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AUTHOR Colle, Roval D.; Fernandez de Colle, Susana
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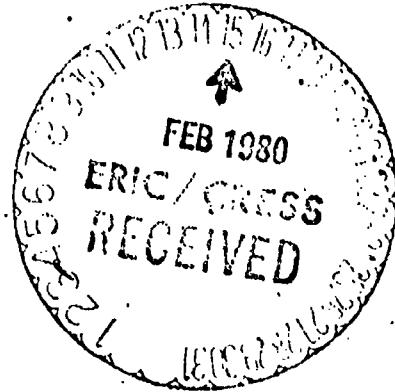
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ABSTRACT

Although not often considered in the past by planners because their economic contributions are not performed for money, rural women are contributors to the development of their countries. The urgency of reaching women with important information to break the cycle of poverty is now being recognized by the major development agencies. While there are many physical and cultural barriers to the education of rural women, the case studies described in the report illustrate ways of approaching these problems. The use of paraprofessionals and audio cassette technology is combined in several patterns in nations including Mexico, Guatemala, Columbia, the Philippines, India, Thailand, Bangladesh, Iran, Sudan, Tanzania, and the United States to reach and communicate with rural women and their families about such subjects as health, nutrition, family planning, and agriculture. Program format varies from serial dramas, stories, music, talks, interviews, and short announcements, all with the intent of encouraging listening, learning, and action. Key elements of the program strategy are dramatization, authority, reinforcement, localization, entertainment, questions, brevity, semi-sequential flow, and repetition. The examples cited are primarily simple systems that should be affordable by governments anywhere which take seriously the welfare of their poorer rural population and provide opportunities for rural people themselves to have a role in community improvement programs. (NEC)

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REACHING RURAL WOMEN: CASE STUDIES AND STRATEGIES

Royal D. Colle
Susana Fernandez de Colle

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RDC
SFC

Foreword

A recent study of the world food situation estimated that "possibly as many as 450 million to a billion persons in the world do not receive enough food." Most of these hungry people live in the poor countries -- where populations are destined to grow rapidly for some time into the future.

The problem is most severe in rural areas. There, where more than 80% of the world's poor people live, malnutrition, inadequate health services and educational opportunities, scarce employment opportunities, and lack of suitable living facilities threaten to trap many of these families into hopeless cycles of poverty which will also engulf successive generations.

In some cases these conditions can only be removed by massive social, political and economic transformations -- which may require a generation or more to take place. But for many areas of the world, improvement is possible now by making better use of available resources, and by heading off problems before they erupt. And some of this can be accomplished by individual and community initiative. Improving agricultural techniques, following better nutrition and health practices, and planning births of children are only a few examples of what rural families themselves can do to better their lives.

The United Nations Social Development Centre commissioned this paper so that people -- particularly those in Spanish speaking nations -- might gain new information and ideas on innovative communication programs for rural development, especially programs emphasizing family welfare. Thus, projects described in the paper are intended to stimulate readers.

to analyze their own rural development situations and to adapt the ideas we present to their own programs where it is appropriate to do so.

Because families generally do not see their problems nor their existence in the neatly compartmentalized way that governments are organized, the Social Development Centre was particularly interested in projects where various kinds of development information such as health, family planning, nutrition, and agriculture were integrated into coherent programs. The major case studies we have reported not only take this "integrated" approach, but they also deal with another facet of family welfare which is currently of considerable interest in development circles: the role of women.

Innovative education and information programs are needed which will provide rural people with understanding, knowledge about resources, motivation, and realistic suggestions for improving their health, nutrition and other living conditions. Throughout the world, researchers and program people are working to develop appropriate communication strategies and systems to accomplish this objective. This is a great challenge because many of those who need help have been geographically and culturally isolated from "modernization" for so long. We thank the UN's Social Development Centre for this opportunity to try to make a contribution to those efforts.

Susana Fernandez de Colle
Royal D. Colle

Cornell University
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Chapter I: Women in Development

The Role of Women

It is now widely recognized that women play a key role in the development process. Recent major world conferences have pointed out that the participation of women is crucial for the success of any plan for rural development. The World Population Conference (1974), the World Food Conference (1974), and the World Conference of the International Women's Year (1975) as well as international organizations, government agencies, and foundations concerned with rural development (for example: the U.N., the World Bank, U.S. A.I.D., the Ford Foundation) have placed special emphasis on integrating women into the development process.

Rural women are contributors to -- not only beneficiaries of -- the development of their countries. Often they are not considered by planners because their economic contributions are not performed for money, and therefore their efforts may not be included in national statistics. For example, many rural women are subsistence farmers and traders as well as homemakers, and although their overt influence on the economy may be obscure, their contribution to family and community survival may be enormous. Thus, women have dual roles: they are economic providers, and they play a prominent role in the health, nutrition and general well-being of their families.

One of every three households in the world is headed by a woman. In some Latin American countries the figure reaches as high as 50 per cent.

And although their roles may vary somewhat from culture to culture, there is an important common element. Regardless of the traditions and geography that surround them, "women have the biological and social tasks of bearing, nurturing and providing initial education for children and in general, ensuring the well being of their families." (Human Resources Development Division, U.N. Commission for Africa, 1972).

Importance of information and education

Because of the importance of women's contribution to society, the urgency of reaching them with important information is being recognized by the major development agencies. According to the World Bank, education is the key to people becoming part of the economic mainstream; thus women should have access to quality education if they are to make their maximum contribution to the national effort.

The Bank says that 60 per cent of the world's illiterates are women. Yet these women educate children in their most crucial years of development (pre-school). Thus, not only does their lack of education limit women's contribution to society today, but it may also negatively influence the contributions their children (regardless of sex) can make in the next generation. The World Bank points out that the education of women is crucial to break this cycle of poverty. And a recent FAO document summarized the point this way:

"Helping women to participate in rural development bears long-term results. The attitudes of women shape those of their kin, and especially of their children. They project their aspirations and doubts and mould the latter's determination either to remain in the village or to

emigrate. Because of the mother's close bonds with daughters, women are the best qualified associates of the agents of change; or, on the contrary, they can remain the most adamant proponents of the status quo. Hence, no programme of integrated development can afford to minimize expertise in improving women's intra-familial roles."

Education enables women to expand and better manage the resources that are available to them for the well being of their families. The importance of information has been recognized for many years. In 1956, Dr. Carlos Perez of the Institute of Nutrition for Central America and Panama (INCAP) attributed the poor child feeding practices in Guatemala that resulted in malnutrition and hampered children's growth and maturation to erroneous beliefs, ignorance concerning the need for a good diet, lack of information about the way of preparing food, and low family budgets. But Perez observed that in most cases the mother with a limited budget would be able to feed her child in a satisfactory way if only she knew how.

The World Food Conference in 1974 asked all governments to make special efforts in both the formal and non-formal education of rural people, with emphasis on what is relevant to their needs. The Conference members reminded the governments that in doing so, they were considering the importance of women's roles in agriculture and rural life.

Education is a form of prevention. It is less expensive and more humane than curative measures. And in many cases when curative measures are finally undertaken, if they are at all, the damage is already irreversible. For example: often when children are brought to nutrition rehabilitation centers they have already been scarred for life. And what curative medicine is there for a woman who already has eight or ten children she cannot take care of?

Reaching rural women

Most rural women are not fighting for the right to work. Their lives are full of work. Their days start before sunrise and they keep very busy with household chores, agricultural work, caring for animals, transporting water, and so on. Their daily routines do not leave them much free time for personal enrichment. In fact, when girls are very young, they often have to interrupt their schooling to take care of younger brothers and sisters or to help out with house work or harvesting. When they are ten years old, they already are experienced housekeepers; at fifteen or sixteen, they are getting settled with families of their own.

