by the Pacific Broadcasting and Development Project (PACBOARD), calls for the establishment of subregional training bases using already-existing national facilities to train skilled personnel to plan, manage, and operate broadcasting networks oriented to development goals in the Pacific Island States.

Call for Papers

The Fifth World Telecommunication Forum, Part 2, Technical Symposium is scheduled for October 22-27, 1987, in Geneva, Switzerland. This international gathering of professional engineering societies has been organized by the International Telecommunication Union and will be held in the framework of TELECOM 87. The forum theme is *Telecommunication Services for a World of Nations*. A limited number of papers will be accepted for presentation. They must be unpublished and based on original research, developments, and approaches carried out in the period between TELECOM 83 and TELECOM 87, and should be about new equipment, systems, networks, or services. The submission deadline for the initial summary paper is September 1, 1986.

For a description of technical subject areas and guidelines in preparing the summary write to: FORUM 87 Secretariat, International Telecommunication Union, CH-1211 Geneva 20, Switzerland.

Video in the Village

by Sara Stuart

"At first we were very afraid of these video machines. Now we almost love them," Lellaben Datania, vegetable vendor and member of the Self-Employed Women's Association (SEWA), Ahmedebad, India.

For more than ten years, Martha Stuart Communications, Inc. has trained literacy teachers, women's organizers, scientists, and family planning workers in developing countries to use video. Their videos on topics such as a village that is energy self-sufficient, a community health center, the child labor issue, and a women's cooperative are shown in communities to exchange experiences and to promote local development.

Mali Tries Video

Two projects, one in Mali and the other in India, illustrate the possibilities in this kind of local-level approach under quite different circumstances. In Mali, as part of a rural women's literacy project funded by the United Nations Fund for Population Activities with technical assistance from Unesco, a video team was equipped and trained at the National Department for Functional Literacy and Applied Linguistics (DNAFLA). The literacy project began in 30 villages and has since grown to more than 60 villages in three regions. While teaching literacy, they also give information and training on infant nutrition and health care, income generating activities, and marketing skills.

Of the fifteen video workshop participants, there were five women who organize village literacy classes and train adult literacy teachers, and ten male "technicians." None of them had had any experience with video, although a few had film experience. They have grown into an effective and committed video team that travels for weeks from village to village, making tapes and then playing them back in other villages. They take along one video camera, a portable recorder, batteries, the necessary cables and microphones, a generator, and a large monitor.

The video team tapes exemplary literacy classes that are then shown in other villages, either to supplement classes where there are no teachers or to help train teachers. Tapes for discussion topics in classes can be made in local languages or with French voice-overs. One video recorded a day care center, another a malaria clinic describes symptoms and treatment, followed by mothers giving their children preventive medication.

At the *UN Decade Conference on Women* in Nairobi, the head of the rural women's literacy program in Mali, Mme. Dembele, described some of the successes she attributed to video. Many women did not or were not allowed to attend the one-week literacy training program in a neighboring town. But after their villagers saw the video tapes of the women who were just like themselves and had participated in the training, the following years all the women attended. Once the women in the 60 villages realized that the video was in their language and that it reflected their reality, they were eager to participate. In response to the challenge regarding the appropriateness of this sophisticated and expensive technology to Mali, Mme. Dembele once said, "True, with the money it costs to buy this equipment we could dig ten wells, but with this equipment we can organize 100 villagers to dig their own wells."

India's Success

SEWA, the Self-Employed Women's Association, is a trade union for poor self-employed women in Ahmedabad, Gujarat, India. More than 24,000 street vendors, small-scale producers, and laborers are members of SEWA. The organization provides its members with skills training and cooperative mechanisms to aid in the production and marketing of goods, as well as child care, life insurance, and maternity benefits. It advocates women's rights before the authorities and operates SEWA Bank, a cooperative bank that extends credit to self-employed women. SEWA has become a model self-help organization and is extending its activities into rural areas and to other states.

In 1984, with funding from the U.S. Agency for International Development, twenty members of SEWA were trained to use video equipment; a second workshop on editing is scheduled for later this year. Video training assisted SEWA at a time when the organization was growing rapidly in numbers and scope. It has enabled SEWA's leaders to save time by using videos to explain their work, to communicate effectively across distances, and to organize more effectively.

One-third of the video workshop participants were illiterate and another third had less than a high school education. They included women of all ages, Hindus and Moslems, a vegetable vendor, a photographer, and a carpenter, as well as several top SEWA leaders. The training workshop was an unqualified success and resulted in the formation of a cooperative called Video SEWA. Benefits have already been realized from the cooperative. For example, one of its video programs about a dispute between small scale vegetable vendors and the city, was shown to a municipal leader and contributed to an equitable resolution. This municipal leader had never really listened to these women before and probably never would have if not via videotape. The vegetable vendors themselves would not have spoken freely and forcefully to a city official but could do so to the impersonal video camera.

The Video Challenge

Interaction between television and video has been a positive and productive experience especially for the Malian and Indian video teams. In Mali, video was introduced in advance of television's arrival in the country rather than in reaction to it. Fortunately, the DNAFLA video team was well established and respected prior to television's advent. As a result, Malian Television requests DNAFLA's development-related programs for broadcast. DNAFLA continues to reach an audience not served now and not likely to be served by TV for quite some time. In the case of India, television represents an important potential market for Video SEWA's programs.

Self-directed community-to-community development communication can succeed dramatically and can contribute to real improvement and change through human exchange. However, this is sometimes perceived as a loss of control – a loss of power or authority by government leaders. This is when it is crucial to have support and a clear understanding of programming aims by leaders on several levels. Both DNAFLA and SEWA were able to garner this kind of very necessary support.

(*Continued on page 8*)

A literacy class in Mali is videotaped for use in other villages

(**Stuart** *continued from page 7*)

Equipment

Maintenance and repair are no longer the issues they once were. In pre-television Mali, there was a lack of local repair expertise, test equipment, and spare parts. Once when an editing deck broke down, it had to be returned to the factory in Tokyo. Despite this setback, DNAFLA's video team operated successfully for three years with only one camera and one portable deck. Since then, they have received additional equipment With the advent of Malian television in 1984, service and repair have become more accessible. Video SEWA has required only one minor adjustment on their equipment In Ahmedabad, there are adequate repair and maintenance facilities and they are well supplied with spare parts.

When operated by teams who have been carefully and thoroughly trained, 3/4-inch, low-band video equipment has proven to be reliable, sturdy, and able to function in a wide range of climates. It also produces broadcasts with quality similar to that of cable television in the USA. The teams trained by Martha Stuart Communications, Inc. over the past eight years have been equipped with basic 3/4-inch production and editing equipment, a generator and multi-standard playback equipment, to facilitate exchange of programs, and to make them locally on 1/2-inch, either VHS or Beta

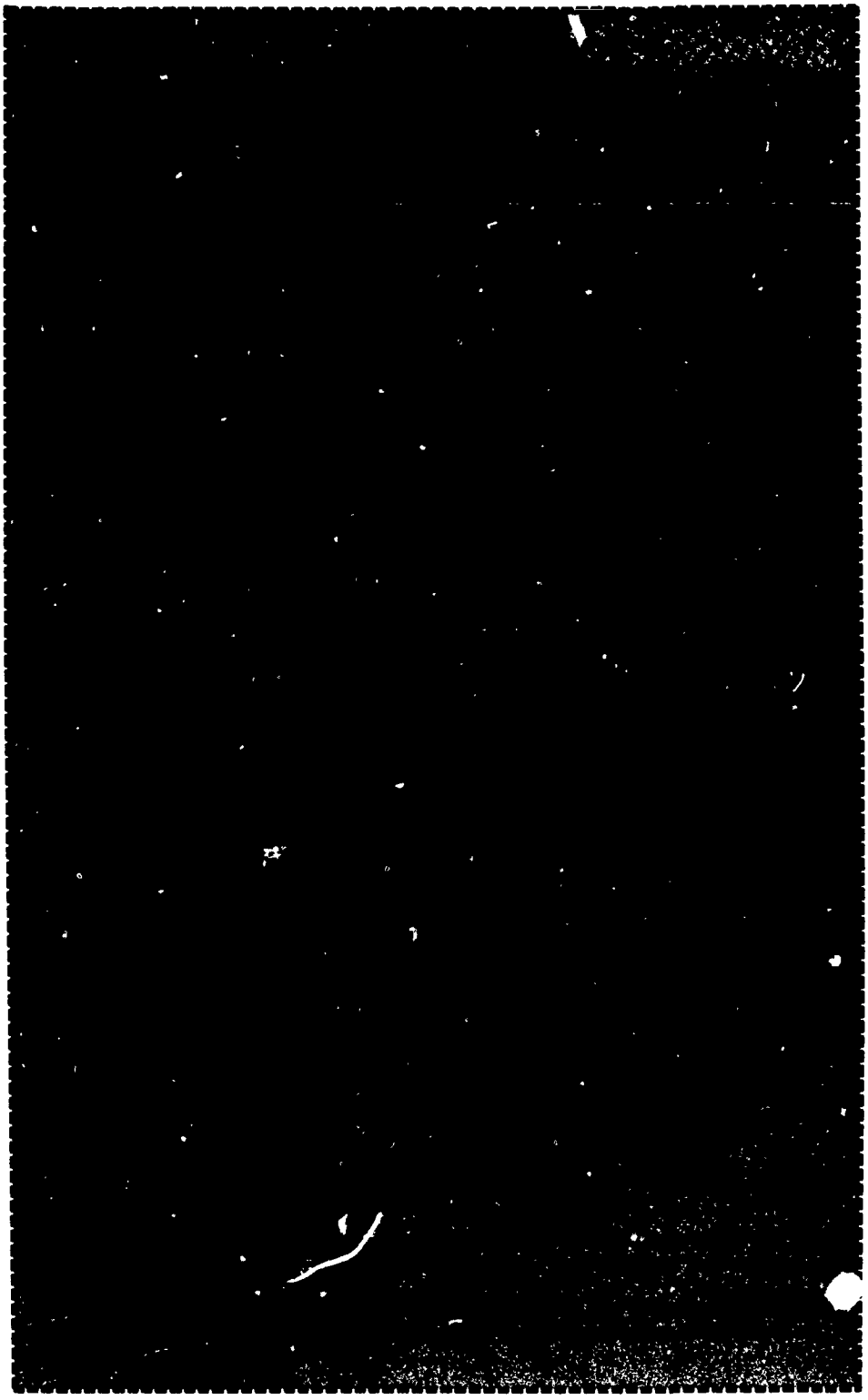
While video technology is changing rapidly, this configuration continues to meet the goals of reliable, durable, and easy-to-operate equipment which affords high quality and flexibility over several generations of a standard conversion.

Spreading the Word

The Village Video Network, co-sponsored by the United Nations University and Martha Stuart Communications, Inc., was founded at a meeting in Bamako, Mali in 1982. The founding members come from many backgrounds and 14 countries. They established the network to promote video as a tool in support of development and to facilitate the exchange of tapes between people who are involved in finding solutions to community-level problems.

Small-format video has many useful qualities. It is easy to use, functioning equally well in the heat and dust of India and in the wind and snow of northern Quebec. The equipment is durable and tape stock is reusable. There are no processing charges. Immediate playback capability gives the users flexibility to revise on the spot to fit their needs, and to show the same material again and again. With video, there are no literacy hurdles Most importantly, video teams can travel directly from place to place, unburdened by the need to return to a central clearinghouse, laboratory, or manufacturing center. This freedom reinforces a communication process that helps individuals and communities to extend the reach of their voices. ■

Sara Stuart is the president of Martha Stuart Communications, Inc., New York and coordinator of the Village Video Network.



Appropriate Technology Mini-Library Continuing

TRANET, the Transnational Network for Appropriate/ Alternative Technology in Rangeley, Maine, has received renewed funding of US$8,000 from Unesco to ship its mini-library on appropriate technology to ten more developing countries.

These one hundred-volume conventional libraries will go to institutions in Botswana, Papua New Guinea, the Philippines, Sri Lanka, Sudan, the Yemen People's Democratic Republic, and Zimbabwe, bringing the total to 79 libraries shipped since 1980.

Each library consists of 100 core books suitable for a technical library in a developing country. The collection contains appropriate technology materials in food production, animal husbandry, housing, home and farm techniques, village crafts and industries, energy, transportation, health, and nonformal education Most are do-it-yourself manuals, some are general resource guides, and others deal with concepts of appropriate technology, participatory development, and local self-reliance. TRANET has also developed a 25-volume energy supplement to the basic library

For more information contact Janet Wilcox, TRANET, P O Box 567, Rangeley, Maine 04970, USA

My Experience Teaching Video in the Maldives

by Doe Mayer

When I learned that I had received a four month position as a United Nations Development Program television consultant in the Maldives – a tiny Islamic island nation with a population of only 180,000, west of Sri Lanka in the Indian Ocean – I searched for literature about it and the conditions under which I would be working. The terms of reference used a lot of words that added up to one mighty cry of "Help!"

My assignment was to teach video production skills at a TV station, something I had done during a two and one-half year consultancy in Zimbabwe. I arrived in country with some production textbooks, my trusty copy of Herbert Zettl's *Sight, Sound, Motion*, and my fingers crossed. My arrival was cause for some interest; the TV station thought they had selected a man – my name having caused the confusion. I was concerned how they would relate to a woman, but did not find it as difficult as I had feared. The Maldivians came to accept me as an American who could teach them things about television that they wanted to learn.

TV Maldives

TV Maldives (TVM) broadcasts almost exclusively for the capital city of Male, with a population of 40,000. There are four and one-half hours of programming daily – from 4:30 p.m. to 9 p.m. Approximately one hour of these programs is generated locally. The remaining materials are free – or [illegible] documentaries from Western countries. The station also broadcasts English- and Hindi-language feature films that come in VHS format from local video clubs. These are usually fifth or sixth generation (duplicate copies) of tapes that are often low quality and in poor condition. (The Maldives, like many other developing countries, does not recognize copyright laws imposed by other countries.) Also, there never had been a general broadcast policy established, either by the station managment or by the government. Broadcasting ended each evening at 9 p.m., at which time local movie theaters opened their doors. Apparently, there was a tacit agreemtn to limit competition between television and commercial theaters.

The production staff at the station consisted of two full-time producers, two assistant producers, six cameramen and assistants, and a number of technicians. The technicians handled sound as well as broadcast transmission equipment. The all-male production staff had received some technical training, mostly outside of the Maldives, but had little or no production training. The Japanese had given them broadcast equipment and a studio, but little attention was paid to program content or to developing a cohesive broadcast plan.

The only locally produced programs were children's shows in which students came into the studio to sing, dance, and tell stories before the camera. There also was a poorly produced half-hour educational program that prepared students for their Junior Certificate exams. A ten-minute summary of international news was taken from the satellite and broadcast a day later along with five minutes of local news. Most original material was prepared in Dhivehi, the local language, although some of the news and educational programs were in English.

Training Preparations

My job was complicated by the fact that the staff had very diverse backgrounds, educations, and levels of interest. As Maldivians tend to be very direct and independent, some promptly announced they already knew what I had to say, and therefore did not need to attend my sessions. After discussions with the Director of Information and Broadcasting and the TV station managers, it was decided I should concentrate on preproduction training and give basic technical and camera technique training to cameramen and technicians. Classes for producers included program planning, selecting appropriate production locations, choosing performers, writing program and story outlines, and solving production problems.

Other staff members were to receive instructions on appropriate technical topics such as camera lenses, angles, and movement, and basic rules of composition. I also tried to encourage better shooting habits, such as using a tripod and specialized microphones.

Production Constraints

Producing good programming in the Maldives is a challenging task. It is difficult to find rooms large enough for production purposes. Filming out-of-doors in the capital city (where most local productions are made) is always a challenge because of the high noise level. Outdoor filming quality also suffers from the glare created by the sun and white sand. Another problem is finding Maldivians, trained or untrained, who are comfortable in front of the camera, as most islanders are very camera shy.

My major frustration was not being able to discuss program content; this was not part of my mandate. It is very difficult to upgrade overall production skills without considering program content. I eventually was able to discuss the subject informally once I had established a good rapport with my Maldivian superiors.

Besides the formal classes, I ran informal one-on-one sessions with some of the staff members. Together, we analyzed their work and discussed how to solve their particular problems. I believe this is a critical part of training, but it works only with those who are personally motivated and willing to bring in their material for examination.

I was fortunate to be in a position where I could speak to the President of the Maldives about some of the observations I had made and of how to best upgrade their broadcasting capability. He took a personal interest in the TV station and encouraged constructive changes. He welcomed suggestions that there be more development-oriented material on TV, and that the station carry more educational programming. He also felt that while it is the role of TV to deliver government messages to the citizens, it could also serve as a channel for citizens to send messages to the government.

While I was there, a number of changes I recommended were enacted, including the hiring of three new producers. One of those was the first woman employed in any capacity at the station. Program changes were also discussed. These included efforts to get the station to carry more local cultural, educational, and entertainment programming. The President's Office also prepared a position paper on the role that the TV station should play in encouraging a more effective use of the medium.

The Rewards

It was particularly rewarding watching eager students improve significantly during the training period. Trainers and trainees alike feel rewarded when results of their efforts are immediately apparent. All too often, video courses consist of only technical skills training. There is great value in teaching substantive production skills so that not only is the camera in focus, but the content is meaningful as well. For this reason, identifying the audience and learning how to tell a story in a visually entertaining way must also be part of training. These skills will translate into better use of video, whether it is for delivery of national news, a development message, a formal educational program, or for entertainment shows. ■

Doe Mayer is a video consultant who appreciates a challenge whether it is in the United States in a developing country.

Microcomputers in Development Workshop

Stanford University's Food Research Institute is conducting a workshop on Microcomputers in Development for people without previous microcomputer experience who wish to gain a broad overview of the technology, and to develop skills in the use of selected commercial software packages. A combination of "hands-on" sessions and presentations of case studies on microcomputer applications will give participants working knowledge of the latest computer software and hardware, and insight into problems of project appraisal and project management.

The four-week session costs US$2750; housing and meals are not included but can be provided upon request. The workshop is limited to 30 participants. Native French and Spanish speakers will be on the instruction team. Registration ends June 30, 1986. For information contact Carl H. Gotsch, Food Research Institute, Stanford University, Stanford, California 94305, USA.

A Communicator's Checklist

1 Television for Development: The African Experience by Iain McLellan (Ottawa: International Development Research Centre, 1986) 156pp.

Television has been called the "jewel of a tired and spent bourgeoisie," – a statement that could apply to Africa as well as the Western world, and reflects some of the findings in a recent report from the International Development Research Centre (Canada), entitled *Television for Development: The African Experience*. Its author, journalist Iain McLellan, notes that nearly every country in Africa has television broadcasting facilities and trained technicians, producers, and directors. But, in many African countries much of the television budget is spent on the facilities, and not much is left for program planning.

In this 157-page report, the author discusses the education and development role of television in Africa 25 years after its introduction. McLellan provides constructive criticism and suggests ways television can be improved and better serve the African societies. The research is based on interviews in 14 countries with media professionals, government officials, development workers in the field, international development organizations, and nongovernment organizations involved in development support communications. Issues addressed include the potential of television to support development, why this potential has not been realized, what might be required to fulfill this potential, and what the liklihood is that those changes might occur.

Producers, government officials, viewers, educators, field workers, and aid donors agree on their dissatisfaction with television's evolution. Most African countries have adopted the same approach to TV as North Americans and Europeans but do not have the resources, infrastructure, or training to follow it through, according to McLellan. TV producers in Africa rarely venture out of capital cities to mix with, understand, or assist rural people in communicating with each other or with those who are trying to help them. African television imports or mimics Western programs; it diverts or entertains rather than educates.

In McLellan's terms, the assessment of the potential of television in Africa was faulty from the start and the social, cultural, economic, and political restraints combined to limit its potential. Few governments encourage freedom of expression in media which would enable urban poor and rural populations to better understand themselves and articulate their needs. It is not easy to give citizenry the means to raise consciousness, explore various development options, and express their points of view. El Hadj Diouf, University of Dakar communications professor, points out the importance of considering the human dimension in rural development. There may be a great risk in keeping the population mute, ignoring their input, and making only cosmetic changes.

McLellan believes that television could justify its costs if used for development, but that would require integration and coordination with other development efforts. Decentralized, local television – as a development medium – is designed to activate the community it serves. Its horizontal structure facilitates exchange within and between communities. It is geared to local needs, customs, and languages. Combined with personal field contact, television and video provide enormous potential for allowing people to articulate their needs to leaders and policy-makers, and work together to solve their problems, perhaps with outside technical and financial assistance.

It might seem amateurish for ordinary people to make a video, resulting in an awkward and slow moving production at times, but this is acceptable if the goal is not the "seduction of the eye and ear, but the enlightenment of the eye, ear, and voice."

The future for development support television and video is seen by many to lie in broadcast signals that reach rural as well as urban areas via satellites, government purchased and maintained group-viewing televisions powered by solar energy, coordinated multimedia campaigns and local discussions, increased feedback and interaction between broadcaster and viewer, and decentralized or community broadcasting and videos in local languages.

McLellan found signs of encouragement during the three-month survey in Africa. The decentralization of the Nigerian Television Authority gives local stations the resources to produce for the national network as well as to generate their own local programming. In the Ivory Coast, nonformal educational television broadcasts are being coordinated with a network of field *animateurs*. Television sets are being relocated from schools, where they were used for formal education, to villages throughout the country. Niger operates solar-powered television sets for group viewing in a number of rural villages as well as in urban youth centers. Its Tele-Sahel's programming is geared to nonformal education with more video recording taking place on location in rural areas than in the Niamey studios.

The report is divided into three sections. The first concentrates on experiments and innovations with group viewing centers, solar-powered television sets, local discussions, and television used with other development communication media. The second section focuses on social dramas, video, and formative evaluation and research as a means to improve television's capacity as an educator. The last section points out beneficiaries – women, agriculture, and health – when African television supports development. ■

This report is available free from International Development Research Centre, P O Box 8500, Ottawa, Ontario, Canada K1G 3H9

Reviewed by Diana Talbert, Vice President, Health and Education Resources.

2 The New Media: Communication, Research, and Technology, by Ronald E. Rice and Associates (Beverly Hills: Sage Publications, 1984) 408pp.

Ronald Rice and an impressive team of twelve associates have come up with an encyclopedic state-of-the-art reference book. From the title, which contains all the "right" words, to the comprehensive coverage in its twelve chapters, the book contains a collection of data, insights, case study descriptions, and predictions. The well-chosen chapter order first provides a brief history, some theory, and alternative research methods, which are then followed by sections on individual and group communication, organizational communication, and communicating within institutions.

The generous collection may offer more than the reader wants to know, but whatever current information is being sought will probably be found, whether it is videotex, microcomputers, television, teleconferencing, libraries, office automation, electronic mail, and a host of other media developments – all in a communication context. All topics are treated responsibly by competent and articulate authors. Rice provides the introductions and summaries which help to create a modicum of unity. His greater contributions come in the three chapters he wrote and the five chapters in which he appears as co-author.

The book has many audiences, but probably leans more toward individuals who are concerned about communication in the academic sense rather than practitioners who might be seeking guidance for selecting and using contemporary information technologies. This volume would be a good textbook for an introductory course which considers contemporary communication/information technologies. The fact that *The New Media* is in its second printing may indicate its popularity for such courses.

Readers of *DCR* might be disappointed not to find many references to the use of media and technology in the developing nations of the world. They will be pleased, however, to find descriptions of diffusion and implementation of innovative technology-based practices which are discussed in several chapters. The settings in which such innovations are presented are usually business or commercial environments rather than education and human services. One exception is Milton Chen's chapter, "Computers in the Lives of Our Children: Looking Back on a Generation of Television Research," in which the lessons learned from television research are held up and compared with the research questions about microcomputers.

There is a wealth of information in this volume. Most of the data and electronic developments will be outdated within five years, but many of the research agenda will probably remain. Let us hope some progress is made in that sector so that the use of these "new" media and technologies will bring about answers

to some of the communication problems we continue to face. ■

Available from SAGE Publications, Inc., 275 S. Beverly Drive, Beverly Hills, California 90212, USA for US$28.00 hardback, US$14.00 paper.

Reviewed by Donald P. Ely, Professor of Instructional Design, Development, and Evaluation and Director of the ERIC Clearinghouse on Information Resources at Syracuse University. He has recently served as a consultant at the Center for Communication Technology in Jakarta, Indonesia.

3 Combatting Poverty Through Adult Education: National Development Strategies, edited by Chris Duke. (Beckenham, Kent, England: Croom Helm Ltd., 1895) 253pp.

For better or worse, educators now believe that economists exercise great influence over budget allocation in the developing countries. That great influence has motivated educators to expend considerable energy in demonstrating the economic viability of the educational enterprise. Primary school has recently been shown in a number of studies to have a high return, both to children who complete the elementary years and to the society into which they are delivered as productive participants. Secondary and tertiary education have fared less well: they are clearly valuable to the relatively small numbers of students who succeed in completing their studies, but are very costly to the society which heavily subsidizes secondary schools and especially universities.

In this volume editor Chris Duke cites the "hope, maybe a naive expectation" that the seven chosen case studies would produce some proof that the money spent on adult education reduces poverty more than if the funds were spent in other sectors. The studies were chosen from a range of countries across the political spectrum and around the world. Six public and one privately sponsored programs are included. Cases examined are the Nicaragua Literacy Campaign, Chile's Educational Operative Units, MOBRAL in Brazil, Kenya's Adult Education Program, Seamaul Education in Korea, the Adult Education Program in Tamil Nadu, India and the well-known Sarvodaya Program in Sri Lanka.

Duke characterizes the aims and objectives of the program on two scales: political, from "cautiously reformist" to overtly revolutionary; and educational, from literacy plus "safe" functional skills to societal transformation.