Compared to urban dwellers, people living in rural areas are at a disadvantage regarding their educational opportunities. The percentage of school-aged children in the formal education system is usually much lower in rural areas. Because rural communities are often small and isolated, they may have few local educational resources, and the heavy seasonal rains of the tropics may cut them off for months from other communities.

The mass media may brighten their lives with a little music but the media seldom carry much information that is relevant for women. Advice on health care is often limited to advertising patent medicines that the rural families can scarcely afford. Newspapers (even if they could be read) rarely reach remote rural areas, and the television sets are beyond the average family's budget.

The only medium conspicuously present in most rural areas is radio. Radio is not only relatively inexpensive but it jumps the illiteracy barrier. This is important because rural women usually are illiterate -- or if they can read, they are not very comfortable doing it.

Professional extension or field workers are scarce, and historically the majority have concentrated their efforts on men. If an extension worker does reach the rural areas, he or she cannot possibly be an expert on all the subjects of interest and importance to rural families. In addition, there often are cultural and language barriers between the urban educated extension personnel and the rural people. In countries where languages vary locally, it is often the women who do not speak the national language and thus they are not at ease with the outreach personnel.

Culturally it may not be appropriate for women to associate with the male extension worker, and even a female urban type may not be perceived as a "good influence" for women of a traditional society. In some areas, women have been discouraged or not encouraged to participate in cooperatives or organize themselves to become more socially visible.

Family planning communication

When the information to be conveyed is on family planning, there are added complications. Sex related subjects may demand a more confidential communication setting. Women may not want to talk about this topic with strangers, or their husbands may not permit it. Religious beliefs and the prestige often associated with large families may impede family planning communication.

And when women go to a clinic seeking family planning advice, they are usually confronted by a lot of what they regard as irrelevant material. According to population expert J. Mayone Stycos,

Women come to clinics knowing what they want, and it is not complicated: they want -- permanently or temporarily -- to stop having children. They want something that will do this

without hurting them. They do not care about reproductive physiology, demographic trends, responsible paternity, or sex education. They are nervous about what is going to happen to them, anxious to get it over with as quickly as possible, and in no mood to absorb a lot of information.

But at this stage communication is still important. Women need reassurance; they need to realize that many others have had similar experiences without complications; and they need to be encouraged to return to the clinic at regular intervals. Stycos concludes: "In many clinics today, they do not get enough of the information they need, and get a lot they do not need instead."

There are many physical and cultural barriers to the education of rural women. Reaching them is a problem, but the problem does not end there; once reached, it is important that the information they get is relevant, that it meets their needs, and that it is provided in a useful way. The case studies that follow illustrate ways of approaching these problems. In the first one, paraprofessionals and simple audio cassette technology are combined in several patterns to reach and communicate with rural women and their families. This approach may provide rural development programs (wherever they are) with ideas which can be readily adapted to individual circumstances.

CHAPTER II. EXTENDING THE SERVICES OF PARAPROFESSIONALS

Growing use of paraprofessionals

Rural development programs around the world are using paraprofessionals. Mexico, Guatemala, Colombia, the Philippines, India, Thailand, Bangladesh, Iran, Sudan, Tanzania, the U.S.A. -- this is only a partial list of the nations which have used paraprofessionals in health, nutrition, community development, or agricultural projects. There is little that can be said to generalize about these uses of paraprofessionals because standards and practices vary greatly. There seems to be no pattern in the amount of training, extent of services rendered, amount of payment (if any), number of families served, recruitment standards, etc.

There are several reasons why paraprofessionals have become so important in rural development. In many areas, paraprofessionals substitute for more extensively trained professionals. With many governments embarking on major programs calling for more services to poor people -- especially poor people in rural areas who have been overlooked in the past -- there is a great need to enlist persons who can help deliver those services.

Population increase is another factor influencing the demand for services. The majority of the 70 million persons born each year live in the less developed nations whose annual per capita income is US \$50 or less, and their needs for more productive agricultural techniques, and effective health, nutrition, and other community development practices are enormous.

The number of professionals who are willing to work in the countryside, especially the more remote areas, is not great enough to meet the needs, and, even if it were, the costs of training those professionals probably could not compete successfully with other priorities in national budgets. Thus, paraprofessionals may represent a less costly way to extend services to the expanding population.

The paraprofessional offers something the regular professional may lack: a closer contact with rural people and a better understanding and appreciation of their ways of living. As programs have tried to include culturally and geographically isolated populations, the socio-cultural distance between government officials (mainly from the cities) and rural families has grown and become more obvious. Language, values, food habits, and living styles are often different, and the approaches widely used with urban and more prosperous rural populations may be less effective with the rural poor. This is a particularly important problem since "social change" and "development" result from thousands and thousands of individual decisions, and in many cases it takes information and education to set decision-making in motion. Paraprofessionals who are often recruited from communities where they serve may be better able to communicate with villagers who are much like themselves.

And communication with villagers will continue to grow as an important aspect of development programs. Along with those points mentioned in the last chapter about education and women, it must be stressed that information and education for all members of the family is going to be important in helping people cope with their everyday problems of health, nutrition and limited family resources. For example, both the shortage of doctors and the

high cost of medical cures is causing health and nutrition specialists to stress more the need for prevention. Almost any prevention program ~~thus~~ should include an explicit communication program, whether it be called "information" or "non-formal education" or whatever. As one expert has put it, "it is cheaper to prevent malnutrition than to cure it," and prevention comes at least partly through learning and understanding. It is in this education process where paraprofessionals have the potential for playing such a valuable role. Although their work assignments and their activities may emphasize services, in most cases they also have a non-formal education responsibility. Unfortunately, it is this education activity which suffers most in working out priorities in performance of duties.

Difficulties facing paraprofessionals

Despite what is often a relatively brief amount of training, paraprofessionals are often expected -- by their superiors and by their clientel -- to provide services and information which may go beyond their competences. In some cases they can make referrals to more expert personnel. In others, they are helpless, especially when the needed help crosses into other fields. And then there is the related problem of overload. In Bangladesh, for example, representatives of village cooperatives were supposed to convey what they learned in their weekly training sessions to members of the cooperative. But the system broke down in part because the representatives could not carry all the information without omissions and distortion. Elsewhere, similar conditions exist: there is great temptation to have agricultural agents carry family planning information and services; or to expand health promoters' activities into the nutrition field; etc.

This difficulty is frequently compounded by the fact that paraprofessionals are given little communication training. The situation in a Caribbean nation's community development program is typical of many. Community development workers (the professionals) train the volunteers (paraprofessionals) in various subjects, but no one trains the volunteers in how to communicate with their constituents.

And although almost all programs profess to have in-service training to supplement the initial training effort, it is probably the exceptional case where in-service training is systematically carried on. Too frequently paraprofessionals working in the field are not only geographically isolated but professionally isolated as well -- because adequate supervision and in-service training are both lacking. While some may appreciate a feeling of independence, others are likely to feel that their parent organization does not care about them or the problems they have in doing their jobs.

Another problem relates to numbers. In many developing nations, paraprofessionals help relieve the shortage of professionals. But frequently there is even a shortage of paraprofessionals, or an inefficient pattern of use which results in less community coverage than is needed. Typically this means meeting what are seen as the most pressing needs, and putting off vigorous information and education programs.

Increasing the effectiveness of paraprofessionals

Much can be done at relatively low cost to help paraprofessionals improve their rural development efforts. By supporting them with simple communication technology, it is possible to improve the quality, range, and reach of paraprofessionals' efforts. This applies especially to strengthening their information and non-formal education activities.