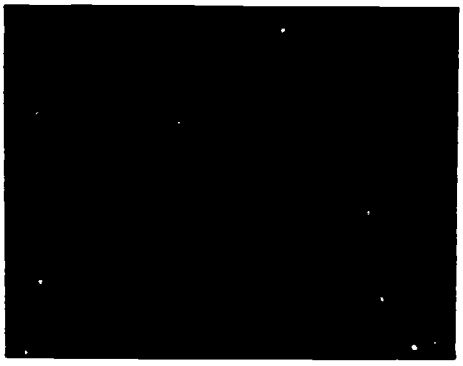
All the programs studied had as one stated aim to reach the poorest of the poor in their country. Certainly, combating poverty is not likely to happen unless the program is accessible to those in need. Four of the seven programs were found to succeed in this aim; for a variety of reasons the programs in India, Korea and Chile did not. Why they failed is too complicated to tell in the space available.

What then was the impact of the remaining four programs on alleviating poverty? This book does not tell us. While the authors have made valiant efforts to specify costs of the programs, they all agree that conventional economic measures cannot cope with the complexities of causality and quantification, so the case for supporting adult education as a means for reducing inequality and addressing poverty "must be made on other grounds." Frankly, I am not certain what that statement means. Chris Duke is forced to the less than ringing conclusion that, given the right timing and well-chosen methods, adult education has a "significant contribution to make as part of a larger strategy."

My view for some time has been that adult education in fact can contribute directly to alleviation of poverty under a wide variety of overarching social and political systems. Two conditions seem necessary and sufficient to make this contribution both possible and measurable. First, *the program must be designed to address specific problems or constraints identified by members of the learning community.* A number of techniques used in the cases studied in this book have proven effective in helping community people identify problems and decide on how to attack them. The majority of these problems are related to questions of how to make money through self-employment – participants recognize that employment in an established firm is an unlikely product of adult education and training. (That perception was borne out by the MOBRAL study, which found that fewer than one person in fifty gained access to full-time employment after taking part in MOBRAL's programs.)

The second important factor for getting more money into people's hands following training is access to seed capital. For poor rural community-based groups, access to credit is difficult at best. Individuals have some access to informal credit through local moneylenders, albeit usually at high interest rates. For groups who need to share the risk of a new venture growing out of a learning experience, however, there is often no source – and if the group is largely or wholly made up of women, credit is virtually impossible to obtain.

Gweneth Eng and Louis Woo have recently undertaken four case studies looking at programs which closely linked training and credit. They looked at benefit-cost ratios in each of the programs, and found the following results. All returns to participants were positive. The lowest benefit-cost ratio, 1.14, was realized by a women's rural development project in Kenya – not because the women are not productive, but because they, alone among the four programs studied, could not spend full time putting their new skills to use. They continued to spend about twelve hours a day on their daily chores and used their spare time for money-making. Other returns to participants ranged from 2.37 in a rice growing program, 3.97 in a microenterprise development project, to a highly remunerative 12.47 in a Central American farmer education project.



I find the total absence of any reference to linking education with credit a most surprising mistake in a book focused on combating poverty. Or perhaps it is a mistake to be surprised. these worthy studies, and Chris Duke's summary of their findings, perhaps tell us something we in adult education are loath to admit: putting money in people's pockets is a fairly low priority of most large scale adult education programs. Persons enrolling in those programs should do so to become more informed citizens, to improve their literacy capabilities, to obtain formal school equivalence certificates – but if they need to improve their economic circumstances in the short run, they would do better to spend their time and effort elsewhere. ■

Available in the U.S. for US$31.00 from Croom Helm Ltd., 51 Washington Street, Dover, New Hampshire 03820, USA, and in the U.K. for £17.95, from Croom Helm Ltd., Provident House, Burrell Row, Beckenham, Kent BR3 1AT, U.K.

Reviewed by James Hoxeng, an international educational specialist with the Agency for International Development. He has managed a number of adult education projects for AID.

4 Rural Educational Broadcasting – A Philippine Experience, by Felix Librero. (Laguna, Philippines: University of the Philippines at Los Baños, 1985) 155pp.

According to many philosophers, nobody can be *given* experience, but there is no doubt that the case study approach to learning can provide vicarious experience of real value. With this in mind, this little book by Felix Librero can be seen as a valuable asset to anyone who already is or who is planning to be a practitioner in the field of rural radio.

The book, as the author says in the forward, is "an effort to synthesize experiences in running a rural educational station at the University of the Philippines at Los Baños, as well as the experiences of other rural educational broadcasters in various provinces of the country during the last 25 years." It is, in fact, a case study of Radio DZLB, with explanations of its framework, its operational guidelines, and a detailed account of the DZLB School On-The-Air.

The Operational Guidelines and the information on "how to get started" could be of real value to anyone new in the profession, or for anyone seeking ways of improving an existing rural radio network. The author is honest enough to set down the failures as well as the successes of the station, and there is no doubt we learn as much, if not more, from the study of mistakes as we do from the study of the successes. Radio DZLB was indeed ambitious in its enterprises, running programs such as the 4-H Club, The Mother's Club, the Dairy Farmer's and Milkman's Hour, very successfully. The information on the workings of the farmer's forum, with its opportunities for farmers to share news, concerns, and tips is very encouraging, and could provide a good springboard for starting similar fora in other countries. The explanations of the failure of the Fisherman's Hour are equally enlightening and deserve careful study. One of the most

(**Librero** *continued from page 11*)

valuable observations in this case study is: "in planning the project, we underestimated our target audience. A lot of the pond operators were professionals and were not interested in mass production." Moreover, it was found that "the fishpen and fishpond operators did not believe that a radio program could help increase their production." Both these realizations point to what is possibly the most logical starting point for all radio programming – understanding the audience – both their professional knowledge of the subject and their appreciation of program formats and approaches. The DZLB Fisherman's Hour was by no means the only radio program to have gone under because of a failure to spend time in adequately assessing its audience.

The chapter on the School On-The-Air is very detailed and helpful. It explains just what a School On-The-Air is: "A specially designed radio program where the subject matter is presented systematically and in a progressive manner with the ultimate goal of achieving desired results under a teaching-learning situation." And then it details the characteristics of such a school; explains how to establish a school (including details of personnel needs, management schemes, and feedback mechanisms); gives program suggestions and information on enrollment, examinations, and graduation. It also provides audience survey instruments and a School On-The-Air program schedule. In short, everything needed to provide a sound basis on which to explore the possibilities of such a school in another place.

The last part of the book is devoted to a chapter on "Looking Ahead." The author prophesies that the future of educational radio lies in more interactive programming; more education-oriented entertainment programming; and more personalized and localized presentations – all prophecies that would be readily endorsed by those of us working in educational radio in other parts of the world.

The book is complete with a good bibliography and some helpful appendices, containing outlines for training programs and evaluation papers. The major weakness of the book has nothing to do with its contents or its authorship; it has to do with its publication. The book has been bound so poorly that the minute one attempts to open it, all the pages fall out. It would seem like a good idea to punch holes in the spine of the book and insert strong ring binders before attempting to use it at all, otherwise the aggravation of coping with falling pages might just dissuade you from continuing your reading of this very helpful book. ■

Available free from Felix Librero, Chairman, Dept. of Development Communication, University of the Philippines at Los Baños, College, Laguna, Philippines. For orders outside the Philippines, please include US$5.00 for handling and postage.

Reviewed by Esta de Fossard, a Senior Communications Officer at the Academy for Educational Development. She is currently Project Administrator for the Academy's Development Communications Project in Swaziland.

On File at ERIC

by Barbara Minor

Documents recently entered in the ERIC (Educational Resources Information Center) files include a bibliography on mass media systems in educational development, a report on the methodology developed for the Radio Language Arts Project in Kenya, an analysis of development communication during the 1970s, a handbook for making films, and a packet of audiovisual instruction materials. All of these documents are available in microfiche, and all but one in paper copy, from the ERIC Document Reproduction Service (EDRS), 3900 Wheeler Ave., Alexandria, Virginia 22304, U.S.A. Be sure to include the ED number and payment in U.S. funds for the price listed plus shipping. Shipping costs may be calculated on the basis of three microfiche per ounce and 75 microfiche or pages of paper copy per pound.

● Sanchez, James and Romero, Patricia, compilers. *Mass Media Systems (Television, Radio, and Satellite) for LDC Regional Educational Development: The Case of Africa and the Middle East. Bibliography 22* 1985, 14pp. (ED260 864).

Intended as an introduction to the use of educational media in developing countries, this bibliography provides an overview of materials available in government documents collections. Although the 33 documents listed are derived principally from the Agency for International Development (AID), two documents from the Educational Resources Information Center (ERIC) are also included. Each entry indicates a source for obtaining the document and includes an annotation. Dates of publications for the references range from 1972 to 1985, with most falling in the mid-1970s. Abbreviations used in document titles and annotations are defined, and an index provides an alphabetized listing of topics and areas of concern. Available from EDRS in microfiche only for 75 cents.

● Edgerton, David and Sedlak, Philip A. *A Look at Methodology Radio Language Arts Project Implementation. Field Notes 5* 1984, 8pp. (ED 258 478).

The methodology described was developed for use in a U.S.-sponsored radio-based English language arts program for grades one through three in Kenya. Adapted to the special circumstances of the medium, the context, and the program's administrative limitations, the highly interactive radio lessons adhere to distributed-learning principles in instructional design and use in a practical and relevant curriculum to organize the elements of instruction. The Radio Language Arts Program series of lessons uses direct-method language teaching principles and postlesson audio exercises when appropriate and where the limitations of instructional broadcasting justify their use. Available from EDRS in microfiche for 75 cents or in paper copy for $1.80.

● Stevenson, Robert L. *Third World Communication Development in the 1970s.* 1985, 26pp. (ED261 438).

Quantitative data on various indexes of national development – mass media, "horizontal communication" (mail, telephones, and telegrams), democracy, social growth, literacy, and urbanization – were collected and estimated for more than 100 developing countries for roughly the decade between 1970 and 1980. These data were then used to test various theories and definitions of communication development. The analyses revealed that in all geographic regions, broadcasting showed spectacular growth, while print media grew only modestly. Horizontal communication, social growth, literacy, and urbanization showed some growth, while democracy – defined in Western terms as civil and political liberties – did not fare well in developing countries. Analysis of the data showed little support either for the original dominant paradigm of communication development that mass media could spur economic and political development, or for alternative theories that emphasize horizontal communication and social development. Available from EDRS in microfiche for 75 cents or in paper for $3.60.

● Beuthner, Reginald and others, compilers. *Film Handbook Communication Manual. Second Edition.* 1983, 390pp (ED256 295).

Each chapter in this book is a self-contained unit about specific aspects of film-making designed to accompany film courses being offered by the University of the West Indies, the Jamaica Broadcasting Corporation, and the Institute of Mass Communication in conjunction with a German sponsor, Friedrich-Ebert. The following topics are addressed: the Jamaican film, perception; organization and setting up, scripts; light, filmstock, cameras, lenses; filters; uses of lights, the exposure meter; camera work; continuity of time, place, and action; the laboratory; functions of sound; sound recording; sound editing problems; and editing procedure. Available from EDRS in microfiche for 75 cents or in paper for $28.80.

● *Audio-Visual/Communications Teaching Aids Packet Supplementary Materials Packet P-8 1982, 94pp. (ED257 435)*

This packet contains three handouts on training theory and the use of audiovisual aids, as well as a section on materials and presentation techniques for use by community development workers. The first handout briefly discusses the four steps in the communication process and presents a seven-step procedure for improving communications; the second describes and pictorially represents the major categories of media; and the third addresses four questions that should be considered in designing and planning effective communications. The final section provides instructions for making and using bamboo or reed writing pens, brushes, crayons, pocket charts, puppets, flannel boards and flipcharts, exhibits and bulletin boards, a flashlight slide projector and filmstrip adaptor, and radio. Available from EDRS in microfiche for 75 cents or in paper for $7.20. ■

Barbara Minor is Publications Coordinator at the ERIC Clearinghouse on Information Resources, School of Education, Syracuse University, Syracuse, New York 13244-2340, USA.

Colombia Could Have the Biggest School in the World

by Jorge Humberto Jiménez

Colombia hopes to reach more than 20 million potential students with nonconventional education services. This figure represents the portion of the population that is not served by the formal education system – a system unable to keep pace with the rapid growth of the population it must serve.

What would it cost the formal education system in personnel, infrastructure, and supplies to serve not just the seven million people currently reached, but the 28 million who should be served? The calculations are astronomical; and, what is worse, these costs are impossible to cover. Another consideration is that these additional services could not be implemented quickly, even in a country where impossible things happen.

In response to these issues the Colombian government has formulated a policy that encourages implementation of strategies to complement the traditional system and permit marginal groups to receive the benefits of education. This program is known as CAMINA (a Spanish acronym meaning "walk"), and is being promoted under the theme of "Education for All Colombians." Its base and point of departure is to use existing educational resources and programs, in both private and public institutions, formal and nonformal sectors.

A School That Reaches Everyone

Based on the experience over several decades which the *Fundación Acción Cultural Popular (ACPO)* has acquired, as well as the educational work it has done through its Sutatenza Radio Network, the national government decided to link the available transmission and production facilities of this radio network for maximum population coverage, offering a multiplicity of educational opportunities. Sutatenza's 700 kilowatts, with transmitters in Bogotá, Cali, Medellín, Barranquilla, and Magangué, can provide a school within reach of everyone with access to a radio

Secondary and higher institutions, private and public alike, have joined this effort. Having traditionally provided educational services to Colombians through their nonformal programs in cooperativism, ecology, family life, and through formal programs at the primary, secondary, or higher levels, they will now offer, via this network, their unique educational programming to meet the varied needs of this unserved population.

After one year of activities – relatively little time for a definitive evaluation of a new and complex experience – some observations and trends have been identified:

- The staffs of the 18 participating entities are responsible for the production of the radio programs look forward to continuing the project. They value the experience gained as radio communicators, the high visibility their institutions receive from the radio, and the letters and telephone calls that indicate acceptance by their audiences.
- Coordination among the institutions has been difficult but stimulating. The medium of radio provides them with an opportunity for exchange, self-criticism, mutual awareness, and team-building.
- The initative taken by the National Ministry of Education coupled with ACPO's experience, has resulted in the extension of the network to more than 100 small radio stations which retransmit programs using audiocassette tapes prepared and distributed by CAMINA.
- Adequate and timely distribution of support print materials has been a problem. Although not required by all the programs that are broadcast, support material needs have been a financial and logistical burden in the early stages of the program.
- Project directors feel that more and better promotion is required to catch the attention and enthusiasm of a larger number of potential users.
- Finally, it is not enough to simply prepare and broadcast good programs. Education, especially distance education, creates other complementary needs in users such as consultation by telephone, responses to letters, additional topical information provided to users, and support to local organizations that have been stimulated by this service.

Much has been said about the power of the media and its role in education. A multitude of academic questions arise from these discussions, all of them important. But there is also a practical question that needs to be answered: is there a way to quickly reach the millions of people in our cities and rural areas who have no access to educational opportunities? Colombia says "yes," and the answer is radio. Soon, twenty million people who are now deprived of education will have an opportunity to learn. ■

Jorge Humberto Jiménez is Director of National Programming, Sutatenza Radio Network, Bogotá, Colombia.

CIESPAL Radio Contest Winners

In *DCR* 43, we announced a radio contest sponsored by the International Center of Higher Communication Studies for Latin America (CIESPAL) in collaboration with Radio Nederland, to select commendable Latin American educational radio programs. The contest winners were announced during CIESPAL's 25th anniversary festival held in Quito, Ecuador, October 15-20, 1984.

It was not until recently that we learned the results of this contest, and although considerable time has elapsed since the awards were announced, we would like to congratulate the winners, and commend the organizers of this contest for their continued support of educational radio in Latin America.

The contest drew a large pool of entrants, with almost 200 submissions from 15 countries competing in four categories – documentary, radio magazine, radio drama, and radio education.

First prize for a documentary went to:
"The Poor Taught Me to Read the Bible," by *Radio Santa María*, Dominican Republic.

No first prize was awarded, but second prize in the radio magazine category was awarded to:

"Opening the Way," by *El Centro Nacional de Acción Pastoral (CENAP)*, Costa Rica.

In radio drama also, there was no first prize winner. Second prize went to.

"The Legend of Sunday the Seventh," by *Radio La Voz de la Selva*, Peru.

The first (and only) prize in the education category was awarded to the adult education courses of Ecuador's *Instituto Radiofónico Fe y Alegría*.

Over 450 participants joined in the anniversary activities, with representatives from Latin American and international broadcasting organizations including Radio Canada, Radio Switzerland, the Voice of Germany, Radio Sweden, and Radio Nederland. There were seminars on educational radio topics, tapes of radio programs from participating countries, and professional development exchanges. In part, the Festival represented the culmination of CIESPAL's efforts in the area of radio since 1982, but the week's activities also signified their commitment to continued improvement of radio programming in Latin America. ■

(**Beal/Kern** *continued from page 1*)

(A bibliography on these and related studies can be obtained from either the East-West Center or from ISNAR – see addresses at the end of this article.)

System Challenges

Although favorable climate and soils allow islanders to grow many crops, there has been little research available that can be applied to the islands' principal food crops. Mounting research to deal with all the important crops would require a huge investment.

Other factors challenge the systems. Many farmers have had little experience in applying other than traditional cropping practices or producing in a complex market economy. Land ownership is extremely complicated, and cultural factors affect motivation and communication. Education has only recently become widespread. While most people are literate, few can communicate well in languages used in agricultural and higher education institutions. Communication of all kinds is constrained by mountainous and tropical jungle terrain, and the great distance between islands. Of the mass media, only radio reaches beyond the main cities to more than a tiny fraction of the population involved in agriculture.

Despite these constraints, agriculture is still the leading economic activity; it is the main focus of development in most of these countries and for at least three-fourths of the people. National development plans stress agricultural development needs: to improve both quantity and quality of food; to reduce amounts of imported foods; and to increase the country's international trade credits through export of agricultural commodities.

All of these countries have similarly structured agriculture ministries, although each has its unique characteristics. The basic unit is a national ministry or department of agriculture, which typically has a politically appointed minister and a civil service-type administrative structure. In addition, most ministries also provide research, extension, and agricultural education services. A communication or information unit is located in this ministry as well

Knowledge Systems Communications

We have studied and worked with these island systems in a broad context of communication, including (1) linking the island system to external knowledge sources and to the political and production systems of the nation it serves; (2) linking units within the system; and (3) linking users of agricultural knowledge – producers, input suppliers, marketers, planners, etc. – to each other. Our studies have gone well beyond media use, dealing with other means of communication, such as formal and informal training, person-to-person, group, organizational and interorganizational communication, and extension methods.

From our work in the region, we have seen programs and activities that are building bridges and stimulating agricultural communication. Many of the developments have been fostered by creative and informed individuals or units without major increases in resources: rces that are limited, to be sure. Information staffs are small and they have limited professional training (only one person in these three countries has degree qualifications in communications).

External Communication Connections

Island people have limited contacts with the fast-changing socioeconomic milieu of the westernized and northern nations. Many island producers have had some exposure to modern agricultural ideas from islanders returning from advanced studies and training abroad; however, these contacts have not been extensively exploited. We found few cases where communication networks were created between these trained people; not much was apparently done to try to maintain continuing access to such knowledge. In the few technical libraries that exist, literature collections tend to be fragmentary, incomplete, often years behind current agricultural thinking, and language-bound to the original publication.

There are stirrings of change in the region. In more and more of the now-independent nations, international donors have helped establish elements within knowledge institutions. There are now two island-based universities that offer Bachelor of Science and Master of Science degree training in agriculture: The University of Technology at Lae, Papua New Guinea and the School of Agriculture of the University of the South Pacific (USP). The USP library, whose main campus is in Suva, Fiji, directs a major effort to collect literature (cultural, economic, social, and technical) of the Pacific Islands. Under grant funding from Canadian and United States sources, this program is also training librarians for each of the participating nations – expertise that has been in short supply.

The agricultural library at USP, which is located on the Alafua Campus of the School of Agriculture in Western Samoa, serves the student population and borrowers throughout the region through loan circulation.

The Institute for Research, Extension and Teaching in Agriculture (IRETA), created by the 11-member nations of USP also located at Alafua, serves the region in several ways, and is supported in part by grant funding from the U.S. Agency for International Development, and technical assistance from the University of Hawaii and Cornell University. IRETA has built special facilities on the Alafua campus, where it sponsors regional workshops and conferences, sharing regional expertise and bringing in specialists to teach and interact with national representatives. It also supports networking through electronic mail messaging and two-way voice contact via satellite and ground stations in member countries (The latter effort was interrupted when the existing satellite ceased functioning, but will be resumed when another becomes available.)

One of IRETA's most innovative contributions has been its Agricultural Liaison Officer (ALO) network which is designed to increase the flow of knowledge among the participating national systems, and to make known to the leaders at the Alafua campus the needs of national agricultural systems.

By 1985, seven of the member nations had appointed an ALO representative to serve as his or her country's eyes and ears to enhance the flow of agricultural information It is the ALO's responsibility to keep in touch with current local research, to seek out earlier, perhaps neglected reports, and to review international data sources. They report their information to national officers and contribute to a quarterly newsletter that circulates among the 11 member countries

Communication within Systems

Over the past four years Fiji, Tonga, and Western Samoa have begun to build better bridges between their in-country knowledge system units. In some cases, contact with donor organizations has stimulated better communication; other bridges are indigenous adaptations of ideas from elsewhere.

Both Fiji and Western Samoa have recently developed national research plans, working with ISNAR in the planning process. These plans have helped form communication links with extension leaders, with policy makers, and with other elements of the agricultural knowledge systems.

In-service training efforts in the three countries had been limited and fragmentary. All have shown impressive changes in recent years, helping to improve links between research centers, extension services, and producers. In Fiji, for example, responsibility for in-service training and information services has been vested in one officer. This has led to greater awareness by information staff of the programs and technical content dealt with in the action agencies, which has helped these writers and broadcasters to identify and to get to know informati sources At the same time, elements of communication philosophy and methods appear in more and more technical training programs.

For several years, Tongan in-service trainers have been required to provide advance copies of their training materials. In addition to their use in training, the materials fill needs as references for field officers. In Tonga, research and extension officers often train together, taking turns serving as trainer and trainee

As Western Samoa has adapted the Training and Visit (T&V) system (see *DCR* #22) to its situation, increased attention to in-service training builds bridges between extension and other agricultural groups.

One notable factor encouraging change is the growing awareness among extension, research, and other institutional administrators of the need for communication support. Despite budget constraints, some have supported efforts to improve information staff competence, methods, and equipment. In Fiji, at least one information staff member has been approved for degree-training abroad. Western Samoa is developing increased technical assistance and upgrading equipment with Asian Development Bank and Food and Agricultural Organization backing

Communicating to Producers

Efforts to get information out to producers is paying off as well. Field days, farm trials, and demonstrations (three typical activities that introduce new and improved agricultural techniques) have attracted more producers than ever in some of these countries. For example. Western Samoa recently held an Agricultural

show on one of its islands; more than 10,000 people attended the activities – nearly one quarter of that island's total population. A coordinated multimedia campaign helped boost attendance and offered follow-up printed materials to reinforce the messages delivered at the educational sessions. Both Fiji and Tonga make extensive use of field days to reach farmers. Their staffs are trained in how to plan and execute these three activities to improve their outreach effectiveness.

The modified T&V system developing in Western Samoa strengthens their outreach effort. Greater number, frequency, and continuity of visits by extension officers are building more and stronger links with farm producers. Similar emphasis on farmer contacts by extension in Fiji and Tonga strengthens the dissemination of agricultural information. Fiji is rapidly upgrading dissemination efforts, especially with publications. One new series provides reference materials for field extension staff, and another is devoted mainly to reporting new findings and recommendations from research to extension. Within the last year, an information officer has been assigned full-time to work with the Research Division to speed the flow of new information to users. Coordination between staffs of Fiji's broadcast and print news media assures dissemination in both media of information produced by the work of one information specialist.

Need for Communications Training

Training in communication practices and principles continues to be a scarce item on the educational agenda in the South Pacific. A relative vacuum for development communication specialists has existed because nearby training has not been available. The nearest degree-based training or intern programs are in Australia, New Zealand, or the Philippines. Fortunately on this point, IRETA appears to be maturing as a source of support by offering some agricultural communication courses. Meanwhile, Agricultural Liaison Officers are demonstrating that important contributions can be made by professionals who have both agriculture and communication training.

These and similar steps have helped to improve communication within the agricultural knowledge systems of this region over the past three years. They have been a motivating stimulus for still larger and more creative steps toward overcoming multiple constraints that persist. ■

For a bibliography of related studies, write either to: George Beal, Institute of Culture and Communication, East-West Center, 1777 East-West Road, Honolulu, Hawaii 96848, USA; or to International Service for National Agricultural Research, P.O. Box 93375-2509 AJ, The Hague, Netherlands.

George M. Beal recently retired as Research Associate, Institute of Culture and Communication, East-West Center, in Honolulu. He was for many years a researcher, teacher, and head of Sociology at Iowa State University, Ames, Iowa.

K. Robert Kern is a private consultant in agricultural communications. He was formerly communications officer, International Service for National Agricultural Research in The Hague, and many years head of extension [illegible]ications at Iowa State University.

Briefly Noted

by Robert Vittel and William Amt

● *Guidelines for Planning Communication Support for Rural Development Campaigns* is a manual published by the UNDP Asia & Pacific Programmes for Development Training and Communication Planning (UNDP/DTCP) and compiled by Najib M Assifif and James H. French. The manual covers the main components of planning communication support for rural development campaigns, how to carry out precampaign studies, how to design a communication strategy, and how to develop a management plan. Each section is supplemented by overhead transparencies (in the trainer's version), reference sheets, and worksheets. Available in English only, the trainee's version (which may be used for self-instruction) is available for US$8.00, and the trainer's version costs US$50.00; however, UNDP/DTCP will include five single copies of other publications free of charge with this order. Write: UNDP/DTCP, P.O. Box 2-147, 19 Phra Atit Road, Bangkok 10200, Thailand.