In the next chapter, one major case study and several variations illustrate how rural development programs directed especially toward women can be made more effective by combining simple audio cassette communication with the personal contact of paraprofessionals.

CHAPTER III. SUPPORTING PARAPROFESSIONALS WITH SIMPLE COMMUNICATION TECHNOLOGY

The nutrition aid program

This case study is about a project in "Essex," a rural section of the northeast United States. Despite its location, it has some lessons and ideas which might be applied anywhere. For example, at the end of this chapter, we will explore ways that the Essex experience has been applied in Latin America.

In the early 1970s, Essex started an "expanded food and nutrition program" which was designed to improve the nutrition practices of low income families. The basic strategy was to recruit women who themselves were from low income families, give them training in nutrition, and then have them work with families in their communities. The local county extension service which ran the program carried on continuous in-service training of these nutrition aides.

The program had been in operation for several years when we discussed with the director the possibility of experimenting with a system for expanding the range of non-formal education and information the aides could offer to the low income women in the program. One of the needs the women had was for information on family planning. It was also becoming clear that poverty families in Essex were not using resources in their own community that could help them live better and more comfortable lives.

We proposed that the nutrition aides use audio cassette tape recorders with pre-recorded tapes to help them communicate with their client families. It was a relatively new, though simple technology whose distinctive characteristics persuaded the Essex people to collaborate with us in exploring its potential.

Characteristics of "cassette special communication"

Although audio cassette recorders appeared on the market in the mid 1960s, it was not until about 1970 when their cost dropped sharply that "cassette communication" became a real possibility in rural development. Even now, it is mistakenly thought that cassette technology is expensive. Actually the purchase cost is often inflated by government customs duty because cassette equipment is regarded as a luxury item rather than an important tool (comparable, for example, to seeds or medical equipment) for rural development.

Audio cassette technology is important in information programs and non-formal education projects for several reasons. These include:

Low cost. Cost is, of course, relative. It cannot be measured properly without some consideration of effectiveness and benefits. However, at US \$20-25 for a cassette unit, the capital costs are quite modest compared to costs for other communication technologies, including people.

Simplicity. Practically anyone can learn to play a cassette in less than five minutes. Recording with a cassette machine can also be easily done by persons without professional recording or radio training.

Portability. Because cassette units are small and light weight, and can operate on battery or "mains" power, it is easy to use the cassette player where it is most convenient for a person or persons to listen.

Durability. Most of the moving parts of the cassette tape and the tape machine are enclosed, giving much protection from environmental conditions, including children. The "solid state" electronics which are responsible for its small size also makes the cassette player rugged.

But cassette technology provides other important assets related directly to communication of messages. For example:

Listening. In many rural development project areas, families -- and especially women and girls -- have not had the opportunity to learn to read. And even where some have learned to read, they are still more comfortable getting information by listening (and seeing). Thus, since cassette communication is an aural system, it uses a method that is very congenial to many villagers' most important learning medium.

Repetition. Because the tape can be played over and over and over, listeners can have dense or more complicated messages repeated as frequently as necessary. This is difficult to do with other methods of information delivery such as radio, television or even persons. (Status differences may inhibit rural people from asking a family planning worker or nutrition aide to repeat or explain something more.)

Scheduling. There is often little opportunity to schedule information or non-formal education programs at times most convenient to the members of the rural community. A radio program or a field worker's visit to a home may come when some of a family's other activities have higher priority -- going to market, tending a sick child, working -- but cassette communication can be patterned to community or family circumstances and schedules. (In India, we sometimes found that people in a village could not watch an agricultural or any other television program on the community TV set because there

had been a death in the village, and a death meant no public activities for three days. Whatever programs were broadcast in those three days were "lost" to the villagers.)

Flexibility. A cassette system offers the possibility of stopping part way through a message -- for a rest, to do another job, to talk to someone, or to go back over a portion already heard -- and then resume the program. The system also allows the message sender the flexibility to make the message as long or as short as the message requires, rather than be governed by other constraints, such as a broadcast station schedule which may make the message conform to a particular arbitrary length of time.

Accuracy. As a message is delivered -- no matter how many times or at what part of the day or night -- it reaches the listener without distortion. It arrives without important parts being left out or changed because of the fatigue or limited competence of the field worker.

Shifting control over learning conditions

Two especially important considerations emerge from this description of the potential of cassette communication. First, control over the reception of messages in some cases can be shifted from the sender to the person(s) receiving. While this is a relatively simple idea, a casual review of traditional rural development information and education methods would show that members of the rural community generally must adjust their activities to suit the convenience of the development organization's representatives. This has implications far beyond the matter of convenience alone.

Second, when a paraprofessional representing a particular development sector (agriculture, nutrition, health, etc.) works in a community,

and is aided by cassette communication, he or she can provide expertise from other development sectors. In other words, the paraprofessional at the community level can help integrate rural development efforts. This is important because people do not seem to look at their worlds and their problems in the same specialized way that governments are organized into ministries and departments. For example in Essex, the nutrition aides said that when they visited with women in their homes, it was often difficult to deal with nutrition problems because the women raised so many questions about other problems that to them seemed more urgent. Frequently, the nutrition aide felt inadequate to deal with those other problems except to refer the women to another agency.

It was in this context that cassette communication was used to support the work of the nutrition aides.

Deciding on content

As a result of talking with various informed sources (including the nutrition aides themselves), we became aware of the need for information on family planning. Nutrition information and guidelines for food shopping were also included because of the need and because of the primary emphasis in the organization's food and nutrition program.

The nutrition aides, who were in close touch with the conditions and the poor people in Essex, made suggestions as to other kinds of information which would be useful to include in the project. School, health, and local government officials also made recommendations. Thus, we ended up with a list of topics which included -- in addition to nutrition and family planning -- health, family-school relations, legal advice, how to deal with government

officials, child development, home repairs and safety, low cost sources of home furnishings and clothes, and location and services of various community organizations.

These were the problems. The solutions came from reputable publications and from experts, including any right in Essex such as public health people, educators, lawyers, government officials, and the nutrition extension staff. In some cases the nutrition aides themselves offered "household hints" for solving common problems around the home. (We all learned many different uses for baking soda!) Not only were the tips valuable -- they were often based on traditional time-tested practices -- but the paraprofessionals seemed to enjoy having their knowledge and wisdom used in the recordings. This was only one of several important ways they actively participated in the project.

Presenting the information

Relying again on the advice of the nutrition aides, we decided to prepare a set of ten 30-minute tapes. Each tape would have a collection of three or four episodes or dramatizations. Each episode dealt with one of the topics being covered in the series.

The dramas were built around a fictional Essex family which was similar to the families of the women who would be listening to the tapes. The nutrition aides "created" the family and provided character sketches of its members and the family's friends. This technique was used so that the Essex listeners could identify with the characters in the dramas, and in the plots they could recognize problems, solutions, recommendations and behaviors as being appropriate to their own situations.