● The Industrial Information Section of the United Nations Industrial Development Organization Technology Programme has prepared a trilingual (English, French, and Spanish) *Directory of Industrial Information Services and Systems in Developing Countries.* This directory of 345 industrial and technological information facilities is designed to serve as a catalyst for increased networking activity among those institutions at the national, regional, and international levels concerned with accelerating the process of industrialization. Each entry includes the name of the organization, the address, languages used, a description of activities, topics about which information is provided, and a publications list. Free copies are available from the United Nations Industrial Development Organization, Industrial Information Section, P.O. Box 300, A-1400 Vienna, Austria.

● The sociology and political economy of mass media and interpersonal communication are central issues in *Communication and Social Change,* a new book by Michael Kunczik. Kunczik looks at development and communication from various viewpoints, concluding that there is a need for a "free media system within a nation state and a free flow of news on the international level." He raises many questions by outlining the major economic development and social change paradigms; showing how mass media have affected such change for good; and the position of developing countries in the international flow of news. Available in English from the Friedrich-Ebert-Stiftung, Godesberger Allee 149, D-5300 Bonn 2, Federal Republic of Germany.

● INTERPAKS, the International Program for Agricultural Knowledge Systems, is a program which provides educational and technical assistance in support of agricultural development through improved transfer and use of knowledge in developing countries. One of INTERPAKS' main functions is to provide information about agricultural knowledge systems through the publication of a newsletter and an ongoing series of booklets *INTERPAKS Interchange,* a quarterly newsletter examines methods of agricultural information dissemination in developing countries with feature articles, synopses of reports, speeches, book reviews, and INTERPAKS project activity news

The INTERPAKS ongoing series of booklets include: 1) *The Cooperative Extension Service·An Adaptable Model for Developing Countries,* which examines how the U.S. university land-grant extension system has effectively combined both the research and extension functions of agricultural development, and how components of this system can be applied to developing countries; 2) *The Role of the Information Specialist in the Dissemination of Agricultural Information* looks at the uniqueness of this field, the different levels of information which are dealt with, i.e. the scientific, the extension, and the trade levels, and skills and education required of agricultural information specialists; and 3) *Problems Facing National Agricultural Extension in Developing Countries* discusses the results of 59 developing country agriculture extension directors who responded to an INTERPAKS questionnaire. The survey attempts to reveal problem areas in developing country agriculture extension systems and concludes with recommendations for improvements.

● Other useful INTERPAKS publications include: *Development Communications in the Third World,* a collection of the papers that were presented at the "Midwest Regional Symposium on Development Communications in the Third World" at the University of Illinois at Urbana-Champaign on April 15, 1983. Emile McAnany delivered the keynote address which was followed with presentations by several other development communication specialists. *Annotated Bibliography on Development and Transfer of Technology, Vol. 1,* contains 271 relevant citations and annotations of literature in five areas: general agricultural development, policy and planning, technology development, technology transfer, and technology utilization, followed by an author and title index.

Single copies of the above-mentioned publications are available from INTERPAKS, Office of International Agriculture, University of Illinois, 113 Mumford Hall, 1301 West Gregory Drive, Urbana, Illinois 61801, USA. ■

The authors are on the Clearinghouse staff.

Call for Abstracts

The World Federation of Public Health Association will hold its Fifth International Congress in Mexico City March 22-17, 1987. The conference theme is *International Health in an Era of Economic Constraint: The Challenge."* Abstracts of proposed papers should be submitted by October 15, 1986 in English or Spanish. Request abstract forms and guidelines from: WFPHA Secretariat, c/o American Public Health Association, 1015 15th Street, N.W., Washington, D.C. 20005, USA, or Dr. Jose Luis Luna, General Secretary, Local Coordinating Committee, Mexican Society for Public Health, Insurgentes Sur 1397, 6° piso, Col. Insurgentes, Mixcoac, Delegation B. Juarez, 03920 Mexico D.F., Mexico.

by David Giltrow

Continuing education centers (CECs) are neither new nor particularly glamorous stars on the development scene. They serve as catalysts to improve long term development efforts and provide the framework for linking ideas and people – a basic objective of development support communication (DSC).

The most familiar type of CEC found in developing nations are the farmer training centers. More recently, universities are establishing CECs to serve the wider community, especially at middle and higher manpower levels. This article offers suggestions on how universities can plan a continuing education center with an emphasis on DSC principles.

A typical university-based CEC develops a wide range of activities, including distance education services and training workshops, seminars, short courses, meetings of professional associations, and national and international conferences that will require housing and dining facilities.

Many developing country universities already conduct these activities, but usually on a between-term or ad hoc basis. More impact can be gained by creating a CEC that can properly organize and conduct outreach activities throughout the year. With this arrangement, the staff, meeting rooms, and residential facilities are dedicated to continuing education programs and are not at the mercy of ongoing academic timetables. Similarly, a well-equipped audiovisual unit becomes a necessity for the comprehensive CEC to meet the varied demands of its programs.

The observations below are based on the evolution of the Centre for Continuing Education at Sokoine University of Agriculture in Morogoro, Tanzania, which received US Agency for International Development (AID) assistance from 1980 to 1984 as part of a larger agricultural education and extension project. After five years of successful operation, some of the lessons learned might be useful.

The Sokoine Centre is physically divided into three units: a main meeting building, an office block, and a hostel complex, integrated into the university campus and with the usual student activities and services. But Sokoine has developed a pattern characteristic of many continuing education centers: it has become a campus within a campus. One link between the two is the Centre's Audiovisual Unit whose media equipment and production facilities also serves ongoing university media technology needs.

Lessons Learned

Lessons we learned in creating and operating the Sokoine Centre were in the areas of planning decisions, staffing, physical facilities, funding base, and programs and philosophy.

Planning Decisions:

Develop a cooperative alliance between donor and expected users. Participation by the expected major users and any donor agencies must be promoted early in the planning process. If the university chooses not to involve key decision makers and identified users, the effort probably will not reflect the actual needs of such a center.

Provide flexibility and freedom from departmental politics by placing the CEC in a suitable location within the institution's organizational structure. If possible, the CEC should have independent standing similar to a library or an institute.

Further planning recommendations:

- Study existing continuing education centers in the country to determine the needs that are to be met by this CEC to avoid legitimate objections to duplication of effort.
- Solicit donor support. This is particularly important initially to purchase audiovisual and other imported equipment, and provide special staff training.

Staffing:

Select the right director. He or she should have strong academic credentials as well as a solid background in extension, continuing education, and administration.

- CEC staff should be highly professional, with knowledge of DSC principles and with a strong service commitment. They should be encouraged to participate in CEC management operations.
- A title, such as "educational specialist," should be established for these professionals.
- Training and development plans should include all professional and support staff including audiovisual technicians, hostel and dining room staff, and others.

Physical Facilities:

If new buildings are necessary, visit other facilities prior to making the architectural specifications. Second to staff quality, the physical facilities are the most critical element in the long term success of a CEC. Remind fiscal officials that the CEC will charge daily rates per person to cover meeting, living, and dining amenities appropriate for professionals and senior civil servants.

Take nothing for granted in developing the specifications for facilities and services CECs require special physical surroundings that few architects or bureaucrats appreciate The quality of the facilities needed by CEC clientel is something that may be overlooked by architects who are more experienced at designing boarding high schools on small budgets.

Design for media use. A high quality media center with a trained staff is a necessity for a national continuing education center – not a luxury. There are several reasons for suggesting this apparent extravagance

1. The seminars, short courses, and workshops should demonstrate media use with hands-on activities to encourage understanding of development communication support.
2. Speakers and participants at international seminars will use slides, overhead projectors, films, or possibly video in their presentations
3. CEC training materials might be produced at the center for other training centers, schools, or for correspondence courses.

Funding Base:

A flexible, fair funding strategy, should be developed so as not to strain existing university finances. The university can support the CEC by absorbing staff salaries, utilities, and other basic budget items. Otherwise, the CEC should be a self-supporting unit and charge for all other CEC activities and services.

There should not be a blanket subsidization of program activities by donor agencies. Because of budgetary constraints, no provision was made by AID to support Sokoine continuing education programs. Nevertheless, the staff discovered many groups – private industry, ministries, development projects, and other donor agencies – with funds available for short term staff training at the Centre. This avoided the usual financial jolt that often occurs when a foreign aid project comes to an end.

Programs and Philosophy:

The CEC should have a primary program focus Although it may seem economically smart to use a CEC as a general convention center where other groups can schedule their meetings and programs when there are open dates on the CEC calendar, this practice may alienate primary users who find they cannot schedule their activities at appropriate times.

A liaison from the client group should be assigned to work with the center's program specialists during the planning stage of an event. This type of cooperation exposes all clients to good communication and training techniques, and serves as an example of how communication support can bring greater depth to their activities.

An Advisory Committee of primary users should be established This will help keep the CEC responsive to users' needs The committee also gives the director a forum in which develop CEC policy and to solicit help in solving various problems that arise at the facilit

A Summary

A successful continuing education center a blend of good facilities, service-oriente staff, active program planning, sound financ policies, and professional marketing of ser ices If the setting is a university campus, inte lectual resources usually available only to students can benefit the wider commun thrpugh CEC programs. Entwined with the elements is a strong communication suppo dimension that can serve as a model for use when they return to their home institutions

David Giltrow was Team Leader for the Tanz nia Agricultural Education and Extensi Project, and coordinated upgrading of the S koine Centre Audiovisual Unit. He is now private consultant in development commu cation and education.

Clearinghouse On Development Communication Report

Summer 1986
No.54

Transcending Barriers: SHARING Satellite Technology

by Gail Bouck

In many areas of the world, particularly in developing countries, natural geographic barriers, lack of teachers, diffused populations, and inadequate infrastructures make conventional communication methods either physically or financially impossible. The expanding use of telecommunications, especially new satellite technology, can help overcome such difficulties. Although the use of such technology is likely to be affected by a country's political and economic situation, projects using telecommunications are, nonetheless, being carried out in education, medicine, and agriculture.

Under the auspices of INTELSAT, the 110-member organization which owns the world's international telecommunication satellite system, and in conjunction with the International Institute of Communications, a London-based member organization concerned with the uses and developments of international communication, Project SHARE (Satellites for Health And Rural Education) was initiated in order to make more people aware of the practical uses of satellite communications for educational and health purposes. Since its inception in 1985, it has provided free satellite access for rural health and long-distance educational programs which use new satellite technologies.

Each SHARE project involves a series of tests and/or demonstrations aimed at showing how modern telecommunications can help alleviate the problems inherent in providing rural health care and education. Originally conceived as a 16-month project, scheduled to end in April 1986, it has now been extended through December 1986. To facilitate the development of permanent long-term programs, extensive evaluations and studies will be conducted on each project, as well as on the project as a whole. These will be published and made available upon request to individuals and institutions in the field. (See address at end of article.)

To date, most projects have been affiliated with universities, professional societies, or hospitals, working with the various telecommunication entities in the countries involved. Each sponsor designs and dictates the content of the project and is responsible for securing financial support, whether private or governmental, and for the terrestrial links. Once the project application has been submitted to INTELSAT, it is reviewed by the International Advisory Council – a special panel of experts in international communications from around the world. The review determines if the project fits the image and spirit of Project SHARE, its potential long-term benefits, and the overall feasibility of the proposal.

Exemplary Projects

Thirty-seven different countries are currently participating in Project SHARE. In education, the People's Republic of China uses satellites to transmit daily lectures to university students throughout the country. Called "A TV University," it serves as an example of how standardized education levels can be brought to scattered populations in countries where great distances and geographical barriers make contact difficult. The use of satellites has also been successfully demonstrated for years by both the University of the South Pacific and the University of the West Indies where a high percentage of course completions, along with high test scores, have been achieved. (See *DCR* 24 and 26.)

(*Continued on page 3*)

Where in the World are Radios?

by Graham Mytton

Accurate and reliable data on radio ownership in rural areas of developing countries are notoriously difficult to obtain. On the other hand, we know quite a lot about access to and ownership of radios and televisions in urban areas of these same countries, primarily because this is where the bulk of manufactured consumer goods are sold. Those who purchase advertisement space or time want to know what consumers are buying, how many people in Lagos, Nigeria can be reached by a series of 30-second radio commercials for toilet soap or how many people in Jakarta, Indonesia have television sets, and how many watch it at home? Advertisers need this information. In contrast, there is little demand for information about rural consumers in developing countries, so not much is known about them.

Although commercial research agencies do exist in many developing countries, consumer research is not their only, or even their major activity; they do many other types of research as well. What about research by broadcasting organizations? In Latin America, commercial radio stations commission audience surveys, but these too concentrate on urban audiences. In Asia, audience research is carried out with growing frequency only in Sri Lanka, India, and Pakistan. In sub-Saharan Africa, the picture is even less clear. Other than in South Africa, no radio or TV stations do regular audience research. In North Africa, only Morocco, Tunisia, and Egypt have done systematic research and these have been mainly urban-based studies of their audiences.

(*Continued on page 2*)

DCR INDEX INSIDE

The four center pages of this issue contain the first comprehensive subject index of *DCR* issues 40 through 54, encompassing the dates of December 1982 to August 1986. We hope it is a useful guide to our work.

Supported by the Bureau for Science and Technology of the U.S. Agency for International Development

Development Communication Report

In this issue . . .

Development Communication Report, published quarterly by the Clearinghouse on Development Communication, has a circulation of over 6,000. The newsletter is available free of charge to readers in the developing world, and at a charge of US$10.00 per year to readers in the industrialized countries.

A center for materials and information on important applications of communication technology to development problems, the Clearinghouse is operated by the Academy for Educational Development, a nonprofit planning organization, and supported by the U.S. Agency for International Development, Bureau for Science and Technology, Office of Education, as part of its program in educational technology and development communication.

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(**Mytton** *continued from page 1*)

BBC's Survey Findings

This lengthy introduction serves to suggest some caution when interpreting the following facts and figures. Since 1944, the BBC has applied the sample survey methodology to gather audience data, interviewing randomly selected people in designated areas of a particular country. Their External Services Division performs regular audience research in countries around the world in order to collect accurate information about radio ownership and to determine who listens to the BBC and other international broadcasters.

In recent years, increased attention has been given, whenever possible, to rural areas. These studies verify the already-assumed high levels of exposure to the media in urban areas and the generally lower listening levels in rural areas. Nonetheless, increased radio ownership among rural people in developing countries has been confirmed by these surveys.

Given the expense and difficulty of research in developing countries, it is understandable that the information we have is both meager and incomplete. In 1964, for example, a survey in the West African country of Togo, showed 44 percent radio ownership in urban areas, but rural surveys indicated only four to five percent ownership. No more recent data are available. Elsewhere in West Africa, figures are somewhat more current. In neighboring Ghana, an extensive survey in 1977 showed that 72 percent of urban households had radios, with 46 percent ownership in the rural areas. In Nigeria, Africa's most populous country, a 1983 national survey showed 85 percent ownership or access to radios in urban households and an impressive 62 percent were found in rural households.

In eastern African countries, surveys have occured more regularly, making it possible to show change over time within a country. In Tanzania, for example, a nationwide audience survey in 1960 indicated that 10 percent of urban households had radios, but fewer than two percent of rural homes had radios at that time. By 1967, the situation had been transformed In the capital city, Dar es Salaam, ownership had grown to 58 percent. Another survey in 1974 showed that among the 14 million people in the country, there were 1.7 million radios with nearly 1.6 million of these located in rural areas. At that time, it was one of the highest levels of recorded radio ownership in the developing world.

Less spectacular, but equally significant growth has occurred elsewhere. In Kenya, radio ownership grew from a very low base in 1960 to 72 percent of urban households and 36 percent of rural households with radios by 1978. Five years later, this figure had risen to 78 percent and 42 percent respectively.

Potential in China

In Asia, the picture has been broadly similar In China, individual radio ownership was not encouraged during the cultural revolution, but since then it has rocketed. While there has not been a nationwide survey, recent estimates put ownership at over 100 million, perhaps five times as many radios than in the years before the cultural revolution. At that time, the dominant equipment was the ubiquitous wired radios, delivering only local broadcast services. Since then, much of the growth has been in individual ownership of portable radios in rural China. Moreover, there remains enormous potential for even greater growth in radio ownership in a country of more than one billion people.

In India, where so much emphasis has been put on the developmental role of radio, in some rural areas a majority of people still do not have their own radios. Therefore, despite the fact that there is widespread community and group listening, there are still many who are not reached at all The pattern is very similar to that in Africa – a high level of radio ownership in towns and a smaller but growing presence in the countryside. In a 1975 survey of eight Indian states, 75 percent of those interviewed in urban areas had a radio at home, while in rural areas, ownership came to only 38 percent.

Elsewhere in South Asia, one finds a similar picture. In 1975, a very limited survey done in accessible regions of rural Pakistan, showed that no more than 11 percent of households had radios. By 1982, the situation had been significantly transformed. Although a different sample of rural people was interviewed, it was clear that there had been substantial growth in ownership – more than half of those contacted had a radio

At the present time, there are still many areas of the world where broadcast research is not possible. Afghanistan is a good example. The strategy used by BBC to assess Afghan radio-listening habits was to conduct a study of Afghan refugee camps in Pakistan, since the approximately three million refugees living there had come mainly from rural Afghanistan. In the survey, 75 percent had had radios.

We have less data for Latin America, but what exists shows a somewhat earlier expansion of radio into the homes of rural residents Radio ownership seems now to have reached nearly saturation levels.

A Downturn Ahead?

Although the statistics seem to indicate that the trend is toward having a radio in every household throughout the world, this is not actually the case. There are signs that the growth documented in the above figures appears to have peaked. In fact, there is evidence of a decline in radio ownership in some developing countries. With the onset of worldwide recession in the late 1970s, which is still greatly affecting the poorest regions of developing countries, the purchase of radios or batteries is not foremost in the minds of people struggling with daily survival.

A lack of batteries and the need for foreign exchange for more essential commodities are major problems in many developing countries with severe balance of payments difficulties. In Tanzania, where there are two factories that could produce enough batteries to meet the local demand, most are now being exported for foreign exchange purposes. As a result,

(*Continued on page 3*)

(**Mytton** *continued from page 2*)

batteries currently cost as much as US$2 each – more than 10 percent of an urban Tanzanian worker's weekly wage, and an even higher proportion of a rural dweller's income.

The dual problems of battery supplies and the shortage of radio repair services have become major obstacles to further expansion of radio ownership in developing countries. The cost of batteries has stimulated the increased use of plug-in radios, but most developing countries have only limited electricity supplies outside urban areas. And, after all, the main attraction of the battery-powered transistor radio has been its portability. As a result, attention has turned to developing an inexpensive, maintenance-free, solar-powered radio that will require no other electrical supply source.

Until these supply and distribution problems are solved, the question remains: Will a Zambian farmer ploughing his field while a transistor radio swings from the harness of his bullock become an image of the past? ■

Graham Mytton is Head of International Broadcasting and Audience Research for the British Broadcasting Corporation. He was previously a producer in the African Service of the BBC, and a Zambian Broadcasting Services Research Fellow at the University of Zambia.

A demonstration of how a brain scan of a patient is telecommunicated via INTELSAT's satellite to a remote diagnosis center.

(**Bouck** *continued from page 1*)

In order to further professional and vocational education, lectures on water management and engineering sponsored by the Higher Education for Development Organization (HEDCO) are being transmitted on a bimonthly basis from University College, Dublin, Ireland to the University of Amman in Jordan Approximately three hundred participants, both students and professionals in the field, attend these lectures.

Because providing medical information over great distances is difficult, developed and, to a lesser extent, developing countries are turning to satellite technology. The Miami Children's Hospital is sponsoring a large and very successful project to bring the latest techniques and information on pediatrics to doctors in South and Central America. (See article in this issue.)

In another health project, brain scans are sent via telephone lines from Nairobi, Kenya to St. Johns, Newfoundland, Canada, where diagnoses are performed. This same facility maintains a link with the Makarere Medical Center in Kampala, Uganda to support their small staff of doctors and trained personnel, helping them to serve a much larger population than otherwise would be possible.

More Ideas for SHARE

Other projects also are in various stages of preparation or operation. Some innovative proposals that have been submitted include: using small, transportable microterminals to assist in coordinating famine relief; creating interactive access to international databanks for nutrition education in South Pacific island nations or for children's television programming; and relaying training programs to bring computer literacy to developing nations.

Each SHARE project carries with it a different challenge and has attracted an impressive diversity of individuals and organizations By taking the initiative, these participants have gained insight into the problems and the promises of telecommunication for their countries. SHARE's ultimate goal, of course, is to stimulate developing countries into future activities on their own, building on the skills acquired while bringing expanded services to rural populations

For further information about Project SHARE contact: Gail Bouck, INTELSAT, 3400 International Drive, NW, Washington, DC 20008-3089 Telex 89-2707, Telephone (202) 944-7825

Gail Bouck is Assistant Development Affairs Officer in the Office of Policy Analysis and Development Affairs at INTELSAT where she manages Project SHARE ■

World Resources 1986

The World Resources Institute has just published an excellent reference book on worldwide environmental and resource trends – the first of its kind. In *World Resources 1986* you will find a wealth of global, regional, and national resource trends, with dozens of charts, maps, figures, and data tables for 146 countries. Six emerging issues that seriously affect the human condition and demand urgent remedial action are highlighted, including: multiple pollutants and widespread forest decline in Europe and North America; the environment and human health; tropical deforestation; the atmosphere as a shared resource; soil degradation; and population growth and resource use, especially in Africa.

In the United States, copies can be ordered directly from the International Institute for Environmental Development, 1717 Massachusetts Ave., N.W. Suite 302, Washington, D.C. 20036, for US$?.?5 cloth, and US$16.95 paperback, with discounts on multiple orders. Prepayment or purchase orders, plus $2.50 for UPS postage and handling, is required on all orders. It also is available from IIED Publications, 3 Endsleigh Street, London, WC1H 0DC, Great Britain for cloth £22.95, paperback £11.95. Postage and handling additional.

Call for Papers

The International Communication Association is calling for papers and program proposals for its 37th Annual Conference to be held May 21-25, 1987, in Montreal, Canada Proposals should address one of the nine established divisions, four special interest groups, or the Conference theme of "Ecology of Communication." Proposal submission deadline is November 1, 1986.

For a description of the categories and submission guidelines, write to Robert L Cox, Executive Director, International Communication Association, P.O Box 9589, Austin, Texas 78776, USA. Telephone (512) 454-8299

Supporting Health in Swaziland

by Alfred B. Mndzebele

In order to successfully disseminate health messages to general audiences in a developing country, careful planning and implementation is required. It is important to consider all the components that contribute to bringing about successful change in a systematic manner, including research and evaluation, media, resources, and training.

During 1984-1985, the Ministry of Health in Swaziland applied mass media communication techniques to promote the use of oral rehydration therapy (ORT) to overcome infant dehydration from diarrhea. Building on this successful dissemination activity, another communication campaign was designed for Swaziland's Expanded Program on Immunization acceleration campaign. Radio, print, and interpersonal channels we used to disseminate the ORT messages.

In developing countries, use of these media are often accompanied by inherent drawbacks Radio messages associated with a project may not be very effective unless they are preceded by adequate preprogram research or built-in feedback measures to assure that the messages are relevant. Print messages are susceptible to misinterpretation because audiences may not have regular exposure either to the written word or to graphic materials. Training programs within an extension system may begin dynamically, but then lose their effectiveness over time without constant updating of training materials and techniques. In light of these constraints, a communication system that endeavors to orchestrate these trouble-prone media into a coordinated program must be based upon a strategy that is developed from a comprehensive, preprogram planning process

Development Research Phase

Planning the communication component of the Expanded Program on Immunization acceleration campaign in Swaziland began with a development research phase – the first essential step in any development communication project We conducted field investigations and reviewed data to determine current patterns of rural mothers' behavior, attitudes, and practices regarding immunization A knowledge, attitude, and practices study was also done in order to systematically plan an in-service training strategy for clinic nurses as well as to gather information for the design of a general health education campaign on immunizable diseases.

In our development research, we were looking for evidence of existing appropriate behaviors to build upon that would lead to increased knowledge and use of immunization, and to uncover areas of audience unfamiliarity that our campaign would need to focus upon. For example, our field research revealed that Swaziland mothers want their children, particularly those under one year of age, to be protected against traditional diseases through the application of traditional medicines Building on this, messages were designed that were based on the traditionally practiced behavior of protecting children against diseases The focus of the messages was not that the diseases were "modern" as opposed to "traditional," but that immunization should be practiced on their young children as is other protective behavior

In addition to designing messages based upon our research, we were able to implement three other components of our planned development communication project

1 Media Use By determining current media use behavior, attitudes, and knowledge of the target audience, we could devise health messages that addressed the desired changes
2 Resources By ensuring that an ample supply of vaccines and refrigerators would be available to implement the immunization campaign, we were able to reach the campaign goal
3 Training: By designing and holding a training program we could be assured that all health personnel coming in contact with the target audience knew their teaching responsibilities

The Power of Communication

With the experience gained in the use of systematic development communication, we have learned some important lessons including.