Following is an example of the content on one of the tapes:

Program 3

<u>Episode</u>	<u>Description</u>
FP-2	<p><u>Purpose:</u> To acquaint the listener with a family planning outreach worker and Planned Parenthood, and with the procedures at the clinic in Ticonderoga. <u>Synopsis:</u> Ruth visits Barbara Scott to find out more about family planning. In a flash-back sequence, Barbara tells about her first visit from the Planned Parenthood outreach worker. Time: 8:04.</p>
MED-3	<p><u>Purpose:</u> To emphasize the importance of getting babies immunized at two to three months of age, and to point out the law regarding immunization prior to school entrance. Also, to give information regarding clinic services available for immunization. <u>Synopsis:</u> Ruth brings Pat a dish of meatballs for her to try, and during their conversation, Pat asks about getting immunizations for her baby. Time: 4:31.</p>
VD-1	<p><u>Purpose:</u> To indicate the ways a person can get treatment for VD with confidentiality and without cost. <u>Synopsis:</u> Tom and Dave discuss VD in the school locker room. Dave is obviously upset, but the episode doesn't reveal why. (A later one does.) Time: 2:53.</p>
HH-4	<p><u>Purpose:</u> To convey some simple inexpensive methods of taking care of things around the house. Emphasis is on the uses of baking soda. <u>Synopsis:</u> Barbara is "thinking out loud" about household hints she learned about when she was visiting her friends recently. Time: 2:53.</p>

Two observations can be made from this example. (1) Each tape contained a variety of topics, and the episodes dealing with those topics varied in length depending on the needs of the topic. Music which was popular among the listeners was used as a "break" between the episodes. (2) Topics appeared more than once in the ten program series. A family planning episode, for example, appeared in almost every program, with each of the episodes covering a different aspect of family planning.

Recording the programs

It is often assumed that professional talent and expensive equipment are needed to make suitable recordings. The Essex project provided clear evidence to the contrary. Simple portable equipment (such as a US \$100 microphone "mixer") was used in a studio which consisted of the kitchen and living room of a farm house in Essex. When a dog barked or scratched on a door, the sounds went right on the recording as background or "special effects" for the programs. They provided realism!

Our performers consisted of high school students, a telephone switch board operator, a teacher, a family planning worker, etc. All of the persons lived in Essex so their expressions and accents sounded like Essex people.

Reaching homes with the programs

There were six nutrition aides working with the women in our group of low income families in Essex. Each aide was given seven or eight cassette players, allowing them to leave one with each family. The first tape in the series was also left with each machine.

Each week for the next five weeks a new tape was delivered to the families. According to the aides, the women eagerly awaited the delivery of new tapes.

A second system for distribution was the "pass-along" system. A tape machine with a complete set of tapes was left with one family. When they had finished with them, that family was instructed to pass the machine and tapes to another family who might be able to use the information. This second family similarly was instructed to give the machine and tapes to another family. And so on.

This pass-along system had some assets beyond those already described for the cassette communication system in general. First, people in the community helped identify additional families who could use the taped programs and they arranged for getting those families and the tapes together. Thus, low income persons overlooked by the aides or other community organizations might be "discovered." Second, in this process of transferring tapes from one family to another, more than the tapes and machines were involved in the interaction. There was an implicit testimonial -- one person was recommending the tapes to another simply by passing them on.

Results and prospects

Although this was a relatively small project carried out for a short period of time, it demonstrated some important possibilities for the use of cassette communication in other non-formal education and development projects. Most of the following observations have been verified by similar uses of cassettes in places ranging from the Philippines to Guatemala.

First, people listened to the tapes, even when other media such as television and radio are available. When they have the opportunity, they often listen more than once to the programs.

Second, people learned from listening, and often acted on suggestions contained on the tapes. Such behavior ranged from trying recipes to visiting family planning clinics.

Third, the effects of the recordings extended beyond those women who were loaned the cassette units. Other persons in the family listened. In addition, friends, neighbors and others learned from the tapes directly or when listeners relayed the information to them. And an outcome important

for in-service training of paraprofessionals was the discovery that the nutrition aides themselves absorbed information from the tapes and were using that same information in their personal contacts with other families.

Fourth, the cassette system enhanced the self-image of the nutrition aides, instead of threatening them. Since they were participants in the development of the content and were seen by the families as the ones in charge of the machines and tapes, they felt a considerable sense of importance. (In another community, using a similar system, the nutrition aides also participated as performers in the taped dramas -- an arrangement which also seemed to strengthen the aides' self-image and their enthusiasm for the project.)

Fifth, the tapes were able to communicate in situations which were difficult for the aides. Put another way, the tapes helped open up channels of communication between them and the families. Two examples illustrate this. First, the aides found it difficult to talk to the Essex women about family planning and sex. However, after the tapes laid a foundation, with episodes depicting situations where people did speak openly about these matters, the aides indicated it was easier for them to discuss these topics with the women.

In a second situation, one aide mentioned that the tapes taught some things that she had tried unsuccessfully to teach the women in person. The aide analyzed that phenomenon and her explanation was that the women liked to talk to the aides rather than listen to them, but, since they could not talk to the tape machines so easily, they listened to the tapes.

And six, the Essex project demonstrated the potential value in using simple communication technology to increase both the reach of

paraprofessionals, and the amount and range of information they could provide to families in their communities without distortion.

Variations in Latin America

In Guatemala, variations of the Essex cassette communication system were tried out in a valley in the "Oriente." - Similar background work was done to identify the appropriate content, and then four tapes were prepared for distribution. Although we again used dramas as a main element, these tapes had more of a "magazine" format, thus also including interviews, talks, "spot announcements," stories, and as in the Essex case, music suitable to the tastes of the Oriente people.

To make personal contacts, the Oriente project recruited volunteers from three aldeas (villages). They used two systems of distribution. One was a modified version of the Essex pass-along system. On the first day of the week, each volunteer left a cassette machine and one tape at a farm family's home. The family, their neighbors and friends had opportunities throughout the day to listen to the tape. On the second day, the machine and tape were shifted to another home; on the third day, to another home; and so on for the rest of the week. At the beginning of the second week, a new tape was circulated among the same homes. New tapes were also introduced into the systems during the third and fourth weeks.

This pass-along system had several benefits: first, the information (on cassettes) traveled in the communities using energy within the community itself to move the cassette system among households; second, recipients of the tapes could listen when and as many times as they wished, but they also realized their responsibility to get them to the next family

within the specified time; and finally, with one tape (as part of a series) circulating at a time, it is possible to build up an atmosphere of anticipation and expectation. We have a hunch (but no evidence) that this type of system builds a foundation of common knowledge of which the users are distinctly aware thereby facilitating further informal and spontaneous discussion among them.

A second distribution pattern consisted of each volunteer retaining possession of one cassette recorder and a set of tapes which they could play in the villages for individuals or groups as the opportunities arose. The volunteers played the tapes at refreshment stands, a tailor shop near the entrance to the village, under a ceiba tree where men gathered in the late afternoon on their way home from their fields, and along the pathways which villagers took. The volunteers reported that people frequently stopped them to ask to listen.

Despite the fact that only one person of all those who became involved had ever used cassette technology before, the volunteers had no trouble teaching villagers to play tapes, and no tapes or machines were lost or damaged. (The same result was reported recently from a project using cassette tape recording equipment in rural Ecuador.)

Evaluation data collected after the four week trial indicated that people in the aldeas listened to and liked the tapes, and almost half of the sample interviewed had acted on recommendations made in the tapes. For example, all the available "improved" sorghum seed in a community was sold out after tapes on inter-cropping sorghum had been played in the community.

Two other results should be noted for their possible implications in other projects. First, the volunteers reported that in more than 50% of the situations in which they had participated (i.e., not counting the pass-along system), spontaneous group discussion followed the playing of the tape. (In one case, a discussion lead to a cooperative effort to repair a rough road linking the village to the main road.)

And second, in this project as in Essex, the information on the tapes reached a substantially greater audience than those who were loaned machines and tapes, or who listened in groups organized by the volunteers. It seems a common characteristic in cassette communication systems that more persons are reached than is obvious in the distribution pattern being used.