- *Systematic development communication commands a special authority* Research confirms that greater impact is possible when interpersonal communication is combined with radio or TV messages, newspaper items, or poster illustrations
- *Systematic development communication assures better control of the message* Since message conception and design are of primary importance, the most desirable means of communication is the one that guarantees the message will be delivered consistently and correctly
- *Systematic development communication lends a cumulative impact to a message* Messages that are consistently reinforced through different media produce a greater overall impact and have a stronger psychological advantage over a campaign that does not consistently repeat its message
- *Systematic development communication reaches audiences more quickly* Multiple media applications can disseminate the message further than a single medium in a comparable amount of time A single medium may take months to saturate an audience, whereas repeated use of mass media exposes a larger audience o a stronger dose of the same information in a shorter period of time
- *Systematic development communication influences other major audiences while directing the message to its target audience* For example, although directed to mothers, a nutrition message will be seen and heard by farmers who learn of the special emphasis on selected foods, or by government officials whose support for new policies is always necessary

Without a thoroughly designed communications strategy, otherwise well-planned development projects will be doomed to failure It is not an exaggeration to say that a development project is only as successful as the communication system that supports it ■

Alfred Mndzebele is a Health Education Officer with the Swaziland Ministry of Health

Briefly Noted

by Robert Vittel and William Amt

- IBM has recently released *The Guide to Software in Developing Countries*, a compilation describing personal computer software programs covering the areas of agriculture, ecomomic and social resources, physical infrastructure and administration Programs described cover a wide range of developing-country applications, among them farm planning, aquaculture management, timber yield forecasting, census processing, population growth monitoring, water supply requirements, foreign debt, loan, and payment monitoring, and many others. The guide also includes descriptions of related software literature, supporting software, national language supplements, (IBM) hardware, a glossary of terms, and a list of software sources Most materials included in this guide are free of charge. The *Guide* is available at no charge from Communications and External Programs Manager, IBM Area South, 190 Avenue Charles de Gaulle, 92523 Neuilly sur Seine, France.
- The Pacific Telecommunications Council (PTC) has published the proceedings of their eighth annual conference on *Evolution of the Digital Pacific,* held in Honolulu, Hawaii on January 12-15, 1986 Over 60 of the conference papers appear in this volume They address issues such as Pacific facilities' developments and requirements, policy, planning, and facilities, business strategies, network applications, socio-economic impacts, educational programs, and others The 384-page volume is available for US$45 from the University of Hawaii Press, 2840 Kolowalu Street, Honolulu, Hawaii 96822, USA.
- We have recently received three periodicals that will be of particular interest to our readers looking for literature on educational technology and communications, and informatics. *AGORA Informatics in a Changing World*, a quarterly journal published by the Intergovernmental Bureau for Informatics (IBI), examines developments in informatics

(*Continued on page 13*)

Training Broadcasters: The Amoz Gibson Training Centre

by Randie S. Gottlieb

In a lush tropical setting fifteen minutes' drive from Arecibo, Puerto Rico, a vital new educational facility has come into being Situated on a five-acre hillside farm, the Amoz Gibson Training Centre was established in 1982 and is operated by CIRBAL, an international Baha'i field agency for development media. The center provides practical, "hands-on" training in appropriate media and technology for the spiritual, social, and economic development of people the world over.

Within easy reach of all the Americas, the training center shares space with CIRBAL's Broadcast Division, which oversees the planning and construction of Baha'i radio stations throughout the world. These highly successful radio operations have been featured in professional journals because of their unique emphasis on local participation and management, and their innovative educational and cultural programming. Radio stations currently exist in Ecuador, Peru, Bolivia, Panama, and the United States, with others under construction in additional Latin American countries and in Africa. They are staffed by members of the local community, many of whom received their training at the Amoz Gibson Centre. Several articles about Baha'i radio stations have appeared in earlier *Development Communication Reports* (See Nos 40, 42 and 44.)

Baha'i radio stations are bases for education and community service. In the Andes, these stations have become the most popular in the region. When the station at Lake Titicaca, Peru stopped broadcasting for a week while awaiting parts for its transmitter, *campesinos* went to the city to demonstrate, thinking the Government had taken the station off the air In Bolivia, thousands of villagers walked for days to attend festivities associated with the anniversary of Radio Baha'i.

Course Offerings

Originally established to prepare volunteer workers for these stations, the center began with a three-week, 140-hour radio broadcasting course. The course, now offered annually, is organized around an intensive, six-day per week schedule covering the fundamentals of educational and cultural broadcasting, programming and production, legal and technical topics, and managment. In the classroom, a wide range of instructional methods are employed, from traditional lectures to role playing, mock interviews, audiovisual presentations, panel discussions, independent projects, workshops, and self-administered exams. Throughout the course, students are immersed in a multicultural environment designed to foster a spirit of cooperation and service, in addition to providing instruction in specific knowledge and skills

An Expanding Curriculum

In response to rapidly expanding media opportunities and the corresponding need for skilled volunteers, the curriculum has evolved to become an integrated program in Development Communication with six to eight training sessions held each year. The program is intensive and practical, designed to prepare students for all communication-related aspects of project management, including technical maintenance and the training of others The curriculum is divided into five broad areas. hardware, software, human development, international service, and participatory media theory and practice – all presented from a Baha'i perspective Academic offerings range from weekend workshops to month-long courses in communication management, broadcast engineering, graphic arts, radio programming and production, photography, scriptwriting and announcing, silkscreening, journalism, and exhibit design

Special Training

Courses have also been designed to meet the needs of special groups, like that given for the future staff of the Baha'i radio station recently constructed in rural Panama. Instructors for this course were challenged to develop new teaching methods appropriate for the Guaymi Indian participants, who had little formal schooling and no experience with even the most basic audio production equipment In one session, students learned to produce "oral scripts," in which pictographs are organized into an outline that then serves as a guide for a radio interview or presentation In the evenings, the Guaymis alternated between studying and sharing beautiful examples of their folktales, traditional music, and dance. During the final course evaluation, they commented that the two-week session had taught them "what radio *really* is and what it can be – for education, for our culture, for teaching humanity ."

Occasionally, the center sponsors off-campus activities such as a 14-country media training trip through the Caribbean in 1984, and an international "Scriptwriting, Programming, and Production Workshop" conducted for staff members and managers from three Baha'i radio stations in South America, that was held in Puno, Peru, during that same year.

As one of the very few institutions that offers training for media trainers as well as for local participants in a media project, the Amoz Gibson Centre has brought in students from over 25 developing nations, including members of national Baha'i administrative bodies, nonliterate villagers, university professors, young people investigating career possibilities, and North Americans who train to serve abroad as volunteer workers and as consultants to the local project staff. Classes are conducted in both English and Spanish – many times on a fully bilingual basis. The center is currently consulting with several universities about the possibility of offering joint degree programs, a step that will allow eligible students to receive college credit for courses taken at the Arecibo campus

The center has attracted a highly qualified faculty with extensive media and international

(*Continued on page 6*)

Amoz Gibson Centre students preparing to shoot their first rolls of film at a photography workshop

(**Gottlieb** *continued from page 5*)

experience including: the executive producer of a national radio education project in Kenya; a doctor of education specializing in cross-cultural communication and media; the manager of a rural black community-service radio station; and a well-known South American TV and film producer who now heads National Radio and Television in Peru.

Staff and faculty are, for the most part, volunteers, contributing their expertise to a "bootstrap" operation whose facilities have been built gradually, financed by proceeds from course tuitions. Much of the equipment and educational materials were acquired through donations.

With its emphasis on appropriate media and technology, the Amoz Gibson Centre also hosts an ongoing program of research and development. In conjunction with CIRBAL's Broadcast Division, faculty members have pioneered inventions ranging from solar-powered community radio to low-cost 12-volt power for lighting and small appliances in rural homes. The center makes extensive use of this alternate energy system to power everything from the ceiling fan in classrooms to the computer in the office.

For the Bahai's, development is largely dependent upon needs at the grassroots, from which it should receive its driving force, rather than by imposition of plans from above. The purpose of the Development Communication program at the Amoz Gibson Centre is to assist these grassroots efforts – promoting education in science and technology, training in the techniques and tools of communication, and promoting respect for the spiritual foundation of human progress. ■

For more information about the center, contact Dr. Randie Gottlieb, Administrator, Amoz Gibson Training Centre, HC 02, Box 14765, Arecibo, Puerto Rico 00612.

Randie Gottlieb is the administrator of the Amoz Gibson Training Centre. She received her doctorate in Media and Instructional Development from Boston University.

1986 Agricultural Catalog

Winrock International has recently distributed an expanded version of their *Agribookstore 1986 Catalog* It contains over 200 abstracts of agriculture-related publications available through the Agribookstore. For a catalog, write to Agribookstore, Winrock International, 1611 North Kent Street, Arlington, Virginia 22209, USA.

The Brazilian Society of Interdisciplinary Studies of Communication (INTERCOM) is holding its 1986 meeting from September 1-7, 1986 in Sao Paulo, Brazil. The focus of the meeting will be "Communication for Development."

A Media Use Survey in Malaysia

The following article is a good example of how information from a small-scale survey can be used at the local level to improve training courses for audiovisual aids users With relatively little effort, data can be gathered and assessed for the purpose of pinpointing strengths and weaknesses in local applications of media for effecting change

by Zaharah S. Keeney and Musa Abu Hassan

The link between effective communication practices, appropriate media use, and successful development efforts is well established worldwide In Malaysia, however, current development efforts are still highly dependent on oral communication Research shows that the level of material retention relayed orally is characteristically low, and mere awareness of new ideas and technology is not enough where changes in attitudes and practices are the ultimate goals. At the same time, it has been shown that when interpersonal communication is supported by the use of audiovisual aids (AVAs), it is a most effective means of persuading people to change.

In Malaysia, especially over the last twenty years, the availability of AVAs has increased greatly, but better understanding of their applications is still needed. In order to improve courses given in AVA use and in general communications at the Agricultural University of Malaysia, and to meet future needs of Malaysian organizations involved in agricultural development, the authors conducted a survey of relevant agricultural institutions. Among the 23 agencies surveyed were the Malaysian Agricultural Research and Development Institute, the Rubber Research Institute, the Department of Agriculture, the Veterinary Services Department, the Palm Oil Research Institute of Malaysia, and the Agriculture Bank.

Who Uses Which Aids?

The survey was limited to asking those responsible for an organization's communication division: 1) what communication media and software they owned and used; 2) how they used these aids; 3) who within their organization used them; and 4) where they were used. Twenty of twenty-three agencies responded.

Fewer than ten respondents indicated they provided the follwing AVA support services: 1) publication and production assistance, 2) equipment and software servicing, and 3) lending audiovisual equipment.

Allocation of funds for AVAs varied widely. Nine agencies reported yearly AVA budgets in excess of US$4,100. Three agencies reported having AVA budgets between US$3,400 to US$4,100 for 1984. Eight agencies indicated they had no funds specifically allocated for this purpose Generally, AVA money was used for new equipment, software purchases, and production of publications. However, funds for *training* staff in the use of AVA equipment were noticibly lacking.

The data indicate that the *availability* of audiovisual aids and software is not a problem. All agencies have slide and overhead projectors; a majority noted they have public address systems, cassette recorders, pamphlets, black and white, and color photography capability, 35mm cameras, television sets, 16mm film projectors, slides, models, posters, video cassettes, mobile units, and video cameras However, other questions revealed limited *usage* of some of these aids.

While a full 75 percent of the agencies reported using AVAs for extension and training courses, indicating that audiovisual aids are being used to support oral communication, a static use pattern is still apparent according to Table 1 below:

Table One
Media Most Often Used by Agencies

Media/AVA	Number of agencies
Slide projector	12
Overhead projector	11
Movies/films	6
Video	3
Pamphlet	2
P.A. system	2
Poster	1
Slide series	1

Although there is potential for greater AVA use with the wide range of audiovisual aids and software owned by agricultural development agencies in Malaysia, users indicate a need for better understanding of when and where AVAs have the most impact on development.

This study, although limited in scope, demonstrates how educators can use this type of data to develop future training sessions. It also brings to light other questions for future investigation; for instance, which media and audiovisuals are most effective and for what purposes? In what situations do AVAs contribute the most to learning and attitude change? How can Third World countries develop software more suitable to their particular needs? ■

Musa Abu Hassan and Zaharah S. Keeney are lecturers with the Department of Development Communication at the Agricultural University of Malaysia, Serdang, Selangor. Musa specializes in communication media, and Keeney in technical writing. Both conduct in-service training courses in these subject areas.

DEVELOPMENT COMMUNICATION REPORT

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Women, Communication, and Primary Health Care

by Elayne Clift

Women provide more health care than all the world's health services put together, according to United Nation's data

Women are often the innovators and opinion leaders responsible for successful diffusion of new health practices in developing countries.

Women's health and status are intricately related to the health of all persons, especially children.

The above points often can be lost or muted in development communication planning, implementation, and evaluation. Conversely, when they are integrated into the complex process of communications designed for primary health care in developing countries, outcomes can be vastly improved. Closer examination of each point sheds light on this perspective.

According to United Nation's findings, hospitals, clinics, and health programs are less vital to the world's health than are the actions of women, whose key role in the home enables the rest of the world's inhabitants to eat and drink, to live in a warm, clean environment, and to work outside the home for wages. When illness strikes a family, a mother's intervention is essential: it is the mother who must recognize and treat common diseases, or make the decision to seek outside help. Women have thus become the principal targets and beneficiaries of global programs to prevent disease and to promote health. This emphasis is especially evident in recent programs to promote child survival, using techniques such as oral rehydration therapy (ORT), immunization, growth monitoring, breastfeeding, and child spacing.

Discovering the Key

Women, therefore, play a key role in executing the primary health care approach and in diffusing new health innovations. In the social marketing model of diffusion, the user's perception, preference, and satisfaction are crucial factors in terms of health behavior. Cultural sensitivity and a sound knowledge of the audience are extremely important. For this reason, it is essential that opinion leaders come from the target group.

Dr. Maybelle Arole understood this when she created what is now recognized as a model primary health care program in the Indian state of Maharashtra. When the program began, trained Indian nurses were sent into villages to work, but these nurses were rejected by the local villagers because they were not indigenous to the community. Dr. Arole decided that villagers should choose a woman from among themselves – an opinion leader – to be trained as a primary health care worker for her own village. During weekly instructions, the selected women eagerly learned about family planning, maternal and child health, nutrition, and sanitation. They carried this new knowledge back to the other women in their own villages. Through these interpersonal channels, a new health innovation – a cadre of locally trained village workers delivering primary health care – has been built up to a current ratio of 1:1000 people. The program now extends to over 200 villages, accounting for a population of more than 350,000. This woman-to-woman, door-to-door transfer of information has led to 98 percent of the state's children being immunized, pregnant women receiving regular pre- and post-natal care, dramatic drops in infant mortality and morbidity, and elective sterilization, in most cases, after two children.

Carrying the Message

While health has traditionally been a somewhat reluctant partner of communication, it is increasingly recognized that much health care activity is a form of communication between health providers and health receivers, and not just the provision of drugs and acute care administered in clinical settings.

A growing appreciation for the role of communication in health delivery in developing countries has led to expanding health education activities referred to as the *public health communication approach*. This approach attempts, in a pre-defined period of time, to change a particular set of behaviors in a large audience which has a specific health problem.

"...credibility with rural women...was a key element in the success of this effort."

Here again, women have played a key role in delivering public health messages. In the Gambia, for instance, Executive Producer Ami Joof worked with the country's leading female radio announcer, Maimuna Bah, to produce a series of programs for Radio Gambia. In a program called "Hospital Request," Bah visited rural hospitals and conducted spot interviews with patients. Often, this was the only way for patients to communicate with their families who were many miles away. Bah also conducted another radio program, "For Women Only," during which she provided practical advice about subjects such as child care and personal hygiene, as well as the proper mixing of sugar, salt, and water for oral rehydration therapy. Maimuna Bah's credibility with rural women, and her understanding of their vocabulary and experience was a key element in the success of this effort.

Other women, working primarily within non-profit educational organizations, have been instrumental in assisting host government counterparts to design and implement appropriate public health communication campaigns. In many countries, illiterate women are successfully producing radio programs and instructional videotapes to be shared with other women. Still other women serve a critical function in the evaluation of messages designed for health; it is often their insight through focus groups, surveys, and questionnaires that helps planners to understand why a project is not working.

Women's Health Status

Women are receiving increased recognition for their contributions in the technical fields of health and for their role as caregivers. What is less well recognized is the relationship of women's personal health status and societies' role in the World Health Organization's goal of "Health For All by the Year 2000." The commitment to saving children's lives is encouraging, and the techniques used to meet the goal are impressive. But has enough thought been given to women's role and status in improving children's health?

Viewing women as extension workers within the health delivery system can be risky unless special efforts are made to understand the reality of women's lives within a developing country context. Women cannot effectively work toward child survival if they are too overworked, malnourished, and sick to deliver and raise healthy children. A woman's own health, especially her nutritional status, is a key determinant in her child's survival. Even with the strongest will in the world, women may lack time, energy, or understanding to do their part in providing primary health care for their children. It is not always easy to prepare special foods in addition to regular meals, or to leave the field to take a child to a health center for immunization or weighing.

Women's skills, creativity, and leadership ability are unquestionably needed in development communications aimed at health interventions. Therefore, it is in the interest of all that women's personal health status be improved and maintained along with that of their children's. The continued success of communication programming to ensure health for all can best be accomplished when women are recognized as active participants and change agents, as well as beneficiaries. ■

The author wishes to acknowledge the contribution of Bernadette Orr of the National Council for International Health, to this article.

Elayne Clift is Associate Director of HEALTHCOM, an international health communication project, at the Academy for Educational Development, Washington, D.C. This article is adapted from her paper, "Diffusion and Development. Women, Media and Primary Health Care in the Third World" (in press)

A Communicator's Checklist

Methods of Communication Planning, John Middleton and Dan Wedemeyer, editors (Paris: Unesco, 1985) 487pp.

Methods of Communication Planning is Unesco's third monograph on communication planning. This edition was prepared by the East-West Communication Institute, Honolulu, Hawaii.

The need for efficient use of resources and the importance of systematically planning ahead are irrefutable. The question is, what planning methods are appropriate for the design and management of communication projects in developing countries? This book suggests using the method of systems analysis and its derivatives such as: resource assessment, trend extrapolation, the Delphi technique, scenarios, simulation and gaming, cross-impact analysis, input-output analysis, zero-based budgeting, and goal achievement matrices.

The book begins well with two chapters by Middleton presenting definitions and a sensitive conceptual framework. These introductory chapters rightly stress that the nature and methods of communication planning in developing countries should reflect the nature of their social, economic, and political conditions. Would that the methods prescribed in the subsequent 21 chapters provide supporting evidence on the appropriateness of this methodological technology. Actual experiences with its use, given the constraints on the availability of technologically skilled human resources and information data bases, are lacking.

The question is asked. What basic requirements must be met by users of systems analysis techniques in communication agencies? First, systems analysis requires large amounts of reliable, quantitative data, and hence good data collection and data analysis mechanisms. Many developing countries do not have accurate birth and mortality statistics. Wedemeyer's successful use of trend extrapolation to estimate probability of occurrence of electronic shopping in the U.S., Satia's use of *estimate* rather then real data, and the large number of illustrative *imaginary hypothetical* cases used in this book speaks loudly of the lack of experience with these methods in developing country communication planning.

The book recognizes the limitations of systems analysis approaches that are preoccupied with efficiency criteria, but it does not deal with it other than to say, "In the Third World, the absolute need for efficient use of resources can lead to unequal access to communication resources in society, and the use of communication for domination and exploitation." Systems analysis methods demand quantification; if a dimension of the problem is not quantifiable, it is not counted. Thus, reliance on systems analysis alone can lead to quantitative conceptualizations of communication, even though communication and its financing are essentially social, political, and economic in quality.

Therefore, it is with relief that I turned to the chapters on the more inclusive data collection methods and planning tools such as brainstorming, planner's workshops, suggestions for interorganizational coordination, and the case study and sample surveys presented by those who had used them in developing-country settings.

Written in technical terms, for the most part, *Methods* illustrates the transfer of systems analysis techniques to the civilian communication sector in developing countries. Systems analysis originated in the unique political environment of developed-country defense and aerospace establishments with methods drawn from engineering, math, statistics, and economics. The approach has been applied to public policy and planning in the U.S., and has been found wanting. *Methods of Communication Planning* presents a prescription for developing country communications without significant in-country trials. Middleton's introductory framework deserved to be followed up by readable documentation of planning attempts made by communication practitioners operating within developing country constraints as illustrated by some of the contributors, particularly Beal, Domingo, Herms, and Dissanayake. ■

Available in the U.S. for $37.25 plus 5 percent for postage, from Bernan/Unipub, 10033 F, Martin Luther King Highway, Lanham, Maryland 20706, USA, or from Unesco booksellers worldwide.

Reviewed by Bella Mody, currently teaching Telecommunications at Michigan State University. She participated in the Indian Satellite Instructional Television Experiment (SITE), and has worked in Nepal, Thailand, Malaysia, and other developing countries, specializing in the design and evaluation of media systems

Media Education, by Zaghloul Morsy, editor (Paris: Unesco, 1984) 406 pp.

Bringing together the work of 25 writers representing 16 countries, the editor of *Media Education* has assembled a group of articles that focus on a major problem in education today, as succinctly stated in the preface:

> all over the world, there coexist two sources of information and knowledge for school-age children. There is the traditional school, that of writing and books ... facing it, around about and all pervading, is the "parallel school" of the media, whose techniques, operation, modes of presentation, and even content are completely different from those of the school and which subject the intelligence, the emotions, and the moral character to a substantial influence that is not always in keeping with the aims pursued by education.

The first two sections of this book discuss some of the relationships between formal education and media from several points of view. It is pointed out that the traditional concept of mass media is no longer adequate, since the process of education must be considered as related to the use of videotape recorders and satellites. It is suggested that the roles of the two parallel schools should reflect three criteria: the need for communication, the individual's mental development, and the individual's preparation for work.

The third section considers some teaching and learning strategies that might be considered in integrating the parallel schools. Some of these are that:

- It is important to know more about mass media and the roles they can play in the education process.
- Audiovisual materials can help learners absorb and integrate new information.
- Computers offer new possibilities in information storage and retrieval for education.
- Information from mass media must be integrated with school curricula.

Sections four and five address communication activities and programs that have been successful in Europe, Asia, and the Americas. Examples are taken from Norway, Switzerland, Finland, Australia, Brazil, Cuba, Japan, France, and the United States.

In section six, focusing on developing countries, India is used as an example where the media have tended to channel information and entertainment to urban and wealthy rural residents. India's high hopes that mass media would play an important role in aiding development have not yet been fulfilled.

Two questions are raised in a discussion of mass media and the transmission of values. What is the power of media in transmitting foreign values to school-age children, and do these values conflict with those that are fostered in the formal educational system? The author notes the importance of introducing media education into the schools in order to reduce the disparity between the two value systems.

In the final section, the differences between education and mass media are discussed. The writer concludes with the point that new technologies, the availability of additional broadcast channels, interactive systems, reduced costs, and other factors will enter into the picture in the next decade, but that changes will come through the educational system, not through technological developments.

It is not possible to fully summarize the variety of facts and opinions presented in *Media Education*. Many important ideas are expressed that are worth careful study by those

who are concerned about education.

One point this reviewer would make in summary, is that a major barrier to the effective use of instructional technology has been the traditional classroom system. Education, to be truly effective, must develop new structures that make optimal use of facilities, personnel, and all appropriate forms of media. ■

Available in the U.S. for $22.50 plus 5 percent for postage, from Bernan/Unipub, 10033 F, Martin Luther King Highway, Lanham, Maryland 20706, USA, or from Unesco booksellers worldwide.

Dennis W. Pett is Chairperson of the Instructional Systems Technology Program at Indiana University He was the Chief-of-Party for a USAID/University of Indiana Communications Media Project in Nigeria.

3 Women and Media: Analysis, Alternatives and Action, K. Bhasin and B. Agarwal, editors, (New Delhi: Kali for Women, 1984) 132 pp.

Women and Media is a collection of articles which alerts development and mass media communicators that women of the Pacific and Asia regions are going to start to "fight back" and create their own media. The articles have been compiled by Isis International, an international women's information and communication service, and the Pacific and Asian Women's Forum, a network concerned with women's issues.

In Part One, several highly critical yet insightful articles assess the societal effects of development communication's and mass media's portrayal of women. In "Women, Development and Media," Kamla Bhasin, one of the editors, sets the tone for the journal She says that development communication and mass media "reinforce the conservative view of women and ignore their economic participation and contribution..." She believes that women have been neglected because "their concerns and interests remain unarticulated" Her conclusion calls on women to create media alternatives "to inform and empower women, to get women o it of their isolation."

In the second section, "Action/Alternatives," the reader learns that women are no longer "passive consumers of sexist media," but "active agents in media creation." The 13 articles in this section represent a wide array of actions and alternatives, including launching a campaign of protest against sexist, negative, and distorted portrayals of women; involving rural women in video production to make a development program more relevant to their situation; publishing a women's journal totally supported by individual donations and non-sexist advertising; and organizing "jalsas" – a special kind of public gathering at which women from all walks of life communicate their concerns and raise the consciousness of others through entertainment, speeches, and resolutions. The editors selected articles that show how women are involving other women through participatory and non-hierarchical interaction.

Over half of the articles are from India or written by Indians. As the editors explain, this reflects easier access to, and familiarity with, the people and literature of India and is "evidence there of media analyses, action for change, and alternatives" However, the remaining articles from Sri Lanka, Malaysia, Australia, Pakistan, Bangladesh, and Thailand, indicate there is much happening in other Asian-Pacific countries as well

Unfortunately, none of the articles focus on the status of, or employment opportunities for, women in mass media and development communication This omission leaves the reader wondering what progress, if any, has been made by women in these potentially influential areas

As a whole, this book begins to fill the gap in media literature of the region, on the relationships between women, media, and development. There is a weakness, however, in several of the articles, particularly in the "Action/Alternatives" section, in linking examples from these three areas.

These are minor drawbacks, however, since *Women and Media* is successful in revealing how women are taking creative steps to change how they are viewed and presented by development and mass media communicators This book gives them a good opportunity to share their strategies with women in other countries Also included is a useful list of key women-oriented media resources and networks and a selected bibliography on women and media issues and programs. d media issues and programs

At a time when technological advances are expanding the outreach and impact of development communication and mass media worldwide, *Women and Media.* is important reading for those who are concerned with women's role in social and economic development ■

Available in English and Spanish from Isis International, via Santa Maria dell 'Anima, 30, 00186 Rome, Italy for US$6.00.

Reviewed by Deborah Ziska, Director of Press and Media Communication for OEF International, a nonprofit development organization focusing on women in developing countries

New Ph.D. Program at University of Hawaii

September 1986 marks the commencement of a new Ph D. program in Communication and Information Sciences at the University of Hawaii at Manoa This new interdisciplinary program will focus on the training of telecommunication researchers and policy analysts to serve the rapidly emerging government, business, and academic needs in these areas

For further information contact Dr. Miles Jackson, Chairman *pro tem*, Doctoral Program in Communication and Inform tion Sciences, Graduate School of Library Studies University of Hawaii at Manoa, Honolulu, Hawa i 96822, USA.