In the Essex and Oriente projects, the paraprofessional -- a nutrition aide or a volunteer -- played a key role in the use of cassette communication. As projects in health, nutrition, child development, agriculture, and family planning begin to employ paraprofessionals in rural development projects, simple communication technology such as the cassette system can help maximize the benefits of this valuable resource. We have seen how paraprofessionals can reach more people, with more information, and in some cases, with greater impact than by face-to-face contact alone. And by having paraprofessionals assist in the planning and production, as well as the distribution of cassette communication, projects can achieve an important degree of community participation which will help make the program relevant to the needs of rural families. Furthermore, to the extent that learning can take place

in or near the home and at the convenience of the family rather than at the convenience of the change agent or a radio station, women will have greater access to knowledge which will help them gain more expertise and influence in the development process.

Unfortunately, even trained paraprofessionals may not be available in some areas. In the next chapter, the second of our two major case studies presents that type of situation.

CHAPTER IV. REACHING WOMEN IN A TRADITIONAL SETTING

Using other community resources

We indicated earlier that paraprofessionals are becoming more and more common in rural development programs. But as in the case of regular professional personnel, there are not even enough of these modestly trained persons in many areas.

One viable strategy is to develop an information or non-formal education program using local institutions and volunteers. For example, health educators could develop materials which could be used in communities by mothers' clubs or cooperatives. While the situation may be less satisfactory than having an extension worker or a trained paraprofessional, good content packaged in appropriate media can produce results which are better than nothing and may, in fact, make substantial contributions to family and community welfare.

This case study takes place in another part of Guatemala, and with a different group of people. In the space of a few short months, interesting and important changes began to take place among women on a coffee and rubber plantation. A brief description of one of these changes helps set the scene for a closer look at how the project unfolded.

In May, the women on Finca Maria de Lourdes went to the local midwife for childbirth, avoiding the regular nurse provided by the plantation.

One reason: the nurse wore rubber gloves when delivering babies.

In August, many of these same women planned to use the regular plantation nurse for childbirth. One reason: "The nurse wears rubber gloves for delivering babies."

What intervened between May and August was a modest communication project carried out among the women to tell them how they could help themselves and their families live better lives -- without having to wait for some far off development plan to materialize. A simple audio cassette system operated by a high school age girl from their community provided these women with health, nutrition, and other family welfare information so that they could live better using what resources they had available to them.

The plantation setting

Finca Maria de Lourdes is located on the Pacific Coast of Guatemala, about 200 kilometers from the capital. This is plantation country -- relatively flat land with a tropical climate. At one time bananas were grown in abundance in this area, but many of the plantations have changed to rubber or coffee.

Time-worn and travel-worn buses wend over the dirt road which cuts through the 1100 acre plantation and meets an all-weather highway about two kilometers away. Although small stalls sell simple everyday items such as candles and toothpaste, plantation families generally go to Coatepeque, a town about 12 kilometers away, for their major shopping needs. Few ever travel to the capital, although some may go to Quetzaltenango, Guatemala's second city, by the more modern buses that travel the near-by highway.

The plantation supplies housing, primary school education, water, electricity (hydroelectric and diesel generators), corn mills, and medical services. There is a resident nurse/midwife; a doctor periodically visits the farm and receives patients in his clinic in town; and medicine and hospitalization are provided when needed. All of these are free of charge. Funeral expenses are also taken care of by the plantation. Typhoid, polio, measles, diphtheria, tetanus, and whooping cough vaccination campaigns are conducted every year by the Ministry of Public Health. Children are given parasite medicine every six months, if they need it.

The free services required by the law from a plantation this size are first aid, primary school and housing. The housing provided by the Finca Maria de Lourdes consists of cinder block/wood houses with zinc roofing. There is an average of three persons per room. The kitchen is in a separate room.

A woman's living pattern

Reaching women with information and convincing them to try out and adopt different practices is not easy on a Guatemalan plantation or in the hundreds of small, similar communities dotting the rural countryside of many Latin American countries. Few of the women can read. The radio stations they hear mostly broadcast music, and although there are many educational stations serving people in these countries, a majority offer little information which will help a family cope with everyday problems of health, nutrition, child care and other concerns. Few extension workers tread through the plantation area, partly because there are not many extension workers to begin with (Guatemala has fewer than 10 professional nutrition extension

people in the field for the whole country), and partly because they may be considered a threat by some plantation owners.

And time is a problem. Take the case of Francisca Gomez. Francisca prepared meals for six men workers, but doesn't wash their clothes because it takes too much time and she wouldn't be able to take care of her own family. She has had four children, and three are alive. Their ages are six years, four years, and four months. Elfido would be two years old, but he died at 11 months from "fever."

Yesterday Francisca got up at 4 a.m. "I dusted the poylo (cooking area), started the fire, washed myself and combed my hair, washed the coffee jug and put breakfast on the fire, made atol, and washed the corn and took it to the mill. I made tortillas, and at six, those who worked had breakfast.

"At 6:30 I had breakfast with the children. I washed the dishes, swept, made beds, and went to wash clothes at the pila at eight -- and came back at nine. Sometimes we bathe in the river so I might get back at 10. Then we had atol. I warmed up the lunch for those coming from work. They had lunch at 11. At 11:30 the children and I had lunch. I put the children to bed for a nap for two hours. I washed dishes, toasted the ground coffee, and went to get water. I played with the children. At four we had coffee and bread and I made tamilitos and supper. The children had supper at five and the rest of us at 5:30. I washed the dishes, prepared the corn for the next day, and at seven, put the children to bed. We go to bed at eight."

And when the crop comes in Francisca also picks coffee.

The pila as a place for learning

There is little time or energy left in this schedule for meetings or lessons. As we casually observed the plantation women's activities, it became evident that they spent a lot of time at the pila -- a kind of open-air community washing center comparable to the modern "laundromat" but without mechanical washing machines. Usually, there are several of these pilas on a plantation, and more and larger ones in villages and towns. Why not use the

pila, we wondered, as a place where women could listen and absorb information presented in an interesting manner -- while they washed their clothes?

We arranged to test out the idea at Finca Maria de Lourdes, a rubber and coffee plantation on Guatemala's Pacific coast. The finca has about 200 regular worker families, and many more during coffee harvesting time. It has three pilas located along the dirt road that passes through the plantation. Housing for the families who live on the finca year-round is also clustered in the same area.

The pila communication system had to have several characteristics if it was going to fit in with the women's regular activities. It had to be largely an oral medium, so that they could continue their work while they listened. It had to be flexible enough to match the pila-visiting schedule of a substantial proportion of the women, a schedule that may shift because of harvests, rains, and other localized conditions. It also had to be flexible enough to present information to women who are at the pila five minutes (for water) as well as those who are there for one or two hours.

It also had to be a simple system which would not require the presence of professional people to run it.

Audio cassette technology seemed to be a likely possibility. It can communicate important, interesting and entertaining messages that women can listen to while they work, and these messages can be easily repeated without the "sender" getting bored or fatigued, and without compromising the integrity of the messages.

Flora runs the system

Flora, a teenage girl selected from the community, was hired to bring the cassette players and tapes to the three pilas each day.

Flora had only completed the third grade, but decided to return to the local school several years later because she wants to train to be a "domestic" in a hotel, embassy, hospital or similar institution. To enter a school for this training she needs to finish the sixth grade.

Flora is the youngest living of 11 children born in the family. Her mother is a widow, and because many of the older living children have moved away, Flora must help run the household. In addition to school she regularly takes the corn to the mill, washes the family clothes, and picks coffee during harvest time.

As the local "operations" person, Flora started the cassette machines going at each pila. She replayed the day's program four to six times during the prescribed time periods, simply by turning the cassette over and re-starting the machine. A different program tape was prepared for each day of the three-week project.

The design of the system, thus, was relatively simple and it required no skilled persons to implement the "delivery" end of it. But before the system could be put into operation, appropriate content had to be designed and recorded.

Planning the content

We checked with several sources for guidance in deciding what to put on the tapes. These included the owners of the finca, rural doctors, health and nutrition experts, and the women who lived on the plantation.