(**Noted** *continued from page 4*)

related to national strategies and policies, projects and applications, education, technology, law, and impact on society This is a colorful, well-illustrated publication printed in English, Spanish,and French. For subscription information write to IBI, 23, viale Civiltá del Lavoro, 00144, Rome, Italy *Tecnologia Educacional*, a bimonthly journal of the *Associação Brasileira de Tecnologia Educacional (ABT)*, (Brazilian Association of Educational Technology), covers recent developments and applications in educational technologies mainly in Brazil It is available in Portuguese only from ABT, Rua Jornalista Orlando Dantes, 56 Botafogo, 22231 Rio de Janeiro, RJ, CEP 22231, Brazil. *Tecnología y Comunicación Educativas*, a new quarterly publication of the *Instituto Latinoamericano de la Comunicación Educativa (ILCE)*, (Latin American Institute of Educational Communication), reports on educational advancements in technology and communication in the 13 Latin American member countries of the *ILCE* Progress in education, educational technologies, professional training, *ILCE* research, proceedings of *ILCE* meetings, and new publications are covered in each issue This publication is available in Spanish only from. *ILCE*, Juan Luis Vives, 200-1 Col. Chapultepec Morales, C P 11570, México, D.F., México

● In the past, agricultural advancements may have raised overall farm production levels in developing countries, but the improved living standards that were promised to small farmers seldom materialized *Five Essays on Science and Farmers in the Developing World*, edited by Steven Breth, is a collection of scholarly papers that examines how science and technology can be tailored to address farmers' needs in a way they can understand and afford The essays raise such points as the need for new technologies to be integrated into existing socio-economic systems rather than into the pedogogy of natural science, that development planners need to prepare logical and systematic plans, that the diminishing returns of some agricultural research may not warrant continued funding, and that scientists and decision-makers should recognize that farmers know their own environment well, and can contribute valuable information that will improve the effectiveness of new technologies Available in English from Winrock International Institute for Agricultural Development, Route 3, Morrilton, AR 72110, USA ■

Communication Tech Conference

Between August 25th and 30th, 1986, the International Association for Mass Communication Research will be holding its Fifteenth Conference and General Assembly in New Delhi, India The session's theme is *"Communication Technology, Development, and the Third World"* In a coming issue of *DCR*, we will report on the proceedings of the Conference as information becomes available

Influencia de la Comunicación en el Campo

DCR has frequently received requests for foreign-language translations of its articles. Although we cannot translate the entire newsletter, we will, as we have below, carry Spanish or French language articles from time to time, to more widely disseminate information onthe impact and fuses of communication technologies in developing countries.

by Mario Villarroel Terán

En apariencia, no obstante las medidas de orden social y económico resultante de una reforma agraria, el altiplano boliviano no ha cambiado. Y así parece, porque los cambios que allí se producen no resaltan a la visión simple de aquellas personas que tan sólo atraviezan los caminos que surcan la inmensa altiplanicie.

Sin embargo, para el observador acucioso que, desviándose de los caminos principales, se adentra por los senderos que conducen a las aldeas, villorrios y pueblos donde habita el campesino aymara, verá que el panorama está realmente cambiando, que se está operando una transformación positiva, especialmente en los modos o formas de vida de ese campesino.

Observará, por ejemplo, que las llamas y asnos tradicionalmente utilizados como animales de carga, fueron sustituidos por bicicletas y camiones, vehículos en los que hombres y productos de la tierra son transportados con mayor rapidez.

A su vista se le ofrecerá una nueva faceta de la forma de vivir del campesino que, por fin, está dejando la triste, antihigiénica y rústica vivienda, para reemplazarla por otra de líneas modernas, un tanto más confortable y dotada de ventanas que, antes de ahora, eran consideradas como los puntos de entrada de las enfermedades y de entes o espíritus malignos.

Se sorprenderá de ver que el campesino aymara, ya no es el elemento huraño y estático, carente de ambiciones y ansias de progreso, sino que se ha convertido en una de las fuerzas más vigorosas con que cuenta Bolivia para su desarrollo

Una Escena que Cambia Paulatinamente

Y en ese incesante cambiar de las cosas que está ocurriendo en el ámbito rural del altiplano, no es raro observar que colgado del yugo al cual van uncidos los animales que tiran el ancestral arado de palo, va un radio-receptor, a través del cual llega hasta el campesino una serie de mensajes que, la mayoría, son emitidos en su idioma nativo.

La temática de esos mensajes se refiere a la agricultura, ganadería, salubridad, mejoramiento del hogar, alfabetización y extensión agrícola, aunque ello en menor proporción en relación al contenido publicitario en pro de artículos de diferente índole

Este nuevo aspecto en la vida del campesino aymara, se debe en cierto sentido, al advenimiento del "transistor," ese maravilloso invento japonés que hizo posible que el radio, antes de difícil acceso al campo por las limitaciones emergentes de la falta de electrificación rural, llegue hasta los más recónditos lugares del altiplano, venciendo las barreras del analfabetismo y las distancias, cumpliendo su finalidad de informar, entretener y promover la acción de la gran masa de oyentes campesinos.

La Radio, Instrumento de Educatión

Entre los campesinos, el que menos o el que más dinero dispone, poseen radios y aún los menos favorecidos por la fortuna, recurren hasta aquellos hogares donde el punto de atracción e interés es el receptor de radio transistorizado. Alrededor de ese aparato se reunen grupos, unas veces de amable conversación y otras, de interesante cambio de opinión respecto a los mensajes que les entregan los "comunicadores de la radio" .

Instituciones educativas, servicios de promoción social y económica, organismos religiosos y otras entidades, estatales y privadas, han volcado su interés al uso de la radio, para nacer de ella uno de los instrumentos más importantes y eficientes en la educación de los grandes conglomerados campesinos que, en Bolivia, constituyen la mayoría de la población.

Escuelas que Surcan el Espacio

En Bolivia funcionan varios sistemas de escuelas radiofónicas que poseen modernos y poderosos transmisores que cubren grandes áreas del territorio nacional. Numerosos centros de alfabetización funcionan a lo largo y ancho de la extensa meseta andina, atendidos por un guía o "monitor" a quién bien podríamos llamarlo "líder" de la comunicación educativa por radio.

Los programas de alfabetización por radio, están demostrando el alcance y eficacia de este instrumento de comunicación que no solamente está siendo utilizado en esos fines, sino que sus contenidos programáticos incluyen diferentes temas, entre ellos preponderantemente la agricultura y ganadería.

Canales para Divulgación Agropecuaria

Si bien no dependientes directamente de organismos creados para atender los problemas del subdesarrollo agrícola, funcionan en Bolivia, programas que se encargan de divulgar e informar conocimientos tecnológicos sobre agropecuaria, cuyo objectivo fundamentalmente es orientar y motivar al campesino hacia la adopción de técnicas para un mejor uso de la tierra y de los recursos naturales que pródigamente nos ofrece.

Trabajando para y en esos programas, han empezado su actuación campesinos genuinos en calidad de "periodistas." No es raro encontrar algun de ellos realizando entrevistas mediante la utilización de una grabadora magnetofónica, para utilizar después ese material en programas radiales que tienen un diseño muy suigeneris y propio de ellos.

Los campesinos no sólo han incursionado en el campo del periodismo propiamente dicho, sino que otros se han situado en el papel de locutores, libretistas, guionistas y otras tareas propias de la utilización de la radio. Existen interesantes conjuntos de radioteatro que utilizan este género para difundir contenidos educativos. Lo interesante de la programación radial campesina e incluso suburbana, es que se utiliza exclusivamente el idioma nativo de aquellos para quienes va dedicado el esfuerzo educativo.

Al igual que la radio, otros canales de comunicación están actuando masivamente en la adopción de cambios Y los comunicadores, considérense profesionales o meros amantes del arte de la comunicación, vienen contribuyendo de manera importante a los propósitos de desarrollo socio-económico. Y en ese dramático, como apasionante proceso le toca al campesino el doble papel de gestor y actor, roles que los cumple con un sentido altamente positivo

Sin embargo, para que la acción educativa sea más eficiente, se requiere preparer a los comunicadores que hacen uso de la radio, capacitarlos para un mejor desempeño de su trabajo y el uso de la tecnología de comunicación.

En suma, que el maravilloso y eficaz instrumento de la comunicación, como es la radio, sea utilizado como verdadero medio de educación, mediante el cual se pueda promocionar y luego conseguir cambios favorables en los modos de vida de los campesinos aymaras que habitan la gélida altipampa boliviana.■

Mario Villarroel Terán, Director General de Comunicación Social y Técnica del Ministerio de Agricultura de Bolivia, tiene 20 años de experiencia en programas de extensión agrícola para beneficio de campesinos bolivianos.

(The following is an abstract of the preceding article.)

The Influence of Communication on the Countryside

The lives of Aymaran peasants of the altiplano region of Bolivia have been changed by the adoption of new health and farming practices. Radio has played a major role in bringing about this change. Radio broadcasts now reach into the most isolated areas of the altiplano, overcoming barriers of illiteracy and distance, informing, entertaining, and promoting social action among the peasant audience. Most Aymarans have access to a radio which often serves as a gathering point where they exchange ideas and opinions about the social messages they hear Therefore, radio has dramatically increased interchange among these people, and is seen as a solidifying force in their communities.

Educational institutions, social and economic service groups, religious organizations, and other public and private entities have begun using radio to educate and inform the Aymarans who make up the largest segment of the

(*Continued on page 16*)

On File at ERIC

by Barbara Minor

Documents recently entered in the ERIC (Educational Resources Information Center) files include a collection of papers delivered at a conference on nutrition education, instructions for easy-to-make aids for nutrition teaching and learning and a bibliography of materials on curriculum development in population education. ***All of these documents are available in microfiche, and two are also available in paper copy, from the ERIC Document Reproduction Service (EDRS), 3900 Wheeler Avenue, Alexandria, Virginia 22304, USA. Be sure to include the ED number and payment in U.S funds for the price listed plus shipping. Shipping costs may be calculated on the basis of three microfiche per ounce and 75 microfiche or pages of paper copy per pound.***

● Turner, Sheila, and Ingle, Richard, Eds. *New Developments in Nutrition Education. Nutrition Education Series, Issue 11.* 1985, 235 pp. (ED 261 981).

This monograph is an edited collection of some of the papers presented at the conference on "New Developments in Nutrition" held in London in 1983. One of the strengths of the conference was the diverse background of the participants, who represented more than 30 different countries. This diversity of interest and expertise is reflected in the papers, which examine a wide range of important issues in nutrition education. Discussions are included on the effectiveness of traditional nutrition education activities which have taken place outside the education sectors, and experiences are reviewed which included extensive experimentation with new and different approaches, attitudes, and behaviors. The following issues and problems are addressed: (a) the importance of nutrition education; (b) teaching approaches; (c) teaching resources; (d) the training and education of teachers and individuals; (e) use of mass media; (f) coordination of education agencies; (g) national and local level food and nutrition policies; and (h) evaluation of nutrition education. Descriptions of programs making use of videotapes and radio in Thailand, and mass media in Chile are included. Available from EDRS in microfiche only for 75 cents; paper copy available from the Division of Science, Technical, and Environmental Education, Unesco, 7 place de Fontenoy, 75700 Paris, France.

● Barclay, Ellen and Van der Vynckt, Susan, *Easy-to-Make Teaching Aids for Nutrition Teaching-Learning. Unesco Nutrition Education Series, Issue 10.* 1984, 132 pp. (ED 261 772)

This issue of the *Unesco Nutrition Education Series* presents a sampling of ideas for teaching aids created from experiences in developing countries and is representative of materials currently being compiled for the fourth volume of the Unesco resource pack for nutrition teaching-learning. The selection of easy-to-make teaching aids is designed for persons interested in trying out innovative ways to promote effective nutrition teaching and learning. Instructions for animating teaching and stimulating learners to explore the important problems and issues of nutrition and health are provided. Although learner levels, teaching expertise, educational and cultural environments, and resource availability will differ from area to area, the materials included can be adapted easily to meet local needs. The teaching aids described include flannel boards and flannel graphs, flipcharts, flashcards, posters, bulletin boards, chalkboards, cardboard boxes, educational games, puzzles, drama, demonstrations, tools, and common recipes for paint, clay, and other materials. An initial explanation of the role of teaching aids and suggestions for their preparation are also provided. Available from EDRS in microfiche for 75 cents or in paper copy for US$10.80.

● *Curriculum Development in Population Education. Abstract-Bibliography, Series 6* 1985, 112 pp (ED 260 960).

One of a series of annotated bibliographies (compiled by the United Nations Fund for Population Activities), dealing with issues and problems raised by educators involved with population education programs, this bibliography focuses on curriculum development in this area. Entries are presented in six major categories: (a) Strategies for Curriculum Development in Population Education in the Formal Education System; (b) Strategies for Curriculum Development in Population Education in the Non-Formal Education System, (c) Development of Curriculum Materials in Specific Subject Areas; (d) State-of-the-Art on Curriculum Development in Population Education; and (e) Evaluation and Research in Curriculum Development in Population Education. While Parts One and Two deal with the general processes of developing curriculum materials in the in-school and out-of-school sectors, Part Three details procedures for integrating population education concepts into more specific subject areas Thirteen of the 16 publications reviewed in this section focus on the subject areas of social studies, home economics, health education, environmental education, science, medical education, hygiene and physiology, biology, teacher education, and geography. The three abstracts for nontraditional education programs deal with various aspects of farm management and agricultural training courses. The publications listed document curriculum development experiences in Asia, Bangladesh, India, Malaysia, Nepal, the Pacific Islands, Pakistan, the Philippines, the Republic of Korea, and Thailand. Highlights of these reports include the conceptual framework and structure of population education, goals and objectives, population education content used in enriching selected subjects at specific grade levels, types of curriculum materials developed, teaching methodologies used, and evaluation tools used to determine the effectiveness of the curriculum materials and teacher training. Subject and geographic indexes are provided, as well as sources for the individual publications reviewed. Available from EDRS in microfiche only for 75 cents; paper copy available from the Unesco Regional Office for Education in Asia and the Pacific, P.O.Box 1425, General Post Office, Bangkok, Thailand 10500 ■

Barbara Minor is Publications Coordinator at the ERIC Clearinghouse on Information Resources, School of Education, Syracuse University, Syracuse, New York 13244-2340, USA

Short Training Courses Offered in Bangkok

The UNDP Asia and Pacific Programme for Development Training and Communication Planning (DTCP), a Bangkok-based service unit of the UNDP, provides short training courses in media-related subjects. Some of the courses available are: "Audiovisual Production Techniques for Rural Development," "Communication Campaign Planning," and "Training, Planning, Management, and Methods." Courses run from two to four weeks, with fees from US$1,867 to US$2,910 They are open to government staff who perform training and/or communication support functions in their agencies. Ability to work in English is essential

For registration information contact either your local UNDP Resident Representative's office or write to UNDP/DTCP, P O. Box 2-147, 19 Phra Atit Road, Bangkok 10200 Thailand. Cable: UNDEVCOM (Bangkok)

Call for Abstracts

The National Council for International Health (NCIH) is calling for abstracts for its 1987 annual conference to be held June 14-17, 1987 in Washington, D.C. This year's conference theme is *Influencing Health Behavior: Communication, Education, and Marketing.* Subject categories include descriptions and evaluations of communication, education, and marketing (CEM) programs; designing CEM strategies; ethics of behavior change through CEM; communication vs. education vs. marketing vs. other strategies; health behaviors most susceptible to CEM strategies; institutional issues and management; market research and evaluation; training and CEM; private vs. public sector role in CEM; and schools and CEM.

The submission deadline for abstracts is November 15, 1986. For an application write to: Director of Programs, NCIH, 1101 Connecticut Avenue, N.W., Suite 605, Washington, D.C. 20036-4390, USA. Telephone (202) 833-5900.

Satellite Technology – A Vehicle for Health Training

by Norman P. Fenton

Man has long been fascinated with speed and distance, and their relation to communication. The need to relay important messages has been a concern ever since man has felt the desire to explore beyond his immediate environment.

Today, thanks to the impressive advances in satellite technology, we are able to communicate faster and in ways that, not long ago, only science fiction novels predicted were possible In the field of health, particularly in the transfer of medical information, patient diagnoses, and continuing educational programs, it is now possible to connect facilities located in opposite corners of the world.

In January 1986, after nine months of development, Miami Children's Hospital, Miami, Florida, initiated a pilot continuing education demonstration program under the sponsorship of International Telecommunications Satellite Organizations' (INTELSAT) "Project SHARE," which has marked a new era in international medical education exchange. (See SHARE article elsewhere in this issue.) The program is composed of a series of continuing medical and health education teleconferences, each transmitting for 24 hours, over a four-day period, and is carried free of charge as part of INTELSAT's 20th Anniversary project.

Miami Children's Hospital is the first and only hospital in the United States designated as a sponsor for this worldwide project. Development of a worthwhile program called for sensitive and complex political and economic negotiating in each of the participating countries Because of its sophisticated domestic communication network, Colombia was selected as the pilot country to receive the first transmission. Following three months of program design, the Colombian government, via their signatory, Empresa Nacional de Telecommunicaciones (TELCOM) in Bogotá, filed their request to receive our programming.

After INTELSAT's approval of the pilot program, separate negotiations began with other countries as well, including: Venezuela, Costa Rica, Chile, Peru, and the Dominican Republic. Bolivia, Ecuador, and Honduras later joined to receive delayed programming.

Course Transmission Begins

At 8 a.m. on January 27th, 1986, Miami Children's Hospital began its live satellite broadcast of the 21st Annual Pediatric Postgraduate Course, directed by Donald H. Altman, M.D. Twenty-eight specialists lectured on 40 medical topics over the 24-hour, four-day educational course. The program's one-way video, two-way audio format made it possible for physicians at the remote sites to participate in question-and-answer sessions throughout the four-day period. All sessions were translated into Spanish at the remote sites.

A video equipment truck and two satellite antennas, comprising the portable up-link facility, were taken to the Miami hotel conference site where local health practitioners had assembled for the annual course. A selected team of doctors stood by throughout the four-day course to take questions that were telephoned in from the remote sites as the course proceeded. Similarly, at each remote site, antennas and portable down-link facilities were taken to the designated course facility Teams of doctors were in place at each site where they fielded and translated questions from their respective audiences and then telephoned them to the awaiting doctors in Miami Responses were again relayed by telephone once an appropriate specialist had been consulted in Miami. More than 3,500 pediatricians, physicians, and health professionals attended the live teleconference, with an additional 2,500 pediatricians attending the delayed program

Evaluation

A questionnaire was prepared and sent to all participants to evaluate the effectiveness of this teleconferenced course. Responses were received from six of the nine participating countries – 675 questionnaires were returned in all. The responses, as indicated below, were overwhelmingly positive to all of the questions, each of which could be rated from poor to excellent.

Was the subject matter adequate?	87%
Was the presentation clear and adquate?	85%
Did the program enhance you professionally?	82%
Was the transmission clear and acceptable?	85%
Were the visual aids clear?	93%
Did the program have practical applicability?	87%
Was the quality of translation acceptable?	87%
Was there correlation between sound and image?	86%
Did the presentation time seem adequate?	80%
Would you attend another teleconference?	88%

This enthusiastic evaluation response was very gratifying. The successful transmission of the course has set the groundwork for an ongoing series of programs designed to disseminate life-saving medical information at a distance throughout the world.

In addition, this valuable exchange of information was accomplished at a minimal cost to its participants. as it allowed physicians and health professionals throughout the hemisphere to attend the conference without leaving their respective countries. Most remained in their home cities, which means that the course expense amounted to less than five percent of the overall expense they would have had if attending a similiar conference in the United States.

22nd Annual Postgraduate Course

Dr. Altman's annual postgraduate course will again be carried by satellite in January 1987, and will incorporate some of the latest technological advances in audiovisual transmission It will feature two-way video, and two separate audio channels for simultaneous English and Spanish transmission. The bi-directional video will add an important dimension to the conference, as it will allow leading pediatric figures in these countries to contribute as well Participating countries where languages other than Spanish and English are spoken will be able to translate the audio portion of the program simultaneously at their country's down-link site, and broadcast the transmission locally. Arrangements are now underway for translations into French, Italian, and Portuguese

It is predicted that by the 1990s, satellite supported educational programs will be commonplace. With the increasing cost of attending conferences that are great distances from where health practitioners live and work, continuing education via satellite may, in the future, help to fill the gap that might otherwise be created by economic and time constraints. There are still complex issues that must be addressed before satellite conferencing can become an economical alternative for continuing education courses and other health delivery purposes, but this experiment has clearly demonstrated many of the advantages that accompany the use of this technology in the health sector. ■

Dr Norman P Fenton is the Director of Business Development and Telecommunications for Miami Children's Hospital He has participated in over sixty projects related to health care in the Americas during the past fifteen years

(**Villarroel Téran** *continued from page 14*)

Bolivian population Radio schools and literacy centers are operating across the altiplano, regularly broadcasting educational programs. Other programs contain information that encourages listeners to adopt new agricultural techniques.

The Aymaran peasants who have worked for and in these programs have developed radio production skills and are now producing their own material, sometimes even using tape recorders in the field to collect material to use in broadcasts that they gear to their particular needs Others have become involved in scriptwriting, program producing, and broadcasting as well. ■

Clearinghouse On Development Communication

dcr

In recent years, communicators have looked anew at the potential of print media to carry educational messages in dramatic and captivating ways. New research and new applications have shown us how effective well-planned, well-integrated, (and well-tested) print materials can be in informing both literate and nonliterate audiences. These include photonovels, comic books, illustrated booklets, rural newspapers, and posters. Developed on the spot for the local audience, using local talent, and addressing local conditions, these materials have an immediacy and an impact that hold great promise for development activities.

In this issue of DCR (and its accompanying calendar) we have shared with you some of the interesting work and projects that are using innovative print materials which have come to our attention. We hope that you, in turn, will share with us your own interesting print materials, and tell us how they are used in your programs or projects. I would like to thank Bonnie Cain for her suggestions and comments as we compiled this special issue.

Saying it [illegible] Comic B[illegible]oks [illegible]

by Bonnie Cain

Photonovel: A dramati[illegible] a[illegible]anied by cap[illegible] in a [illegible]rative sequence

Print medium that us[illegible]her te[illegible] illustrations or drawings, or [illegible] just ph[illegible]aphs, holds a unique place in [illegible]lopmen[illegible]munication. These materi[illegible]e often [illegible] in-hand memory aid a[illegible]le to the [illegible] developing countries. [illegible] is a mediu[illegible] can also present deta[illegible] information [illegible] some complexity to an [illegible]ence with lim[illegible] literacy skills. When pre[illegible]d in the very po[illegible]ular format of photon[illegible] or comic book[illegible] they can be fun and [illegible]ion-provoking as well. Although they re[illegible] special skills to produce, can be expensive, and have h[illegible]ly a brief history as couriers of education[illegible] sages, in some cases, photonovels and co[illegible] will be the most effective format in which [illegible] present persuasive messages that can indu[illegible] people to change their behavior or to take [illegible] desired action.

A photonovel or comic format contains a [illegible]equenced story told in both pictures and [illegible]rds, building emotional links to the story or [illegible]ation through attractive characters and dra[illegible] action. Photonovels, comic books, photo[illegible] and comic str[illegible]nd some graphic booklets are distinct f[illegible]other educational materials in that they [illegible] a story line and a set of characters goin[illegible]rough a sequence of activities.

[illegible]ecial Advant[illegible]

[illegible]ll illustrated [illegible] materials can be used to [illegible]e agenda [illegible]ublic action, provide a [illegible]lic remind[illegible]f how to do things, and m[illegible]nformati[illegible]mmediately available at tim[illegible] need; b[illegible]omics and photonovels have [illegible]ial adv[illegible]es that permit story writers to

- Exp[illegible]em[illegible]al subjects,
- Imp[illegible]ret[illegible]n of messages,
- Exp[illegible]au[illegible]d effect relationships,
- Int[illegible]e te[illegible]cal subjects in the midst [illegible]re tr[illegible]onal story

[illegible]ducation[illegible]otonovel or comic is a strong argument [illegible]st the charge that an en[illegible]tes a message. On the [illegible]nt is capitalized upon to dramatize information to improve lives, to highlight the need for behavior change, and to clearly and powerfully transmit information about a product or service that is part of a larger social improvement program. This is so because

- Audiences love a good story and will follow a plot through the driest of materials. If the audience is interested in the lives of appealing people they will learn along with them about any public health subject or educational theme.
- Audiences love to identify with dramatic characters – people who are somewhat

(*Continued on page 2*)

El Agricu[illegible] A Rural [illegible]uran [illegible]ewspaper

by Carleton Corral[illegible]

"Look for it, ask for it, read it, and save it"

Loudspeakers mounted on delivery vehicles announce the arrival of *El Agricultor* with the official theme song of this new newspaper that is directed toward the rural population of Honduras. For over a year now, weekly editions have been distributed to every major city in the country.

El Agricultor is thriving in an environment where print materials are virtually nonexistent. The paper is a unique exercise in private-sector sponsorship of public-sector educational efforts, and at this time it is close to breaking even based on direct sales figures.

Honduran educators know that only by making more print materials available to the rural population, will efforts in providing educational services and in adult literacy be worthwhile investments. Interesting, relevant reading material is essential if literacy skills are to be retained, improved, and used.

A Special Purpose

In 1984, a group of 26 leading Honduran businessmen and women organized a nonprofit organization called *AVANCE* to provide media-based educational services. Its first project was to publish and distribute a rural newspaper that would: 1) supply the rural literate population with helpful information; and 2) provide newly literate readers with an oppor-

(*Continued on page 2*)

In this issue . . .