The final tapes consisted of a mixture of serial dramas, stories, music, talks, interviews, and short announcements -- all with the intent of encouraging listening, learning and action. Following are the key elements of the program strategy:

Dramatization. Because both informal story telling and the novela ("soap opera") radio format are popular, a fictitious plantation family was created for the tapes. Through the conversations of the "Alvarez family" and their friends, health, nutrition and other everyday problems that faced people on the finca were discussed, including ways these problems might be attacked.

Authority. To add credibility, a strong, clear authoritative-sounding voice was used to summarize the major points covered in the dramatizations.

Reinforcement. In addition to summaries provided by the "locutor" (announcer) related specifically to the novelas, short announcements or reminders (similar to public service announcements) were placed in several parts of each tape. Additional reinforcement was provided by including interviews with medical or other specialists often known to the people on the finca (e.g. the finca nurse and the doctor in the nearby village.)

Localization. Interviews not necessarily related to health and nutrition were included to heighten interest in the "programs" and to give listeners a feeling that the content was relevant to them and to their community. For example interviews were conducted with the finca owner who

related some of the history of the finca, with a young girl telling how her family's chickens had survived the "plague" because of inoculations, and with a plantation worker who gave accounts of his early days on the finca and the changes that had taken place since.

Entertainment. To provide variety, music was placed in several parts of the tapes. While the music was playing, the women had an opportunity to talk together about the information and ideas they had heard, or simply to think about what was said. Some of the music was performed by local people.

Dramatized stories of a fantasy nature provided another entertainment element. These were original stories similar to "fairy-tales" but they were created for this particular geographic and cultural area.

Questions. Occasionally, as a summary/review process, the locutor asked questions based on information given in an earlier part of the tape. After a short passage of music -- during which time the listener could try to answer the question -- the locutor gave the answers. This technique was designed to stimulate the women to actively participate in the process.

Brevity. Because women sometimes visited the pila for very short periods of time, the length of each section of a 30-minute program was usually limited to eight minutes or less. This permitted someone who was there only to draw water to hear enough to get a meaningful message.

"Semi-sequential" flow. Although each program had an underlying pattern of development throughout its 30 minutes, the content was organized so that people could arrive or leave at the pila at almost any part of the program and pick up the message.

Repetition. Later programs in the series often included information and novela incidents that reiterated points made in earlier programs. This helped remind some, and helped others catch up.

Information-motivation-behavior. Throughout the tape series, this sequence was followed. For example, in early programs information about vaccinations was presented. Later, motivation to get vaccinations was stressed. And later (when a public health vaccination campaign appeared nearby), programs told specifically how families could get vaccinations. Those who missed earlier programs still were exposed to this pattern because of the repetition.

Some lessons learned

The flexibility of using audio cassettes in the pila communication system quickly became apparent. Based on the women's typical schedule of daily visits to the pila, it was originally decided to run the system for three hours a day between 7 and 10 a.m. But after two days, Flora noted that the women's schedules were changing because the coffee crop was unexpectedly ripening and they were going into the fields in the morning to pick, thus spending much less time at the pila than we anticipated.

On Flora's suggestion, the schedule immediately shifted to a two hour morning session beginning at 6:30, and an afternoon session. Flora would begin the afternoon session when the women returned from the field -- a schedule which varied from day to day, depending on the rains. Being able to adjust this way was a flexibility difficult to find in any other communication system.

The success of the pila communication system was reflected in many ways. Interviews with a sample of plantation women revealed that most of them had heard the tapes, and that the women judged them to be clear, truthful, and helpful.

Perhaps more revealing were the comments volunteered by women at the pila. One indicated that the tapes were "fun", and said that "they make you wake up to some things." Others remarked how dull the pila was going to be when there were no more tapes. One woman asked how much it would cost to buy a machine.

Among other results was a revived interest in raising chickens (valuable for eggs and meat) after learning from the tapes how inoculations could prevent Newcastle disease. At one point the women asked us to inoculate some of the newborn chicks on the finca. That same day, inoculant was administered to 80 chicks rounded up by the community. These became known as "the chickens that don't die." And they didn't -- until many months later when some of the biggest chickens the people had ever raised became part of family meals.

A large percentage of the women memorized the recipe given on the tapes for preparing Incaparina, a high protein food supplement. One of those who had never tried Incaparina was 12 year old Maria. Because her mother is dead, Maria takes care of the house for her father and younger sister. She liked to listen to the tapes when she went to wash at the pila, and since she heard the Incaparina is good and learned from the pila tapes how to prepare it, she began providing it for her family. Maria had just finished her first pound when we were doing some post project interviewing.

The audio cassette equipment operated relatively trouble free. Flora learned how to work the recorders, including changing batteries, in less than five minutes. There were no breakdowns of machines and when batteries ran down they were easily replaced.

Although we relied mainly on C-type batteries available in the local market, we experimented with a small six volt rechargeable battery. This proved rather successful and, in a longer term project, probably would be more economical than the C-type batteries. Electricity from mains power is another alternative, if it is available. UNICEF is also experimenting with solar cells as a source of energy for radios, cassette machines and projectors.

Although many agencies have been skeptical about how rural people would take care of the machines, the pila experience indicates that in many ways rural families handle equipment more responsibly than do the more urban employees of ministries and other government and private organizations. Rural people seem to appreciate more the value of the hardware, probably because they have so little of their own. For example, the women at the pila were very protective of the cassette units. One day when a child started pulling a wire that was hanging from a cassette player, a woman -- without hesitation or inhibition -- gathered up the wire and wound it around a high nail so that the machine would not be damaged.

The description of the pila as a setting for a non-formal education project, and of audio cassette technology as the medium for use in several projects is designed to stimulate those planning and implementing programs to go beyond the systems which have been used in the past. The primary lesson

from these studies is that one should explore various places and various systems for non-formal education -- keeping in mind their appropriateness for local cultural patterns, and the opportunities to weave community participation into the planning and execution of programs.

After a brief discussion of the advantages of audio cassette communication systems in family planning programs (Chapter IV), we will explore some other situations where the approaches similar to those discussed so far might be used (Chapter V), and then we will present several brief profiles of projects instituted around the world (Chapter VI).

CHAPTER V. AUDIO CASSETTE TECHNOLOGY IN FAMILY PLANNING PROGRAMS

Audio cassette technology (ACT) is particularly suited for communication of relatively sensitive topics such as family planning, especially if it is possible for the "receiver" to control the listening situation. The characteristics of ACT make this not only possible but feasible. Here are some advantages.

Introducing family planning. Cassettes can raise topics even field workers in face-to-face contact will not. For example, in the Essex project it was found that the cassette tapes prepared the way for nutrition aides and homemakers to talk about family planning. Apparently hearing it talked about on tape by people much like themselves encouraged homemakers to "open up" with the nutrition aide.

For males and females. Recordings can discuss family planning and contraception with either or both males and females. This may often be difficult for a field worker to do in person especially if sensitive biological details are involved. Other channels of communication such as broadcasting and print are often unsuitable: broadcasting, because of social and cultural taboos; and print because of the disinclination of many to read.

Easy repetition. Cassettes enable people to listen as frequently as they want to details of the family planning message without the embarrassment of asking for repetition of certain parts. While some persons may not

hesitate to ask a lecturer or field worker to explain more or repeat something about the functioning of a farm implement, they tend to be more inhibited about their own (or the opposite sex's) anatomy and sexual behavior.

Intra-family communication. Cassettes provide an opportunity for inter-generational communication and husband-wife communication. Members of a family can bring the family planning message to others in the family without directly confronting them with the message. One project, for example, discovered mothers giving the tapes to their daughters to listen to, even though the mothers themselves couldn't talk (or initiate talk) about the subject.

Integrating family planning with other information. Cassettes, creatively programmed, allow the family planning message to be combined with other kinds of messages. This can have a number of advantages. For example, in the Essex project, the cassettes were not "family planning" tapes but covered a broad range of social development topics. Persons using the tapes didn't have to worry about a possible stigma from having "family planning tapes." Furthermore, by mixing family planning with other subjects, people might get exposed to the family planning message without deliberately meaning to.

Underlying most of these advantages is simply the opportunity ACT provides to listen privately to something very private: to listen where and when one is ready.

A question can be raised about the lack of visuals in the audio cassette presentation. It has yet to be demonstrated how important intricate diagrams of the human physiological system add to a person's acceptance and

performance of family planning. It may be that the most important part of an organized communication program in family planning is the motivational and assurance side, rather than the technical "how-does-it-work" side. This may be particularly true for less sophisticated audiences. Perhaps emphasizing the visual aspects of the conception and contraception processes may obscure the family planning message for the low income, semi-literate or illiterate person. The more detailed and technical aspects might best be done in another context, such as in a clinic audio visual presentation where professional personnel are nearby to answer questions.

CHAPTER VI. ADDITIONAL APPLICATIONS OF CASSETTE COMMUNICATION

In the preceding chapters we have emphasized the use of audio cassette technology in carrying out non-formal education projects in rural areas. It is important to remember that there are other media which can be used in conjunction with, or instead of cassette systems. If a rural development agency has the resources to employ television, films, printed materials, or professionally taught classes, these media should be carefully assessed for their appropriateness for the population concerned. We have stressed audio cassette technology because it seems particularly well suited to reaching into villages at times and under conditions most convenient to villagers themselves, and this seems an especially important consideration for providing information and non-formal education for women and giving them an opportunity to participate in the educational process.

In the next few pages we will briefly describe situations which show a somewhat broader set of problems than have been reported in the earlier case studies. The situations are based on real circumstances, but much detail has been deliberately omitted with the expectation that readers might find it convenient to fill in data from their own experiences and circumstances.

Supporting a nutrition rehabilitation project.

In country A, the government health agency has initiated a feeding

program for malnourished children. The children came from their rural homes to live for about a month at the health center. After they have regained a reasonable level of health, the children return to their rural communities. Their mothers also participate in the rehabilitation program. Once a week, they take part in meal preparations and receive some special instruction on nutrition.

Here is a situation where a low cost communication system might strengthen this project in three ways. First let us suggest the system. The health center can prepare a series of tapes dealing with maternal and child health and nutrition, emphasizing what mothers and families can do with resources available to improve their health and prevent malnutrition from striking again. To the extent that other agencies wish to participate, additional development information can be woven into the programs. The health center can lend one tape and a tape recorder to a mother when she comes for her weekly session at the center. They could allow the mothers to take the tapes back to their communities.

The system could accomplish the following:

(1) More extensive training of the mother who visits the health center. The information she receives at the center can be reinforced and supplemented. The mother is able to listen to the tapes at home as frequently as she wishes.

(2) Support among other members of the mother's household who might influence her decision to follow or not to follow advice provided by the health center. They are likely to listen to the tapes when the tapes are in the home.

(3) Contact with other families in the rural community. The health center's nutrition program can be extended into the community through the woman who carried the tape home, because it is likely that other members of the community will also gather to hear the tapes. In addition, the success of any individual family's nutrition efforts may depend on the extent to which support comes from the community.

The basic cost to carry out this program can be easily calculated from the information found in Chapter XIII on costs of cassette communication.

Non-formal education and family planning

In country B, the government has committed itself to a major family planning program throughout its rural communities. However, officials recognize the great difficulty in achieving success without a major non-formal education program to support the rural clinics and health outposts that are being built. The officials are also aware that a "campaign" approach to family planning may have some impact, but that it is most important to have a consistent program which informs, motivates and reassures individuals and families over a long period of time, and which ties in with other aspects of their lives, such as their concerns for basic education, good housing, and better health. One of the government's main channels of communication with the rural population is the system of community development workers (CDW) who sometimes work directly with rural people, but who most often reach them through "natural" leaders and volunteers in the communities. The CDWs train and supervise these front line workers. The CDWs, the leaders, and the volunteers all need more expertise on family planning.

Where they are available, radio, television, films and printed materials can be used to help provide a favorable climate for discussing

family planning. And a cassette communication system can assist the government's non-formal education effort in several ways. But first, a look at the system.

In each region of the country, the government can create simple communication resource centers to support the community development workers. These centers would be able to produce materials appropriate to the region. At first, the centers would emphasize development of material which could be distributed on audio cassette tapes. The government could supplement the materials produced regionally with programs or program segments (e.g., interviews with prestigious experts or well known persons) produced for all regions. The regional center would have a substantial stock of tape machines for use by CDWs and by community leaders/volunteers.

Among the ways the system could be used are the following:

(1) The government's family planning agency (as well as other government sectors) could use cassettes to supplement and reinforce the in-person family planning training given to community development workers by providing them with training tapes which they can use individually at their own convenience.

(2) The regional centers can produce tapes to supplement and reinforce the modest in-person family planning training given to community leaders and volunteers. The tapes can be used individually or in groups.

(3) Community leaders and volunteers can organize listening groups of people in their communities; and by using cassette tapes in the group listening situations, scheduling and the topics covered can suit the specific needs of the listening group. Another possibility is that the group itself can select from among the center's resource collection for tapes on topics

which relate to particular needs of the group. There is also an opportunity for additional "in-service" training of community leaders: while one side of a cassette tape is used for the "forum" presentation, the other side can be used for instructions on how to run a forum on the topic selected. The instructional part of the tape might include such items as questions to ask to stimulate discussion, materials (or people) to have on hand for the session, how to channel "feed back" to appropriate organizations, and what steps might be taken to promote further individual or group action.

(4) Community leaders and volunteers can lend cassettes and tapes to individual families. For example, tapes which include family planning information could be tailored for newly married persons, or for women (and their husbands) who have recently had a child.

In-service training for paraprofessionals

Country C has a problem which faces many nations using paraprofessionals in remote rural areas. A government department trains paraprofessionals in a particular specialization (nutrition, family planning, maternal and child health, etc.) and assigns them to their own or another community. A typical complaint of the paraprofessionals and officials in country C is that there is little follow-up training or supervision, and that paraprofessionals feel professionally isolated.

Country C has too little trained manpower and too little budget to maintain regular personal contact with its remote field workers. However the government department can use two complementary media. First, the department can use radio as a link with the paraprofessionals by arranging

weekly or monthly broadcasts throughout the nation which give recognition to the field workers. This can be done in the form of human interest stories, dramatizations, "dedications", or other popular formats.

Second, the department can prepare and distribute periodically a series of audio cassettes which include (a) training and administrative material designed particularly for the paraprofessionals, (b) recordings to be used with a paraprofessionals' clients, and (c) an invitation to the paraprofessional to express concerns, needs, observations or questions for department officials. Mail, buses or commercial travelers (such as consumer product distributors) can be used to get the tapes to the remote areas.

The clinic waiting room

In country D, the government's health ministry is constructing rural clinics in an effort to strengthen its maternal and child health services. In its building plans the government has included space for health education, although efforts in health education in existing clinics have not gone much beyond routine talks to women about family planning. The same talk is given each day.

Women who visit the clinics may wait for as long as three or four hours to get service. And they may come as often as once every two weeks.