(**Cain** *continued from page 1*)

glamorous but not too dissimilar. Convince the audience that the people and their actions are similar to theirs and they will become increasingly drawn to the characters and more thoughtfully consider the messages

Challenge: Sell Information

Commercial photonovels and comic books are a proven success People buy them and read them avidly Why are they so popular and why should an educational communicator use this format? Often it is necessary to package information so that people take the time to understand its importance. People must relate to it and believe that the prescribed actions could make their lives better

Sometimes the telling of a story with illustrations or pictures can take a great number of pages as opposed to the same message that could have been presented in a small educational pamphlet or set of posters that directly address the issue. So why use the story line format? Research shows that a majority of people think in "story" format, and that they remember these messages better than those delivered didactically. Three features of the story line format make it a particularly good candidate for educational campaigns 1) Stories contain analogies to real life, 2) they can carry themes within themes; and 3) they can be used to create identity. Analogies help the reader analyze the results of certain actions, to identify the cause and remember the effect The "two families" theme, widely used for delivering family planning messages, demonstrates the consequences of one family following the recommended activity and of the other family ignoring it.

Other peoples' lives, sexual intrigues, encounters with the supernatural – all are themes that appeal to a wide audience The educational message may seem irrelevant to these "interesting" stories, but subthemes can be effectively woven into the drama The theme-within-a-theme has been used effectively to present ideas that are both technical and emotional. For instance, use of contraceptives may be a difficult topic to discuss within a family in some cultures and a photonovel or comic book about contraception, read by both husband and wife, may help to spark a discussion between them

A well-developed story evokes a response from the audience because they see it as relevant to their lives. If readers believe the story line, they are more likely to take remedial action that ends, changes, or continues a behavior. And, audiences relating well to a message tend to remember it better

Pretesting Your Design

"Attractive" is a very subjective concept Your material must prove to be attractive, understandable, and educational to your intended audience through pretesting. What constitutes an attractive design is defined by the culture and the specific environment in which the graphic material is used. It must be attractive to the user, not necessarily to the communicator. If photonovels are popular with adults in a specific culture, adults will be attracted to that format in hopes of a similar entertaining experience This is where skilled illustrators and photographers serve as a vital link between author and reader

An "attractive" design does not ensure that a viewer will understand or remember the message, even if he or she is attracted to it Attraction, perception of a drawing, the meaning of a drawing, the educational value of a picture or sequence of pictures are audience-specific reactions Any graphic intended for educational efforts should be pretested to determine its impact on the audience and to identify where improvements should be made Commercial producers know when their comics and photonovels please an audience, they sell Educational communicators have a far more ambiguous task – to measure comprehension, retention, and adoption

Conclusion

Producing an attractive, motivating, well-paced photonovel or comic with strong, relevant characters who display realistic and identifiable behavior in stories that transmit technical information or educational messages is not an easy task Still to be answered are the questions of determining whether or not to charge for an educational publication and how to best distribute them (See articles elsewhere in this issue)

All difficulties aside, photonovels and comics are rising stars in development communication They are two of the few formats that can dramatize the dramatic and put emotion into discussion of emotional issues ■

Bonnie Cain is president of B J Cain and Associates, a media-based training company She has worked in development communication for ten years

(**Corrales** *continued from page 1*)

tunity to strengthen their recently acquired skill *AVANCE* has become a strong and effective institutional base for *El Agricultor*, protecting it from political pressures and providing prestige and stature that have made it a highly respected and credible medium throughout Honduras Funding was provided by the U S Agency for International Development with technical assistance from three affiliated organizations – the Simon Bolivar Foundation of New York, Media and Contents, Inc (MEDCON) of Miami, Florida, and *Acción Cultural Popular* of Bogota, Colombia

El Agricultor began publication in March 1985, and has built a weekly circulation of over 20,000 To date it has been printed as a full-sized, rather than a tabloid-sized newspaper, as are most Latin American papers. It is designed for easy and enjoyable reading – its typeface is large and writing style straightforward, and it abounds with photographs and illustrations, many of which are in color. As a weekly, it is distributed on Sunday to avoid competing directly with the national daily newspapers

The 16-page paper is divided into two parts. The first section contains articles on rural development programs and issues. And the se-

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(**Corrales** *continued from page 2*)

cond section is devoted to practical, instructive articles for rural families on topics such as health, sanitation, first aid, early childhood stimulation, breastfeeding, animal care, and cultivation of vegetables. The centerfold of each issue contains a large two-page color poster that can be removed and displayed on the wall. Posters usually contain maps or schematic drawings of scientific phonomena such as the structure of the eye or the elements of a seed.

Interesting Innovations

AVANCE intends that *El Agricultor* be self-sufficient within three years. It is sold throughout Honduras at the same price as the national urban daily newspapers. In addition to being sold to the general public, thousands of copies are purchased by *PLANALFA*, the national literacy program, which distributes it free-of-charge to literacy classes.

El Agricultor continues to explore new distribution channels to reach a larger rural audience. Distribution to rural communities is costly and large parts of Honduras have yet to be reached. One innovation being tried is promoting the newspaper through the radio. *El Agricultor* has developed a jingle – an advertising theme song that is played on the radio announcing the Sunday distribution. In addition, sound trucks drive through a marketplace playing the theme song, drawing people to the sales booth. Some radio announcers have begun to read sections of the paper to their rural listening audience.

Continuing Challenges

A recently completed evaluation shows that in just one year, *El Agricultor* has achieved wide acceptance and is regarded as an appealing and trustworthy publication wherever it is sold. Each copy is read by approximately three people, and copies are saved by readers for use as reference material. Particularly valued is the heavy concentration of information about rural life and the attractive colored graphics. However, it is not as widely used by new literates and poor farmers as had been intended. Instead, the people who buy the paper are mid-level rural professionals such as public health workers, extension agents, and schoolteachers, who average ten years of schooling.

The newspaper staff is still familiarizing itself with the needs of its audience. In the future, different types of articles will be featured to provide a break from the current serious tone of most articles. Entertainment features, in particular, should attract a larger and more diverse readership – a major goal of the newspaper.

A professional advertising sales force is being developed to address the need for more advertising revenue. Its large physical size has been an obstacle to selling advertising space because businessmen resist paying more for one quarter of a large page than they do for one quarter of a tabloid-size page. Conversion to the tabloid format is scheduled for January 1987, which will standardize advertising space rates with the four major national newspapers and should result in increased advertising revenues.

AVANCE has had an impressive first year with the establishment of *El Agricultor*. Because of the enthusiastic response by schoolteachers to the colored posters, the paper will soon direct poster topics to the national primary school curriculum. Now that *AVANCE* has launched its first project, it will go on to publish other popular print formats such as photonovels and magazines, develop a broadcasting service, and design social marketing campaigns. ■

Dr. José Carletón Corrales Calix is director of the Escuela Superior del Profesorado "Francisco Morazán" and staff of the Institute for International Research, Communications Support Project.

Richard Martin is an Education Development Officer with the U.S. Agency for International Development currently working with the El Agricultor *staff in Tegucigalpa, Honduras.*

Eduardo Apodaca is director of Vocational Education Productions at California Polytechnic State University in San Luis Obispo, California, and is a consultant specializing in the development and marketing of educational products.

Tips on Getting Started with Graphics

by John Comings

Nonprofessionals can produce graphic literature such as a comic book or photonovel with simple equipment and limited outside help. I produced my first photonovel with Bonnie Cain (see her article elsewhere in this issue) with no previous materials development experience or special equipment. If you are in a similar situation, here are some guidelines that will help you develop your own graphics.

- Your audience doesn't have to be visually literate. A nonprofessional might believe that without special knowledge about visually illiterate people, communication will be difficult if not impossible through print media. This is not the case. Some people may not understand a drawing when they first see it, but once it is explained to them, they will. Often, if people cannot read the material, they have family, a neighbor, or a community worker who can.

- You can write a story. Writing a story is easy, borrowing one is even easier. There are no new stories in the world, just variations of common human themes of conflict and resolution. Take a story from classic literature, from a folktale, or from TV and adapt it to your needs. Or, better yet, collect stories from members of the target audience.

- Your target audience can help you. The more you involve members of the audience in the design and production of your material, the more popular it is likely to be. They can help you to integrate local stories, issues, and folktales. You may find if they are directly involved in the production process, they will help to promote it as well.

- Your production process can be kept very simple. There are many different ways of drawing comics or graphics, some are quite simple. Even commercial photonovels often have simple formats and less-than-perfect pictures. The content, the characters, and the dramatic story are what attract and hold attention. I have seen effective photonovels that used poloroid photos and pictures cut from magazines and postcards.

- Pretesting simply means listening to your audience at a draft stage of production. The jargon of market research – focus groups, mall intercepts, etc. – may lead you to believe that pretesting is difficult and complicated. All you need is a small group of people from your target audience and some well-designed questions. This representative audience is asked to read the material, and to explain what it means to them, if they believe what is presented, and if they would show this to a friend. Use the answers to these questions to improve your draft. When the changes have been made in your materials, ask the same questions of a larger group.

- Set reasonable goals to avoid becoming discouraged. The social, political, and economic problems these materials address are complicated and not easily solved. Print materials can inform, educate, and change attitudes, but they will only be effective when integrated into a larger, well-coordinated effort. Evaluation of your materials should focus primarily on their popularity, their credibility, and how effectively they provide information.

John P. Comings is Senior Program Officer at World Education in Boston, Massachusetts. He has been involved in materials development, training, and adult education in the US and Asia for more than 15 years.

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Briefly Noted

by Robert Vittel and William Amt

● *How to Prepare Materials for New Literates*, originally published in Spanish, and now available in English and French, is a 35-page book that surveys the needs of newly literate people and demonstrates simple techniques for producing and evaluating post-literacy print materials for maintaining reading skills. Divided into four clearly and simply written sections, the book will assist literacy workers in developing print materials and services for new literates, who often lack printed materials written at a slightly higher level than basic teaching texts. Available in English, Spanish, and French for US$7 (members) and US$5 (nonmembers) from: International Reading Association, 800 Barksdale Road, P O Box 8139, Newark, Deleware 19714-8139, USA.

● Primary health care (PHC) is considered by a majority of health professionals to be the most cost-effective and practical method of achieving the goal of "Health for All by the Year 2000." *Primary Health Care Technologies at the Family and Community Levels* reports on an international workshop held in Sri Lanka in the fall of 1985 which was sponsored by the Aga Khan Foundation, Unicef, and the World Health Organization The report emphasizes the need for communications that facilitate the dissemination of appropriate PHC information; particularly needed are innovative participatory communication strategies that take advantage of existing traditional communication structures, such as the oral tradition. The key targets of such information flow are community organizations and training programs for villagers that: 1) involve the community in the planning, formative evaluation, and maintenance of health programs; 2) improve the status of women, who are the primary health care deliverers in the villages; and 3) are integrated with a well-coordinated national health program. Available free from Unicef, 866 United Nations Plaza, New York, NY 10017, USA.

● Two volumes have recently arrived at the Clearinghouse that will interest our African readers. The first is published by the Thomson and Freidrich Naumann Foundations in association with the Commonwealth Media Development Fund. *Reporting Africa*, edited by D. Rowlands and Hugh Lewin is a 181-page manual written by and for Anglophone African reporters. It is intended as a training manual for beginning reporters. Topics covered include source development, interviewing, political and legal news coverage, radio and TV reporting, and photography for journalists. Each chapter concludes with a handy bibliography. Copies are available from the African Council on Communication Education, P.O. Box 47495, Nairobi, Kenya for £5 (US$7.15).

The second volume, *Training Manual. Photography*, by Margaret Waller, is published jointly by the Zimbabwe Institute of Mass Communication and the Freidrich Naumann Foundation It contains practical, step-by-step instructions on how to use a 35mm single-lens reflex camera, develop and print photos, and use lenses, paper, and flash equipment The manual contains a section with examples of photographs from some of the leading photographers in Zimbabwe, who explain how they came to take the pictures and how to take good photos. Copies are available from the Friedrich Naumann Foundation, P O. Box 1636, Harare, Zimbabwe for £10 (US$14.30)

● *Global Guide to International Education*, edited by David Hoopes, is a comprehensive volume that lists addresses and descriptions of US-based programs, organizations and publications concerned with international studies and global education. Designed for students and educators, this guide provides information on such topics as educational exchange organizations; grants, awards, and fellowships for international studies and programs, foreign language learning; regional studies centers, and academic programs and selected resources for country studies The cloth-covered Guide costs US$75 00 and is published by Facts on File, 460 Park Ave. South, New York, NY 10016, USA.

● *A Farmer's Primer on Growing Rice*, by Benito Vergara, is one of the most widely translated and distributed agricultural handbooks in print. Published in English by the International Rice Research Institute (IRRI), this 221-page book uses illustrations with simple captions to teach farmers and rice technicians about how and why improved rice varieties and agricultural technologies increase crop yields. Topics covered include the life cycle of the rice plant, selecting good seedlings, increasing the efficiency of fertilizer, and controlling weeds. This book and addresses for other language editions are available from the Communication and Publications Department, IRRI, P.O. Box 933, Manila, Philippines

● Another publication brought to our attention that will interest those who follow African telecommunication issues is a new newsletter, the *African Telecommunication Report* A private venture, this newsletter has been established to keep readers informed about important issues and developments of telecommunication applications in Africa. Published monthly, introductory subscriptions are US$78 per year (US$98 regularly) plus $12 overseas postage and handling. To subscribe contact: African Telecommunication Report, 1718 Connecticut Avenue, N.W., Suite 410, Washington, D.C. 20009 Phone (202) 939-8327. ■

Robert Vittel and Bill Amt work in the Clearinghouse

Pictures Open

by David A. Walker

It is sometimes said that illiterate villagers have trouble getting meaning out of pictures In our adult literacy work in Nepal we tackled this problem head on In fact, picture literacy is one of the important accomplishments of Nepal's Nonformal Education Program

Earlier research had shown us that Nepalese adults did indeed have trouble understanding three dimensional spatial relationships depicted on flat, two dimensional surfaces, but that they were astute at identifying pictured objects Even distorted illustrations, such as cartoons, were easily understood But identifying what is shown is not the same thing as understanding the meaning or the intended message of an illustration. Villagers simply see a picture for what it is and feel no compulsion to "read" any additional meaning into it

Beyond Picture Description

As in many literacy programs, we use pictures in Nepal to introduce key words. Consider, for example, a picture showing a family migrating The intended meaning is to call attention to the way increased population pressure has depleted the traditional agricultural resource base Deforestation and land erosion have been two of the most serious consequences Marginal farmers can no longer survive in the hills of Nepal and are being forced to move to the lowlands in the south A typical villager describing such a picture might say: "The girl is carrying a baby The man has something under his arm This looks like a cow. These are goats, or maybe sheep. Look, this woman has an umbrella." If encouraged to describe what these people appear to be doing, the villager might add that the picture shows a family migrating. A response such as this shows the observer has no trouble identifying what is depicted, yet the intended message of the picture is hardly touched upon, let alone consciously articulated.

Participants in the literacy program are asked to study and describe illustrations such as this one throughout the six month course. As a first step, the class is broken into small groups to discuss the picture among themselves. Then one member is selected from each group to come to the front of the class and, using a large poster reproduction, tell what his or her group understood from the picture. We found that these group reports rarely went beyond a superficial description of what objects were being depicted or what actions were taking place. This did not mean that the participants could not say more when encouraged to do so, it simply meant that they defined their task very narrowly.

In order to help the participants respond to illustrations at other levels, the facilitator finally questions the entire class He might ask. "Where do you think this family is going and

Unexpected Horizons in Nepal

why? Have any people from our village migrated? How do you think this family feels about what is happening? Is this a good thing or a bad thing?" Questions such as these help the group to analyze the picture, to relate it to their own life experience, to empathize with the situation and to make value judgments. In this way, after repeated experiences, the participants learn to read more meaning into illustrations As the course progresses, their spontaneous reports begin to show the kind of perceptiveness that we would call getting the meaning or the intended message of the picture.

From the beginning of Nepal's Nonformal Education Program, which was developed and tested over a period of seven years with technical assistance from World Education, a conscious effort was made to develop ways to communicate through pictures. Adult learners meet six days a week for a period of six months. During that time they learn to read and write and to solve simple arithmetic problems. They are also exposed to a wide range of functional content in areas relevant to Nepal's development priorities, such as health, child care, family planning, agriculture, and resource conservation.

Introducing Comics

Because question words could often be written with a single syllable, many of our earliest reading passages were in the form of dialogues – questions and answers. The dialogue idea was confusing for the new learners. however, as it involved two speakers and they easily lost track of who was saying what We thought of illustrating the dialogues in the manner of a comic strip, the purpose being to clarify who was speaking in each instance

As we began to work with comics, however, we found them taking on a life of their own Using the lists of possible words, we wrote stories and comics for each of the early lessons. We discovered that the comics for any given lesson were vastly more interesting and complex than the stories we were able to develop. Looking over our work we found that the stories were limited in vocabulary and simple, if not to elementary, in theme, whereas the comics were dramatic, provocative, and were able to address serious social issues. This was because the dialogue and pictures of the comics were able to convey an array of actions and ideas in a variety of ways while our stories had to be grammatically correct. We had to leave out many good ideas simply because we could not write one important word.

Unanticipated Discovery

An unanticipated discovery we made while developing and testing the curriculum was that the use of pictures tremendously increased the number of meaningful ideas we could communicate in the early lessons. This was important, because we wanted to introduce the local script (Devanagari) in manageable increments, while giving the participants the experience of using the written language for learning and enjoyment as early on in the course as we could. We introduced the syllables gradually and tried to provide as much interesting reading in each lesson as the pool of syllables allows.

As an example, the script in one early lesson reads: "Gopal lives in Gorkha. Gopal has a son. Gopal has a cowshed. Behind the cowshed there is a forest. Gopal's son takes the animals into the forest," etc. It is hardly one you could get excited about. The frequent repetition of the name Gopal is used because the syllable needed to write "he" is not introduced until several lessons later.

In the same lesson there is a four-page comic about a hard-working woman whose husband is a gambler and a drunkard. She earns money by selling vegetables at the weekly market. Six frames of the text of the comic depict a confrontation between Suntali and her husband in which he demands the vegetable money that she has hidden away This episode ends when Suntali finds that Biray has taken the money In the next installment, Biray loses the money at cards and returns to take some of Suntali's jewelry There is a fight. He ends up unconscious on the floor and Suntali takes her child and leaves for her father's village In the final episode Biray repents and swears to give up drinking and gambling. The story ends with Suntali debating whether or not to return to him. This comic was very popular among the participants and the problems it depicted were considered realistic and relevant to their own concerns (They invariably felt Suntali should go back to Biray.) (See illustration.)

Although some of our problems preparing reading materials in Devanagari had to do with the particular nature of that script and the order in which we introduced the syllables, I think more general conclusions can be dra
A comparison of the two formats shows that the written story must be coherent while the comic can be fragmentary. This difference allows for a great deal more freedom when writing comics. It is even possible to carry on the action for one or two frames without words at all. This means that much more ground can be covered with a given number of words in a comic format than in a story format That is an important consideration when preparing reading material for new literates. Too many words on a page can be overwhelming. The pictures make the page less formidable and at the same time reinforce the written word. The story line can be carried along much more swiftly in comics as well – a big advantage for slow readers. As they struggle to read the words of a story or essay, they can lose the thread, much like not being able to see the forest because of the trees.

Once we had pictures and comics in our primer we were able to experiment with other ways to use them. For example, we had the participants role-play the comics (a confidence-building activity). We were surprised to see how quickly they were able to mimic not only the actions but even the facial expressions. Later we asked them to create their own stories around the discussion pictures and role-play those. As a form of creative writing we drew situations with blank "bubbles" and asked the participants to fill in the dialogue.

The many different kinds of illustrations in Nepal's literacy program not only added to the attractiveness of the package, it opened up the possibility for many valid learning activities. Constant testing and revision showed many of these activities to be educationally sound and appropriate to the cultural setting in which we worked. The further forward we went the more our horizons kept expanding. The end is not yet in sight. ■

David Walker served as World Education's Resident Adviser in Nepal from 1979 to 1986. During that period he oversaw the development of Nepal's Nonformal Education Program from starting as a pilot project at a university research center to becoming the government's national adult education program.

On File at ERIC

by Barbara Minor

Documents recently entered in the ERIC (Educational Resources Information Center) files include a manual for writing distance education instructional materials and sample materials, a resource book for adult basic education, a report on the development of fotonovelas for teaching literacy, a guide for teaching reading through the newspaper, and a guide for producing publications. All of these documents are available in microfiche, and three are also available in paper copy, from the ERIC Document Reproduction Service (EDRS), 3900 Wheeler Ave., Alexandria, Virginia 22304, U.S.A. Be sure to include the ED number and payment in U.S. funds for the price listed plus shipping. Shipping costs may be calculated on the basis of three microfiche per ounce and 75 microfiche or pages of paper copy per pound.

- de Jardon, Linda King, ed. *Writing for Distance Education. A Manual for Writers of Distance Teaching Texts and Independent Study Materials*. 1983, 91pp (ED246 896)

Six instructional units from the International Extension College (Cambridge, England) offer guidance in the process of writing printed educational materials. Each unit provides objectives, writing exercises and activities, and end-of-unit discussion questions. Unit One considers the first steps in writing, emphasizing the importance of varying instruction according to student needs and background, and discussing how people learn. Active learning and different types of learning activities are then examined in the second unit. The third addresses ways of improving a presentation, such as writing in an appropriate style; using clear, simple language; and trying alternative presentation forms, as with pictures and diagrams. Unit Four covers all steps of production and starts students on an individual project to produce materials in their own subject area. Unit Five emphasizes specific instructional writing skills with advice on distinguishing between different kinds of instructional materials, what to include and how to organize it, and writing correspondence units. The final unit outlines processes of editing, reproducing materials, administration, tutoring, and evaluation. Four supplements provide additional information on learning theories, behavioral objectives, media, and readibility and layout. Available from EDRS in microfiche only for 75 cents

- *Writing for Distance Education. Samples Booklet* 1983, 46pp. (ED 246 897)

Approaches to the format, design, and layout of printed instructional materials for distance education are illustrated in 36 samples designed to accompany the manual reviewed above. Each sample is presented on a single page with a note pointing out its key features Features illustrated include use of typescript layout, a comic strip story, various question and instruction formats, checklists, signs and a key, study guidance, diagrams, list formats, pictures reinforcing written messages, objectives, culturally relevant design, charts, flowcharts, tables, photographs, and illustrations. Materials used in the examples are taken from a variety of actual projects and courses in such institutions as the Mauritius College of the Air, Javeriana Open University (Colombia), Botswana Extension College, Kenya Cooperative College, Open University, Lesotho Distance Teaching Centre, and the National Extension College. Available from EDRS in microfiche only for 75 cents.

- Cheyney, Arnold B. *Teaching Reading Skills through the Newspaper* Second Edition. Reading Aids Series: An IRA Service Bulletin. 1984, 60pp. (ED 250 672)

Recognizing that newspapers are among the best supplementary instructional materials, this booklet from the International Reading Association offers suggestions for the use of newspapers for teaching or reinforcing specific reading skills. The booklet focuses on inferential and evaluative comprehension skills, and the suggestions range from how to teach students to identify main ideas and details to the development of higher order critical reading competencies. Though its major emphasis is on comprehension, the booklet gives some attention to the reinforcement of decoding skills through the use of newspapers. Following an introduction, the first two chapters provide a rationale for using the newspaper as an instructional resource and using it to teach reading. The remaining chapters provide suggestions in the following areas: (a) teaching a reading lesson with the newspaper; (b) developing critical readers; (c) developing vocabulary and word identification skills; (d) developing appropriate reading rates; and (e) reading and the language arts. A list of suggested books, materials, and periodicals is appended. Available from EDRS in microfiche for 75 cents or in paper copy for US$5.40; or from the International Reading Association, 800 Barksdale Rd., P.O. Box 8139, Newark, Delaware 19714, USA (IRA Book No. 210, US$3.00 member, US$4.50 nonmember)

- Barton, Frank and Lehrke, Gunter. *The Layman Printer Communication Manual* 1983, 96pp (ED 257 056)

Intended for those responsible for all kinds of publications in developing countries, this manual from the Friedrich Ebert Foundation (Bonn, West Germany) has three main objectives: (a) to give the ordinary person who knows nothing about printing or printing processes enough information to be able to deal intelligently with a printer; (b) to show how it is possible for a person or group of persons with no previous experience to set up their own printing operation; and (c) to demonstrate how modest publications – from leaflets to small booklets, and even rural newspapers serving particular groups of people – can be produced. Various sections of the manual deal with relief block, rubber printing, letterpress, linotype, offset litho, stencil duplicating, dealing with the printer, starting one's own publication, getting price quotations, preparing the manuscript, proofreading, and pagination. Available from EDRS in microfiche for 75 cents or in paper copy for US$7.20. ■

Barbara B. Minor, Publications Coordinator, ERIC Clearinghouse on Information Resources, 030 Huntington Hall, Syracuse University, Syracuse, New York 13244-2340, USA.

A Call for Papers

The Association for Educational and Training Technology is holding its Twenty-second Annual Conference in Southampton, England from April 13-15, 1987. The theme for the Conference is "Designing for Learning: Education, Work, and Community Perspectives." Papers should reflect one of the facets of the conference theme: "What has happened to learning design?" using one or more of the conference perspectives of education, work, and community. Papers and workshops on theory and practice are also welcome.

For submission guidelines and further information about the conference please write to: Robin Budgett, Conference Coordinator, ETIC '87, Department of Teaching Media, The University, Southampton, SO9 5NH, England

"URTNA SCREEN" TV for and by Africans

The First International Screening of African-made TV Programs, "URTNA SCREEN," was held in Nairobi, Kenya, October 1-3, 1986, sponsored by the Union of National Radio and Television Organizations of Africa's (URTNA) Programme Exchange Centre. Designed specifically for professional media people in Africa, this event allowed participants to meet one another, to discuss common problems, to review programs from across the African continent, and to plan constructive TV programming for the future. Winners of the best TV programs of the year were announced at the conclusion of the screening.

The 1986 session of the Programme Exchange and Cultural Affairs Commission of URTNA followed immediately after the screening.

URTNA provides a vital broadcast development link to its 43 member-organizations throughout Africa. It focuses particularly on program development, program exchanges, training, and technical research. Recently, URTNA assisted in organizing media coverage of international events, and advising on the protection of copyrights. There are plans to hold more workshops and screening sessions for the benefit of member-organizations. News from the screening and the conference proceedings will be reported in a future issue of *DCR*.

Once Upon a Time . . . Telling a Story

by Mary Whittington

Employing a story that carries a development message is a successful way of reaching an audience, and a piece of graphic literature that tells a story, such as a comic book or a photonovel, is a unique way of transmitting that message.

Many development professionals prefer to address the audience in a didactic manner – one of instruction, not persuasion. Some professionals view their message with such importance, that using an illustrated story appears to be unnecessary "sugar-coating." However, in a community that has coped with a situation for a long time or is facing more pressing problems and cannot take the time to respond immediately, a more appealing format is needed to hold their attention.

Selecting an Approach

The needs of the audience determine whether or not a story-oriented approach will work and what type of story to use in delivering an educational message. The story/illustration format can be very effective in certain situations. A community that has already decided to install a well needs only clear instructions and illustrations on how to proceed to install one. In this case, much of the educational task is already accomplished because they have taken a course of action. Illustrated print material is a powerful tool to convey these "how-to" messages.

A more difficult task is to convince an audience to change a particular behavior. In this case, both instruction and persuasion are called for. For example, convincing a couple that they should practice family spacing calls for both clear instructions and illustrations on effective contraception practices, and for persuasive messages that family spacing is for them. This is a "will-you" situation; that is, will you change your behavior to accomodate this practice?

Effective Story Development

In order to effect an emotional response, a story should have an interesting plot and characters that appeal to the audience. The plot is the action or what happens in the story. It usually consists of a main conflict between people, organizations, families, with an endless combination of possibilities. In the beginning of the story, the audience should recognize the cause of the conflict and begin to develop alliances with certain characters.

Characterization is another important factor in story writing. The audience should quickly develop feelings about the characters, and care about the outcome of their struggles. Audience identification, such as with a woman who does not want any more children, can be a solid basis for persuading the audience, or even for exposing the issues and generating discussions.

Pacing is the selection of which actions take place in which frames (sequences of illustrations that "tell" the story). Commercial photonovels and comic books usually follow two principles: 1) Do not confuse the audience with an unfamiliar layout. If the audience is used to reading from left to right, let them continue to do so in your publication. 2) Explain the conflict quickly, depict the crisis in the conflict, show how the people will continue their lives after resolution of the crisis. After introducing the characters and plot, the author builds the story with scenes that increase in intensity as they approach the end of the conflict. The pace of the plot should vary, gradually building to a climax, then slowing down to permit characters to reflect on their actions, plan new actions, and continue. Pacing the drama effectively is an important key to developing a good story.

The climax of the story reveals the final resolution or attempted resolution of the main conflict. Most authors quickly wrap up the story after the climax.

Ensuring Effectiveness

An exciting plot and impressive visuals will be wasted if the audience does not understand or identify with the actual message. Pretesting of the materials is an absolute must, as all the factors that have been discussed – plot, characterization, visual style, and pacing – must reflect the culture in which the story unfolds. Pretesting should focus not only on the audience's perception of the character's visible traits such as facial features, clothing, or body carriage, but also indicate the emotional reaction of the readers to the story. Which character did you like best and why? Do they remind you of someone you know? How? Or what makes them different? Could any of these events happen to you, or someone you know?

For example, the illustrations below would not be interesting to many Western readers who are used to action-packed novels. It is a story line from the comic book that was produced in Pakistan by the Aga Khan Central Health Board with technical assistance from the Program for Appropriate Technology in Health (PATH). This comic book was part of a twofold project, an accelerated program that encouraged people to take iodized oil capsules to prevent goiter development and a long-term program to promote replacing noniodized rock salt with iodized salt.

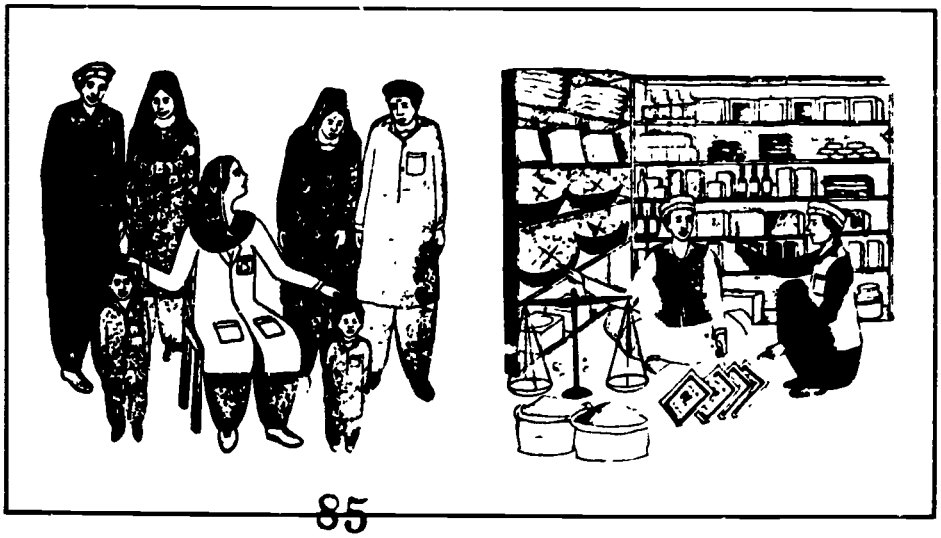
The comic book chronicles the story of Hur Bibi, who has had a goiter since childhood and is now pregnant, and her interaction with Rabia, a Lady Health Visitor. Rabia compares Hur Bibi's son, who has goiter, with another child who does not.

Although they are the same age, the child with a goiter is shorter and smaller. Rabia explains that the other family uses iodized salt, and that iodized salt will produce healthy, active children, while children with goiter lack the energy to play or concentrate in school. The merchant extends his support to the program and will no longer carry noniodized rock salt.

The pamphlet, developed by a local artist, uses bright colors, details of the local landscape, indigenous farming practices, animals, food, and even common body positions; it speaks directly to the intended population.

Story-oriented comic books and photonovels can be a powerful tool in development communications. Through audience market research, communication practitioners can be assured that the intended audience has played a central role in designing an educational message and that the message is more likely to be received by an attentive and responsive audience. ■

Mary Whittington is a writer and researcher with B J Cain & Associates, Inc and, as a freelance writer, has produced programs for public and cable television. She holds a M F A. in Theatre from The Catholic University of America.



A Communicator's Checklist

1 Guide to Mass Media and Support Materials for Nutrition Education in Developing Countries, by Marcia Griffiths, et. al., (Newton, Mass.: International Nutrition Communication Service, 1985) 128pp.

This Guide contains 316 reviews of nutrition education materials, which are organized by topics including nutrition for the family, maternal nutrition, young child feeding, growth monitoring, and nutrition-related health problems. Furthermore, names and addresses of the producers are provided so that the reader can request additional information and samples of the materials. It combines the efforts of Manoff International, Inc., and the Education Development Center, Inc., two well-known and respected groups in the field of education and communication.

The worldwide acceptance and use of mass media and educational materials in nutrition education programs is well demonstrated by the broad range and diversity of materials reviewed in this book. The Guide includes charts, radio spots, puppets, stories, games, flannel graphs, filmstrips, booklets, manuals, slides, etc. Contributions come from many developing countries in Africa, Asia, Latin America, and the Middle East. The reader is given a good overview of the types of and trends in educational materials being developed throughout the world.

Materials included in this publication are described according to their country of origin, language, content, format, and target audience. In some instances, the authors provide further information about how the materials were designed and evaluated. However, the book does not provide an evaluation of the materials' positive and negative features.

In defense of this approach, the authors give recommendations for the successful incorporation of mass media and educational materials into nutrition education programs. They suggest that evaluation of materials should be based on more than physical appearance and statistical impact; it should include the process used in developing the materials and the role they play within the overall communication strategy. Thus, specific questions and guidelines are provided for the reader to use as a standard for measuring the materials.

In addition to the reviews, the Guide provides a glossary of communication terminology and a nutrition education game. The glossary is helpful in establishing a common frame of reference. The game is useful in providing a concrete example of a non-formal educational tool. It leads one through the steps to follow in developing such materials and in this respect it follows the guidelines suggested in the beginning of the Guide. Nevertheless, the game does not seem to offer an opportunity for discussing alternatives in food selection or preparation, which is an important aspect of the participatory education process.

The Guide is extremely useful as an annotated description of materials. It provides an easy reference for educators wishing to use examples and types of education and media materials that have been developed in nutrition The reader will have to use his or her own judgment as to whether any of the materials would be appropriate for their target audience, given the large diversity of educational, cultural, climatic, regional, and linguistic differences between populations of the world. ■

Available free to nutrition educators in developing countries, and for US$10 elsewhere from: INCS, Education Development Center, 55 Chapel Street, Newton, Massachusetts, USA. 02160

Reviewed by Marilyn Rice who is the Regional Advisor in Health Education at PAHO/WHO in Washington, D.C.. She has worked in the field of public health project coordination and education in the U.S. and abroad for 13 years.

2 Understanding Visual Illiteracy: A Study of Comprehension of Pictorial Messages Among Farmers by Milton Munoz, Richard Powers, ed. (Madison, Wis.: University of Wisconsin, 1986) 94pp.

Most people, whether they can draw or not, often refer to the old adage that a picture is worth a thousand words. Those who work in developing countries and who like to draw, tend to try and prove this saying by using many graphics they consider to be good. But as Munoz says in the introduction to his study, pictures might not always be worth a thousand words. Some people in developing countries might have a difficult time interpreting pictures because of their lack of exposure to illustration techniques or because their life experiences do not allow them to relate to what they see in a drawing. The study points out that illustrations are often selected on the basis of subjective feelings of design and on concepts of pictorial composition that are intuitive rather than scientific in nature, and thus not always perceived in developing countries as intended.

By examining the differences in perception patterns among individuals with different literacy levels, Munoz believes his study will help to increase people's comprehension of communication theory, particularly about visual communication. In addition to its theoretical contributions, the study also seeks to provide practical recommendations for communication programs in Colombia, where the study took place, as well as in other countries

Understanding Visual Literacy is a technical study, that asks two major questions. First, what are the differences between the perceptual patterns of literate or illiterate individuals when they look at an illustrated page; secondly, how much do different literacy levels and life experiences effect people's comprehension of photographs and drawings?

The methodology section includes descriptions of the region, sampling procedures, the application of variables, the questionnaire, data, statistical analysis, and the limitations of the study

In the results section, Munoz concludes that the tests support the hypothesis that illustration is not an intercultural language, but that interpretion of illustrations is primarily a learned skill. Munoz suggests that rural people be given more exposure to illustrated materials to encourage development of their visual skills, and that this should be supported by research to increase our understanding of visual literacy.

The monograph has a 92-entry bibliography, a 23-page literature review, and an appendix with numerous statistical tables. The paper did not have a table of contents, which considering its technical nature, would have been helpful

This useful study made me aware of what can be done to improve illustration techniques I have used as a resource scientist who has had to communicate with Africans of different educational backgrounds ranging from college-educated technical counterparts or administrators to rural villagers. I believe others who are involved in visual communications, particularly in developing countries, will benefit from reading this study with its thorough and rigorous approach. ■

Available free of charge from the Department of Agricultural Journalism, 440 Henry Hall, University of Wisconsin-Madison, Madison, Wisconsin, 53706, USA. Include US$1.35 for postage.

Reviewed by Chuck Dorigan, an environmental scientist and consultant who has worked for ten years in remote sensing and integrated resource assessment projects in Africa

3 Issues in Planning and Implementing National Literacy Programmes, G. Carron and A. Bordia, editors. (Paris: Unesco, International Institute for Educational Planning, 1985) 385pp.

Despite some significant national programs mounted in recent years, the international literacy effort has languished for more than a decade. Following the disappointing results of the Experimental World Literacy Program (EWLP), Unesco has done little refashioning of its assumptions, concepts, or approaches

The EWLP (1967-73) was a series of pilot efforts through which Unesco developed its concept of functional literacy and tried to promote a methodology which would be used for a global literacy program. The results of the EWLP were not compelling enough to push the international community toward an all-out attack on illiteracy.

The present book is a collection of papers presented at a workshop held in 1982. The reader is left to judge whether it was worth the wait. In any case, the book is thoughtfully orga-

nized and well-edited. It contains useful national "self reports" on literacy efforts in China, Nicaragua, Vietnam, Iraq, Ethiopia, Kenya, India, Tanzania, Nepal, and Brazil. Other papers treat topics related to training, evaluation, mass media usage, language, post-literacy, and the relationship of literacy to formal schooling and to providing other basic services. As a sourcebook of descriptio - of recent experience in literacy, the book succeeds and is of interest to development professionals.

Unfortunately, the book contributes little to the understanding of literacy's role in national development. Much of what is said has been said many times before. Worse, many difficult policy issues are not treated openly or in their full complexity, and this is a disservice to those hoping to learn more about planning and managing literacy programs.

One gets the impression in the Preface that the international literacy effort has blossomed since the end EWLP. It has not. We are reminded of Unesco's contention that "literacy education for adults and the provision of schooling for children must be seen as two sides of the same coin." This had appealing face value, but it masks the difficult policy and resource allocation choices: adult literacy activities must compete with primary school education for scarce development funds. In the majority of developing countries, provision of schooling for children is both sides of the coin.

Also, in the Preface, readers are referred to the Persepolis Declaration (1974) and the notion that functional literacy should be regarded as "not just the process of learning reading, writing, and arithmetic skills but a contribution to the liberation of man and his full development." The poetry above obscures reality, in fact, "literacy for liberation" emerged as a reaction against functional literacy and not as its extension. The idea of government-sponsored literacy efforts contributing to liberation can hardly be taken seriously.

The books's Introduction sketches a process of planning and managing literacy programs that might play well at an international meeting but has little connection with the realities outside the meeting room. Consider the following conclusion for the Introduction (p. 18):

> Expressed in more general terms, different dimensions of functionality could be introduced at different points of an integrated package of pre-literacy, literacy and post-literacy according to the needs and possibilities of participants. It was further stressed that the operationalization of the functionality concept implies that systematic linkage mechanisms with various agencies be established at different levels and at appropriate moments in time.

In what developing countries do conditions permit such an orchestration of reality? Where are there literacy program planners and managers who have the time, resources, or the control over events to engage in planning exercises that consider where to insert this or that "dimension of functionality" at specific points in integrated training packages systematically coordinated with all other aspects of - opment? Most planners and managers spend their time and limited resources getting materials printed and delivered; convincing often unwilling participants to join or stay in a group; recruiting and retaining tutors to work without pay; trying to generate new in ue; and then trying to demonstrate a connection between income and acquiring rudimentary skills in reading , writing, and arithmetic

Many of us look forward to a renaissance at Unesco and for its return to a position of leadership in international education. A rethinking of its approach to literacy is long overdue and might well be a good place for the renaissance to begin. ■

Available for US$29.75 from Berman/Unipub, 10033F Martin Luther King Jr. Highway, Lanham, Maryland 20706, USA, and from Unesco distributors worldwide.

Reviewed by Stephen Anzalone of the Institute for International Research, McLean, Virginia. He is co-author of Making Literacy Work: The Specific Literacy Approach.

Management Skills Training

Courses designed to enhance skills in management of rural development programs and agencies are being offered by the International Institute of Rural Reconstruction, Silang, Philippines

A six-week course starting Feb 9, 1987 "Middle-level Managers' Course," is designed to increase participants' knowledge and skills in project planning, implementation, and evaluation. Subjects covered include history and philosophy of rural reconstruction, reflection on development, and strategies in working with peasants. The cost is US$2,500 including room and board.

The "Senior Managers' Seminar," also starting February 9, 1987, will broaden and reinforce the participants' skills and knowledge needed for effective management of rural development agencies and programs. Macro issues and trends in development, organizational and program management, comparative analysis of rural development agencies and programs, and history and philosophy of rural reconstruction will be covered in the seminar. The cost is US$1,800 including room and board.

English proficiency, experience in rural development programs, and a B.S. degree are required for both courses. For further information and application material please contact: Training Director, IIRR, Silang, Cavite, Philippines 2720, or Vice President, IIRR, 1775 Broadway, New York, NY 10019, USA.

Health Care Courses

Boston University Schools of Medicine and Public Health offer a number of courses in 1987 for those interested in health care in developing countries. From February 27 – April 12, 1987, a course on "Management for Child Survival," will be offered for participants from countries with limited resources Specific child survival technologies and program approaches will be reviewed and state-of-the-art developments discussed. There will be a one-week field practicum in the Caribbean Course costs of US$4,276 include tuition, field practicum expenses, materials and health insurance. Allow an additional US$1,770 for housing, meals, and miscellaneous expenses Applications must be received by January 15, 1987.

For applications write to: Management for Child Survival Course, Office of Special Project, Room A-310, Boston University School of Public Health, 80 East Concord Street, Boston, Massachusetts 02118-2394, USA.

Also offered by Boston University is a summer certificate program in "Health Care in Developing Countries." The course will emphasize effective application of epidemiological principles and methods to primary health care, and the impact of development and urbanization on health status and services delivery in countries where resources are limited. Course costs of US$5,110 include tuition, books medical insurance, and housing. An additional US$1,500 for other expenses should be anticipated. Inquiries and applications should be addressed to: Certificate Program, Boston University, School of Public Health, 80 East Concord Street, Boston, Massachusetts 02118-2394. USA.

PTC Ninth Annual Conference

The Ninth Annual Forum of the Pacific Telecommunications Council, PTC '87, will be held at the Sheraton Waikiki Hotel, Honolulu, Hawaii from January 18-21, 1987. Telecommunication professionals from some 30 countries representing government, industry, and education will participate in this year's conference entitled. "Pacific Telecommunications Users: A Spectrum of Requirement "

For more information or to register contact: PTC, 1110 University Avenue, Suite 308, Honolulu, Hawaii 96828, USA. Telephone (808) 941-3789.

Improving Visual Comprehension in Nonliterates

by Sikandra Spain

(This article has been adapted from the 1983 Master's Thesis of Sikandra Spain, who died in an automobile accident shortly after completing her research with the Mass Media and Health Practices Project in The Gambia. I would like to thank Sikandra's family who kindly granted DCR permission to share her research with our readers. I would also like to thank Dr. Robert Hornik of the Annenberg School of Communications, under whom Spain studied and who assisted in the preparation of this article. KM)

How do you know if your target audience is receiving an intended message from specially prepared visual materials when they have not had regular exposure to this medium, and are likely to be visually nonliterate? The results of a special study in The Gambia indicate that in a community with low visual literacy, materials with pictures can be used successfully if training is given in interpreting the pictures.

This special study, funded by the Annenberg School of Communication, University of Pennsylvania, was conducted during a nationwide campaign of the Mass Media and Health Practices Project, in The Gambia (see *DCR 51* for articles that describe this project). It was funded by the U.S. Agency for International Development and implemented by the Academy for Educational Development. The purpose of the project was to introduce home-based oral rehydration therapy (ORT) to rural Gambian mothers, and to improve mass communication techniques used by existing health services in The Gambia.

ORT Flyer

Instructional flyers were to play an important educational role in teaching mothers to properly mix and administer the simple water-sugar-salt solution to their children suffering from diarrhea. While visiting Gambian villages prior to the development of printed materials, project planners observed that there were few print and visual materials (photographs, posters, and drawings) in compounds or public places. With the possibility that visual literacy might be low because so few materials were available, only two pictorial flyers were developed, and these were specially designed so radio could be used to teach mothers (the primary target audience) how to interpret the pictures.

The multi-step ORT flyer illustrated how the ingredients should be measured, mixed, and then administered to a child suffering from diarrhea. The flyer was distributed throughout the country and explained during radio broadcasts that were aired during a special campaign called the "Happy Baby Lottery."

To determine how effective the mixing flyer was in teaching mothers the correct ORT preparation and administration techniques, when combined with radio instruction and trained health workers, a questionnaire was assembled and administered to a sample group of Gambian mothers in 20 villages in August 1983. Flyer comprehension was measured by showing mothers the flyer and asking them to describe what they saw. Simple line drawings were used to measure mothers' ability to identify and make inferences about depicted scenes, and to measure depth recognition. Pictorial experience was measured by determining previous exposure to pictures in books, photographs, and other sources.

Results

Survey results showed that comprehension of the flyer was high, with approximately three-quarters of the mothers in the sample group correctly answering at least 10 out of the 17 items in the questionnaire. There was also a very strong relationship between pictorial experience (having seen photographs, drawings, etc.) and the ability to understand pictures. Fifty-five percent of the mothers who had had exposure to all three types of pictures used in the survey, scored high on the pictorial comprehension test, whereas among mothers who had had exposure to only one kind of picture or no pictures, under five percent had a high score.

Measurements of the relationship between training in "reading" the flyer and flyer comprehension indicated that the two were clearly and positively related. Mothers who had no training scored the lowest in flyer comprehension; those who had heard instructions over the radio scored higher, and those with both radio and personal training by health workers scored highest in flyer comprehension.

The effect of training was strongest on mothers with low initial ability to understand pictures. Radio training alone clearly enhanced flyer comprehension scores. Radio and personal training together increased the average score for this group even further. The training effect was far less pronounced among those women who already had moderate to high picture comprehension.

Conclusion

In summary, the findings confirm that exposure to pictorial materials correlates with the ability to understand pictures which, in turn, is associated with the ability to comprehend particular educational material. They showed that nonliterate Gambian mothers could be taught to "read" pictures of the ORS mixing flyer and several months later still recall how to correctly prepare the solution according to the instructions given on the flyer. By providing the mothers with a flyer of their own and giving them training in interpreting it, their ability to understand the flyer was significantly increased. Radio, particularly, was found to be an effective medium for training them to understand the mixing instructions. In fact, test results show that exposure to the flyer combined with radio training could close the gap in flyer comprehension between mothers of low and high ability to understand pictures.

This suggests that even though an intended audience may not be visually literate, pictorial educational materials can be used effectively if explanations are provided either in person or by radio, preferably both. The results also demonstrate how crucial pretesting is for a project that plans to use posters, flyers, or other visual materials in an educational campaign. ■

New Education Journal

Journal of Distance Education (JDE) is the newest addition to scholarly distance education publications. A peer-reviewed international journal of the Canadian Association for Distance Education, the *Journal* is intended as a forum to reflect current theory, research, and practice related to teaching and learning at a distance. Submissions of a theoretical or empirical nature that represent original work in the field of distance education are welcome. Manuscripts are accepted in English or French. *JDE* is published twice yearly beginning in October 1986. The subscription fee is $40.00 in Canada, US$62.55 elsewhere. For subscription and submission information please write to: Dawn C. Howard, Editor, *Journal of Distance Education*, c/o Centre for Distance Education, Continuing Studies, Simon Fraser University, Burnaby, British Columbia, Canada V5A 1S6.

Cornell Communication Courses

Cornell's Department of Communication summer 1987 courses have been announced. The regularly offered four-week "Communication Planning and Strategy" course offers the background and skills that will help participants organize and carry out systematic and effective information and communication activities. The course blends discussions and lectures with case studies, problem-solving, and hands-on experience.

Another course, "Training and Development: Theory and Practice" is an intensive four-week course focusing on the analysis, design, and administration of training programs for the development of human resources in small-farm agriculture, rural health and nutrition, literacy and nonformal education, and general community development. The course is appropriate for professional personnel and graduate students.

Admission is based on relevance of the applicant's background to the program. Each course costs US$1825.00, with an additional US$650 for housing. Meals and personal expenses are extra. For an application please write to: Dr. R.D. Colle, Communication Arts, Cornell University, 640 Stewart Avenue, Ithaca, New York, 14850, USA.

Women Learn with Visual Aids: Experiences in Peru

by Joan Haffey,
Nancy Newton,
and Blanca Figueroa

Female literacy plays a critical role in child survival. Even though mothers may be poor, if they have received some schooling, the chances of their infants surviving childhood increase dramatically. In the *World Health Statistics Annual 1985* (WHO, 1985), analysis of data from World Fertility Surveys involving 160,000 women in approximately 30 countries shows that in countries where the adult female literacy rate is low (less than 35 percent), children are two to three times as likely to die during the first two years of life than in countries where the literacy rate is above 90 percent (WHO, 1985). Over 24 separate studies in 15 countries have established that the level of a mother's education is a key determinant of her children's health, *State of the World's Children*, (UNICEF, 1984).

Despite the importance of formal education in improving women's and children's lives, many literacy programs have been criticized for their heavy reliance on primers which may have little relevance to the adults using them. The impact of maternal education on child health is related not so much to the mother's absorption of printed information as it is to her acquired ability to question, analyze, and act upon new information. A mother with some schooling is better able to assess the health status of her family, to understand and adopt preventive health practices, and to know when and how to intervene when a family member becomes ill. An example of such a project follows, where carefully designed visual materials were used to promote the active participation of Peruvian women in child survival activities.

Asociación Peru-Mujer is a private, nonprofit organization whose main objective is to stimulate, through study and action, the participation of women in national development at all levels. Since September 1984, PATH (Program for Appropriate Technology in Health) has been collaborating with *Peru-Mujer* on a project to develop materials, as well as to provide technical and financial support that motivate illiterate and semi-literate women to participate in family planning and child immunization services. Booklets on these two subjects were developed – one each for the coastal, the highland, and the jungle regions of Peru – based on initial qualitative research and locally conducted pretesting. The materials are primarily pictorial *but* contain a simple line of text on each page for the benefit of semi-literate booklet recipients, as well as for community development workers in their program activities. (See illustration.)

Materials Use Training

Once the booklets were printed, community activity leaders were selected from ten different areas of the country to receive a training course in how to use the materials to stimulate group discussion and problem-solving. In addition, a guide was developed for the promoters to assist them in this process. Illiterate women in each of these communities were invited to attend sessions in which the promoters used the print materials as a complement to other participatory techniques, such as role-playing and dramatization, to encourage group identification of problems, discussion of possible solutions, and decisions on what action to take.

Participants were also given crayons and encouraged to color or decorate their booklets at home. This activity in itself was motivating to the women, some of whom commented that this was the first opportunity they had been given to learn to read. As one participant said, "Education is the best thing we can have and pass on. They haven't let us women learn, as if we were animals in the field." Pride of ownership of the materials also contributed to this new sense of self-reliance. A number of women subsequently enrolled in literacy or other adult education activities.

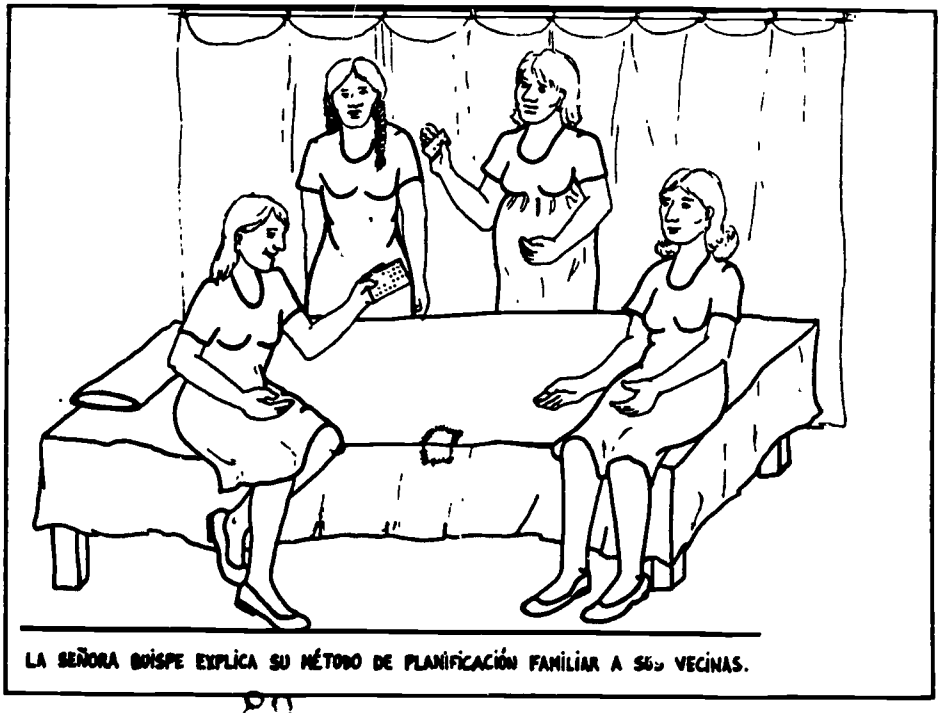
Several beneficial health-related community activities emerged as a result of the group problem-solving orientation of the course. In Chiclayo, course participants organized a day of activities to focus public attention on the need for improved maternal and child health services in the community. In Cajamarca, a group of participants organized to gain support from the local government to build a health post. In Puno, the participants of one course planned a community pharmacy.

Women in a number of the courses throughout the country requested additional family planning and immunization materials so they could conduct courses of their own with their neighbors. The demand from other women for additional courses in the community has far exceeded the expectations of the project staff. In all areas where the courses were conducted, the use of family planning and immunization services by course participants increased, although the exact level of the program's impact is still being assessed.

Peru-Mujer has also made a concerted effort to share its experiences and materials with other Peruvian organizations involved in adult education activities. Officials from the Adult Education Program in the Ministry of Education participated in a workshop sponsored by *Peru-Mujer* and PATH on the development of health education print materials for illiterate adults and subsequently developed pictorial materials of their own on population topics.

The process developed by *Peru-Mujer* of combining well-designed visual materials with entertainment and action has led to some innovative and helpful community-oriented activities, while at the same time giving female participants greater confidence in their own abilities to gain more control over their environment. ■

Joan Haffey and Nancy Newton are Associate Program Officers at PATH (Program for Appropriate Technology in Health), Washington, D.C. Blanca Figueroa is Project Coordinator at Peru-Mujer in Peru.



LA SEÑORA BOISPE EXPLICA SU MÉTODO DE PLANIFICACIÓN FAMILIAR A SUS VECINAS.

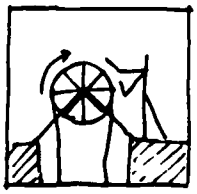
(**Cain** *continued from page 14*)

ments of the message. Possibly a brochure with a photostrip explained by an extension worker would have comparable impact. If a comparable media treatment can be located, its cost should be compared to that of the photonovel or comic book.

Assessment Steps

There are four main steps to follow in assessing the costs and developing a plan for using graphic media cost-effectively:

1) State objectives as precisely as possible How many people are to be reached? How many messages are there? Is it a one-time effort or an on-going campaign with plans for other media packages?
2) Decide how effective you need to be. What is your minimum successful impact level? How will you measure this impact? What are the consequences of reaching less than 100 percent of the target audience or of some people misinterpreting the message? What costs are you prepared to pay to develop a more complex campaign with higher quality materials or other media.
3) Assess the resources available. The manager should look at the net costs of the program. Include staff time, facilities, and any contributions in kind as well as finance Also include any possibilities for cost recovery such as sales of the product, advertising revenue, and grants or contributions which may come as a resul: of dissemination.
4) Determine the costs of production, considering factors of scale and technical production qualities. How many books will be distributed for how much? KM ■



A SIMPLE WATER LIFT

Creative Choices for Latin American Photonovels and Comics

by Cornelia Butler Flora

To walk the streets in a working class neighborhood or a small town in Latin America is to see first hand the popularity of inexpensive, sensational print materials or pulp media. People read comics and photonovels as they ride the bus, or buy them from little stands in town, or rent them from vendors who, for a small fee, allow readers to sit beside these curb-side libraries and read them.

Community educators in Latin America have long recognized the popularity of such print materials and have attempted to adapt them for alternative purposes, aimed at social change In this way, educators and activists have changed the content of the message to inform and educate their target audience

There are a variety of ways to develop alternative photonovels and comics, but the three variables that most strongly influence the extent of their success and their cost benefit ratio are. (1) who creates the content (the audience, the artist, or the publisher), (2) who absorbs the risk of production (the creator or the sponsor), and (3) how it is distributed (commercial vs alternative channel). Combining these three variables in different ways offers a wide variety of production and publication alternatives, many of which can be found in Latin America The mix of the variables, to a certain

Literature Review on Comics

by John A. Lent

Despite several decades of controversy about their effectiveness by educators, psychologists, and other critics, the role of comic books in national development programs has increased steadily. Today, comics are used in national campaigns to increase literacy and educational performance, to encourage family planning, and to increase high rice yields in areas such as the Philippines, Latin America, and China.

The following list includes some of the more relevant books, articles, and evaluations that consider the educational uses of comics in developing countries

Angeles, Enrique E "A Subjective, Thematic Analysis of Philippine Komiks " AB Thesis, University of the Philippines, 1969, 55pp

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Cruz, Agustina Ortega C "Interest-Stimulating Qualities of Comic Strips and Comics Magazines to Grade Six Children in Certain Elementary Schools in Manila " MA Thesis, Philippines Women's University, 1957.

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extent, determines how successful the publication will be in presenting alternative viewpoints, in reaching its audience, and in having an impact on the target audience.

Who Creates?

Creators of alternative photonovels and comics, generally those trained as specialists in media production, are attempting to mold an old form to a new content. While these specialists have the technical knowledge with which to carry out the assignment, they may be using old approaches that inadvertantly reinforce established values and accepted knowledge, often resulting in publications that come across either as too moralizing or too ideological.

In some cases, the intended audience is the creator when media professionals collaborate with them to develop materials and design messages. In other situations, production techniques are taught to members of the potential audience who then become the sole creators. In the latter two approaches, less concern needs to be given to the production and distribution phases since the targeted audience is already partially involved, which is part of the original educational goal

Who Takes the Risks?

Funds to meet the cost of artists, production materials, and printing need to be identified before alternative comics or photonovels can enter the production phase. In the commercial market, those expenses would either be assumed by loans or covered by the future sales of the publication. I know of no such support for alternative comics or for photonovels in Latin America. Production costs tend to be assumed by an outside sponsor, meaning there is probably not a predictable cash flow. There are examples of funds coming from middle-class volunteers, but it is difficult to link them with the working class or peasants without having an outside sponsor stand the production risks.

My research shows that the risk factor is a major challenge for alternative publications. Creating the content for these publications is much more costly than it is for commercially produced comics or photonovels The increased cost results from having to consciously and systematically change the story lines of mass produced popular comics or photonovels when applying this approach to alternative publications Furthermore, the educational message presented in each frame of the story must first be discussed to make sure it is internally consistent – something most commercial publishers of popular pulp media generally are not concerned with.

Who Distributes?

Distribution of alternative publications presents another challenge Often, the traditional channels are bypassed in favor of less commercial approaches. In part, this reflects the intellectual bias of those involved in the production of alternative publications. My research shows that while much thought has gone into the alteration of the content and production phases, there is little understanding of how comics and photonovels are currently distributed or which channels to use.

In examining various alternative photonovels' and comics' distribution systems, I found that the most effective technique was to create alternative forms of distribution using already established grassroots organizations as the channel. This suggests that alternative media do not take the place of other forms of outreach, but best serve to supplement it It is expensive to produce alternative comics and photonovels in the necessary quantities to effectively exploit commercial channels, the initial capital outlay would exceed the resources available to most nonprofit operations. Also, it is difficult to track readership once the material enters the commercial channel. One never knows how the content is interpreted or how it is being used.

I am aware of two attempts, one in Colombia and another in Venezuela, where production staff and editors of commercial photonovels made conscious attempts to improve the cultural level of their publications Their limited success suggests that had educators been working with them to introduce socially relevant educational themes into their photonovels or comics, their efforts might have been more successful.

In summary, a system that uses the existing private sector and slightly modifies the content, or that uses private voluntary organizations and grassroot organizing to produce and distribute alternative publications seem to yield better results than attempting to set up a parallel subsidized alternative source of mass culture in a developing country. ■

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and Development

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Dr. John Lent has written extensively on mass media topics dealing with developing countries. He was the organizer of the Working Group on Comic Art at the 1984 and the 1986 meetings of the International Association for Mass Communication Research

Looking at Costs of Graphic Literature

Adapted from "Photonovels, Comics, and Graphic Literature: Popular Print Media for Development," by Bonnie Cain

A medium cannot be judged cost-effective unless it is first *effective*. Only when no other medium exists that is less costly for at least the same level of effectiveness, is it a worthwhile investment. And, ultimately, the medium can only be a cost-effective choice when the educational program using it can afford the costs of development and dissemination. The fact that photonovels and comic books are relatively inexpensive is not the only reason, or necessarily the best reason for considering them; rather, that they are an effective means of delivering persuasive instructional messages.

What are the costs involved in producing photonovels and comic books? Costs of any medium are the costs of obtaining services and supplies to put that medium together within a specific setting. In one country, printing paper may be readily available at reasonable prices. In another, there may not be a reliable supplier and paper costs may be excessive. Affordable graphic artists may be available in one country and nonexistent in another. Some costs can be retrieved through advertisement or sales, or by having an efficient distribution system. The following hypothetical case study illustrates the numerous cost factors that make it difficult to predict what the final expense will be.

The Case Study

A populous country has seven major ethnic groups, each with a different language Malaria is found in all these regions and all recognize there is a need for a national educational campaign to treat the problem. The need is for universal action to cover or treat mosquito breeding grounds and for increased understanding of how to treat trauma cases of malaria. The objectives are to ensure that the families of each region learn about family and community health, control of malaria, and community organization and adult education

The communicators decide that the messages are too complex to use the broadcast media, with language differences complicating matters further. After considerable research and analysis, the campaign directors decide that the most cost-effective approach is to produce a series of photonovels built around the lives of the Ranna family. The lessons are to be illustrated as the Ranna family grows and prospers. Story lines will be developed and messages tailored to the regional and ethnic audiences. Polaroid photography and Xerox copying techniques will be used to create culturally accurate booklets for each of the regions. Booklet covers will carry public service announcements.

Expense Factors

- Market research, modes of message presentation, quality of illustrations, distribution systems;
- Salaries for photographers, writers, researchers, and staff support;
- Printing of covers and duplication services;
- Distribution and transportation costs

Savings Factors:

- Costly in-country printing and paper supply problems are avoided when two local businesses agree to donate the use of high-speed Xerox machines which reproduce photographs well and to provide the paper at cost. They will also donate personnel to run the machines.
- Polaroid pictures bypass the film development process and immediately show the amateur photographers whether or not their pictures are good.
- Participating ministries have agreed to use their existing extension and community education programs to distribute the materials.
- Multiple ministries using the same medium for their educational messages, will realize savings through shared costs.
- Market research and testing will produce instructional materials that will be understood without the intervention of outside specialists.
- The photonovels will be read and shared among families and other community members. Because materials will be circulated for a long period of time, it will be attractive to potential advertisers

Potential Cost Recovery

- Poorly trained extension personnel will be able to use the materials as effective instructional aids
- Public service announcements by other departments and ministries not involved in the malaria campaign, might result in paid advertisements
- Businesses may request ad space on the covers, or wish to include inserts in the booklet.

Cost Effectiveness Decisions

The important question is, which medium will achieve the best results for the lowest price? Given the high cost of paper in the case study presented above, would radio broadcasts or print advertisements have been a better choice? Photonovel and comic books have unique cost characteristics that influence the cost decision:

- The Pass-along Factor:

The pass-along factor takes into account how many people will actually see a magazine or other periodic publication Descriptive evidence, mostly anecdotal, shows that audiences share their photonovels and comic books with their families and other community members Shops where used commercial photonovels and comic books are resold can be found in most countries

The pass-along factor should also be considered in the printing and distribution costs It can safely be projected that at least two other people will read each copy distributed Thus, if 2,000 photonovels or comic books are handed out, the costs should be divided by 6,000 to reflect this pass along factor

- Commercial Versus Educational Costs

Commercial photonovels and comic books are produced cheaply and rapidly Often the entire production process of a photonovel—conceptualization, scripting, casting, shooting, and editing takes only four days With wide distribution, unit costs of the materials are extremely low, and a sizable profit can be expected

Educational photonovels or comic books, on the other hand, are developed by researchers and instructional media specialists. Their consulting fees or salaries absorb a sizable part of the production costs

- High-end/Low-end Production Costs.

Production choices influence cost enormously. For example, photonovels can be made with a researcher, ministry personnel, evaluators, pretesters, professional photographers or artists, paid actors and professional writers. They can also be developed by one locally-trained media specialist using a Polaroid, who writes the story with help from the audience and pretests at the same time. The latter type of production can be completed in two weeks and is typically printed on newspaper stock, while the former often takes six months and may be printed in three colors on glossy stock

A more elaborate production may still be the more cost-effective if it is widely distributed, is so well-designed that trial readers easily understand the graphics, and is integrated with other elements of the program to ensure impact.

A decision must be made on how many refinements should be made to a product. While the publication might be capturing only 70 percent of the intended audience, it may not be cost-effective to try to reach that last 30 percent It may be cheaper to create a separate message for that group than trying to appeal to the entire audience with a single product.

- Cost Effectiveness:

How do the costs of photonovels and comic books compare with those of other media equally effective in achieving the same instructional goals? Photonovels and comic books are uniquely effective in delivering instructional, emotional, persuasive messages to audiences that wish to remember and review the ele-

(*Continued on page 12*)

Radio Education in the Dominican Republic

by Beatriz Casals-Andrews and Ruth Eshgh

The following article appeared in the first issue of Radio Learning, *August 1986, a publication of the Radio Learning Project.* DCR *would like to thank Thomas Tilson, Project Director, for allowing us to reprint this article in its entirety.*

In 1982, the Radio-assisted Community Basic Education (RADECO) project was implemented in the Dominican Republic as a means of bringing basic education to children seven to 14 years old who do not have access to public schools. Through the cooperative effort of the U.S. Agency for International Development (AID), InterAmerica Research Associates, and the Dominican Secretariat of Education (SEEBAC), basic skills are being taught through the medium of radio in the rural areas of the Dominican Republic where there are no schools and where children must work during regular school hours.

RADECO

The goal of RADECO is to teach children the basic skills they would have learned had they gone to regular school. To achieve this goal RADECO has developed a program of practical, low-cost, effective radio-based instruction in the primary grades. Lessons are based on existing Dominican curricula and reflect the special historical, cultural, economic, and social characteristics of the nation.

RADECO faces the task of incorporating instruction for an entire grade-level into a sequence of daily, hour-long broadcasts The resulting program has to be fast-moving enough to hold the interest of a seven-year-old child and, at the same time, cover sufficient materials so that the required skills are learned

Each day, after completing their work in the fields, the children meet at the centers where they are given instruction in basic skills. Reading, writing, and arithmetic are stressed, while social studies, science, music, and physical education are also presented. Although the children are supervised by an adult proctor, or radio auxiliary, instruction is given almost entirely by radio.

The success of interactive radio education can be attributed largely to the innovative style of the broadcast lessons. During interactive radio lessons the learner is constantly active, asking and answering questions, engaging in structured conversations, reading, writing, calculating, solving problems, standing up, moving purposefully about, participating in active songs, games, and exercises – for the course of an hour of lively, focused study.

The results from the RADECO project are the most powerful demonstration to date of the capacity of interactive radio to provide effective instruction in basic skills, whether or not a trained teacher is present, and without significant investment in accessory instructional materials.

Institutionalization

On March 19, 1986, RADECO realized its international development goal when the Secretariat of Education formally institutionalized the project as a permanent educational program in the Dominican Republic. Key factors which contributed to institutionalization are 1) the existing need for an alternative to formal education, 2) acceptance of interactive radio by professionals as well as the communities as a viable alternative to formal education, 3) the human commitment and involvement, and 4) development of local capacity to maintain the project after AID support ends.

The scattered population of the southwest region of the Dominican Republic and the lack of schools and teachers created the need for an alternative educational approach. Initially, educators doubted the methodology of interactive radio. Open communication between the project and the educational community minimized any resistance and the positive outcome of the evaluations gained their support

Commitment to the project existed at all levels. Local as well as AID support for the project enabled the benefits and successes of the project to be highlighted and provided the essential support needed to implement the program. Local support and acceptance were the result of the community outreach component.

By visiting the targeted communities in the southwest region of the Dominican Republic, the RADECO staff learned that education was considered an urgent need The community members wanted to be able to write letters to friends living in other communities to be able to read the newspaper, and to make purchases without fear of being cheated.

The communities were asked to help by identifying candidates for radio auxiliaries, potential students, and possible sites for the *enramadas* or shelters where the children would listen to the radio broadcasts. They also helped build small learning centers for the children to use. These centers were frequently very simple, but the labor put into them reflected the strong need felt by parents for an education for their children. By involving the communities in the decision-making process and in the contribution of goods and labor, they became partners in achieving the goals of the project

The development of local ability to sustain a project of this type was as important to the institutionalization of RADECO as was the community outreach component. The RADECO management plan relied heavily on existing resources and on the host country infrastructure. By remaining flexible when designing the management plan, RADECO was able to more closely respond to local needs.

Key responsibilities of project management, design, and implementation were assigned to staff members already part of SEEBAC. Thus the project was able to provide vital training and development needed to manage such a program. By including institutionalization in the management plan from the onset of the project, the foundation needed for continuation of the program was developed

Through clearly defined project objectives, local capacity building, utilization and expansion of existing resources and infrastructures, and hard work, RADECO has succeeded in ensuring that children in the southwestern region of the Dominican Republic will continue to have access to a primary education.

For more information on RADECO, contact Beatriz Casals-Andrews, InterAmerica Research Associates, 1555 Wilson Boulevard, Suite 700, Rosslyn, Virginia 22209, (703) 533-0870, or Dr. James Hoxeng, U.S. Agency for International Development, Bureau for Science and Technology, Office of Education, Washington, DC 20523, USA ■

(**Rappaport** *continued from page 16*)

lence, or hesitations Incorrect facts presented no real problem. A too-low fence keeping a camel out of a garden or the wrong tool in a character's hand was soon put right, but the picture strip of an unfamiliar process, such as mixing kerosene emulsion, was received with bland politeness – a clear sign that it should be thought through again.

When those tested could immediately identify the characters and their actions, they could often also tell what was being said or at least find the remark in the balloon. In some pictures they could recall the words used to describe various pictures after several days. Humor, emotion, and social appropriateness serve to make a picture memorable. It pays to give as much thought to the human setting of the information as to its technical content. One accepts advice from friends much more happily than from strange or unidentified sources.

From casual audience testing, it would seem that taking advice from a book presents no particular difficulty to the preliterate rural population of the western Sahel and that reading pictures is a natural and effective way to transmit technical information. A handbook of this nature would speed rural development and repay further research. For further information, contact Rosalyn Rappaport, 31 Lodge Lane, London N12 8JG, England. ■

Rosalyn Rappaport, has worked with the U.S. Extension Service and as a research horticulturist in the Caribbean and in Africa.

Why Another Handbook?

The Clearinghouse would like to thank George Grimmett for his kind permission to reprint an abridged version of the following article which originally appeared in the June 1986 issue of Media in Education.

by Rosalyn Rappaport

After a year of working at the Mauritanian Vegetable Production Project at the Sani Oasis and observing the farmers of the Senegal River Valley, planners had confronted the problems of vegetable gardening at the edge of the desert. At Sani, simple methods had resulted in a paradise of plenty and it was time to spread the good advice around. The Project hired an artist, and I (the horticulturist) started to write "method sheets" intended to grow into a handbook of vegetable technology

Mauritania has its share of intelligent, innovative farmers who, by trial and error, have solved many of the problems of Sahelian vegetable production. Unfortunately, distances and the costs of travel trap these ideas at their points of origin. A handbook that presented these ideas in a lively teaching format seemed the most economic, adaptable, and lasting means of technique transfer. It would inform farmers of what their peers were doing in other parts of the country and could start others thinking along similar lines.

There is a small Extension Service but, even were its numbers increased, it would always be insufficient to meet with all the gardening cooperatives in this huge country. According to the World Bank, "Agricultural Extension Services are most effective when they support a profitable or risk-free technology." The handbook is planned as a source of this kind of information.

What Kind of Handbook?

Small landholders, large-scale farmers, extension agents – all would want the facts – but in different detail and presentation In larger villages there is usually someone who can read and, since scientific background should be available to those who can use it, this suggested two levels of text.

The contents would be confined to locally developed techniques drawn from western Sahe' a Mauritania, as throughout the Sahel, ra. fall management and date-palm irrigation are ancient practices and in the thirty years since irrigated vegetables appeared in the region enough local expertise has accu..ulated to complete a text covering some fifteen vegetable crops. Local solutions are well adapted to climate and terrain, are within ordinary labor and financial limits, and take account of consumer preferences.

Each information unit – preparation, crops, protection, processing – would be composed of a simple account of what to do, followed by the scientific explanation of why the procedure works, the latter intended mainly for the Extension agents.

Doing It

Justification arrived at and content decided, the format seemed equally clear – a dispassionate, carefully sectioned text illustrated with diagrammatic figures The project hired Mohammed ben Bara, a high school boy with a talent for copying. It didn't take long to produce the first sheet, "Planting Onions." Mohammed had combed the technical literature to good effect, reproducing familiar persons planting, measuring, etc., in profile The page could not have been clearer.

Preliminary comprehension tests were carried out on the project's three drivers The office staff read them the text, pointing out the illustrations and then asked who the drawings were of and what they were doing The drivers duly *admired*, but were mystified They did not understand the text nor could they theorize about the pictures Dismayed, I started asking questions such as "Who is this man?" which produced answers such as "He is poor," "He is a picture." If our work was incomprehensible the idea must be abandoned. Our artist's job was preserved when I discovered, in a corner of his notebook, a delightful caricature of a bird perched droopily on a camel. I persuaded Mohammed to draw some cartoon people carrying out familiar agricultural tasks

He drew a plump seductive matron hoeing and her husband, cheery and muscular, wielding a pick. Upon showing them to our drivers, they voiced the general opinion that "These are the people to ask because they know the business;" and Suzie, the bird, "the outsider," was free to speak her mind – tactlessly if necessary The next step was to develop the story line; the real difficulties began at this point

Each cartoon comprised six to eight conversations. Problems emerged as we merged the cartoons with the script In particular, the farm family seemed locked into the role of lecturers who were not doing much. To emphasize the family's active role, I started to write up the scenarios as little dramas Emphasis was moved away from technology toward the family's attempt to use the technology This both enlivened and "telescoped" the stories, enabling more information to be included in one frame It more closely reflected life, where family members pursue their responsibilities simultaneously Facial expressions could express acceptance or rejection of ideas, neighbors were added, interpersonal relationships became important to the effective telling of events

As time passed and the refinement of the cartoons proceeded, I realized the enormous potential of comic strips Mohammed and the project's staff now contributed ideas to the comic strips The figure below illustrates how people would benefit from having more vegetables in their diets Marianne dreaming of cous cous topped with vegetables brought roars of laughter and set me to search for more comic situations (See illustration below)

Pictures Carry Information

A well-drawn picture presents a whole situation, facts plus implications at a glance—its advantage over the written word At its best, our comic strip combined this overview with the precision of the written word in a very concise form – the "ballon." One such frame may carry multiple messages of equal or ranked importance

The main message may be varied. Most agricultural procedures recur but, particularly with vegetables, they do so with variation. Comic strips have a special ability to present this repetition with variation. This leaves the instructor or reader free to select from several story situations exactly what he or she needs to make or understand a point The opportunities for cross reference are practically endless

Comprehension and Retention

As ex-farmers who had for years ranged the western Sahel, our drivers were well-qualified observers of the rural scene and their reactions to our pictorial representation of the work they knew so well, was exceptionally enlightening Politeness forbade them to criticize openly and the existence of errors or misconceptions could be inferred only from their si-

(*Continued on page 15*)