To make better use of the waiting time in the clinic, and to make the visit a pleasant experience, health officials can set up simple "listening stations" in the health education room. Persons attending the clinic would be able to select and listen to cassette tapes which fit their particular needs. The tapes can include talks, interviews, and dramatizations on a wide range of topics including various aspects of family planning, child care,

and preventive health, as well as information related to other aspects of development related to the community's needs. Where visual information is needed, illustrated notebooks can be used to accompany the tapes. This individualized approach to non-formal education in the clinic does not necessarily replace group sessions, but it allows persons who make return visits to the clinics an opportunity to go beyond the standard clinic talk for health education. An alert creative clinic staff will take the education/information functions of the clinic seriously enough to incorporate health education data on a patient's medical records along with traditional medical data. In supporting the shift from curative medicine to "preventive health", an individual's health education "progress" may be as important as records of medical treatments.

Having tapes for clinic users to play according to their needs and current knowledge level implies the clinic having a collection of tapes available. Once this step is reached, it would be possible for a clinic to begin lending tapes for home use -- where the information can be shared with others. This is particularly valuable in the case of family planning since it is important that men -- who are unlikely to visit the clinics -- also become part of the health education program.

Each of the examples suggests that communication can contribute substantially to development programs. However, it should not be assumed that

responsibility for the communication program can be given to anyone who happens to have the time. It requires deliberate, careful planning and execution. if it is going to reach its full potential in the development effort. Thus a communication person should be an integral part of the development team participating directly in the overall planning of development projects.

CHAPTER VII. CASSETTE COMMUNICATION AROUND THE WORLD

Reaching rural people -- especially women -- with education and information has become a challenge to many people around the world. Recently we collected examples from government organizations, missionaries and others using innovative approaches in their work in rural areas. We have included several here on cassette communication.

Tanzanian women make cassette programs. Under the auspices of the Msalato cassette ministry, Tanzanian women are making recordings on marriage, use of money, initiation rites for girls, superstition, and prevention of disease. The programs also include questions asked by villagers. Content is patterned to the community through the use of local music and local languages. The library has a collection of ~~tapes~~ in Swahili, Kogogo and other languages. The programs are done without formal scripts, emphasis being on capturing "the spontaneity and punch in their teaching." Scripts are also prepared by doctors, nurses, teachers and clergymen. Posters, booklets, Bibles, and other printed materials sometimes accompany the tapes.

There is a cassette machine in each of about 300 villages. The goal is to reach 750 villages in central Tanzania.

Stimulating feedback in Ecuador. A project sponsored by the Center for International Education of the University of Massachusetts put audio cassette equipment at the disposal of adult campesinos enrolled in radio schools in the vicinity of Tabacundo, Ecuador. The intent was to encourage different groups (i.e., classes) to record responses and reactions to the Radio Mensaje community development classes. This led to creation of a special weekly half-hour program "Mensaje Campesino" (Peasants' Message), consisting of contributions from the radio classes. Led by "auxiliaries" the campesinos took interest in and regularly produced programs for "Mensaje Campesino."

They also used cassettes for other purposes. For example, a group of Quechua-speaking Indians began recording the Spanish-language radio school lessons and translated them into Quechua. They recorded the Quechua version on cassettes, and provided them to a Quechua listening group. The popularity of the Mensaje Campesino program and the creativity with which the peasant groups used the cassette facilities indicate the potential of encouraging village people to produce programs for radio and cassette distribution.

Cassette sound tracks for visual materials. Although the Maryknoll Sisters of Santa Cruz, Bolivia use cassettes independently, one of their major uses is in augmenting visual materials with sound. They have recently taken existing scripts for film strips, the stories that go with "viewmasters," and narratives for flip charts and have recorded these in Quechua for the Quechua-speaking colonists to the north of Santa Cruz. The materials are particularly useful during harvest season when the area is "flooded" with transient workers. Filmstrip programs are presented up and down the road -- somewhere every night. Owners of small farms come in to borrow equipment and to show to their workers and neighbors. Said one man who showed and played the cassettes and filmstrips

for three weeks in a row: "They come every night and we stay up until one o'clock in the morning talking about what we have seen and heard."

The importance of the cassettes lies in the fact that for many it is the first time they have heard these materials presented in their own language. Content includes health, nutrition, family planning, agriculture, history, geography, science, world literature, fairy tales, religion, and information on local government and politics. Equipment is loaned out on a weekly basis. Approximately 100-200 people are reached each week in at least five pueblos; other programs are irregular and attract small groups of 5-20 people.

Family planning radio programs converted to cassettes. In an International Institute of Rural Reconstruction project, Dr. Juan Flavio and his associates recovered recordings of family planning programs once broadcast over radio in the Philippines. These were edited, reproduced on cassettes, and placed in the waiting rooms of family planning clinics for clients to listen to while waiting for service. The intent was both to convey information and to make the waiting period more pleasurable.

Teaching Masais and Masais teaching themselves. The Masais in Eastern Africa are herders, many of whom have their own syringes to give injections to their animals. To insure proper use of the syringe, the Masai Range Development Project technicians developed audio-visual training materials. Their slide presentation found little use because of the lack of suitable facilities and power for projection at the rural veterinary centers. Consequently a booklet, illustrated with the original slide content, was prepared

with captions in English and KiSwahili. A cassette tape was also produced with booklet captions spoken in KiMasai, the tribal language. With this system, each of 15 veterinary centres in Masailand could present training programs at times and places convenient to the local veterinarian-technician and to the people in the area.

The booklets and tapes have been effective for many reasons. They draw people together and "can easily be taken where the people meet daily (wells, cattle dips, etc.). The booklets have resulted in some lively discussions that are often unrelated to the topics of the book." In addition, people individually borrow the booklet and cassette to teach themselves, thereby reducing the need for organized programs.

Local cassette libraries in Thailand. The Voice of Peace studios in Thailand distributes cassette tapes nationwide partly through local cassette libraries. The target audience for the programs -- which emphasize religious education but also include leadership training, agriculture, family planning and health -- is the low-income rural adult population of Thailand. Although some cassettes are made for study groups, most tapes are designed for individual at-home listening, where a variety of relatives, friends and neighbors will listen. Some cassettes may be heard a few times, others 20 or 30 times. "The repetitious aspect is important. It fits well with the Thai system of learning, which is mainly done by rote."

The Voice of Peace organization has been using cassette technology for about eight years and has distributed more than 1600 machines. (Some listeners may own their own players, others may borrow them from churches or missionary agencies, or listen on someone else's owned or borrowed unit.)

Scripts for the tapes are produced by the Voice of Peace staff using a wide range of program formats, including dialogue, question and answer, music, etc. For the lay leadership program, programmed texts and other printed materials are used, but cassettes used alone seem to work better. The local cassette libraries are usually maintained by religious workers who have regular contact with the Voice of Peace studios.

Generalizations from the field.

The examples from these field cases and the preceding chapters suggest some generalizations which review and go beyond the characteristics of cassette communication discussed earlier in this paper. These are:

1. The major consistently cited disadvantage of the cassette special communication systems is the battery supply problem. Usually this is a matter of cost rather than of availability. One solution has been to adapt units for use with D batteries rather than C batteries. This increases the length of life of a set of batteries and the price is usually the same for both sizes. When recharging facilities are convenient, adapting machines to a single 9-volt rechargeable battery system has promised economy. Another development is the spring-powered wind-up cassette machine which is expected in the field soon. Another prospect is a solar-powered player which is reported to be ready for testing.

2. Seldom do projects report mishandling, damage or stealing of cassette equipment. Organizations which have dared to loan them -- even to complete strangers -- have been rewarded for their faith in the honesty of their rural clients.

3. Breakdowns of cassette equipment are seldom mentioned as a

significant problem. To the contrary, the typical report mentions how trouble free the system is.

4. Local production using modest facilities results, in tapes that interest listeners and accomplish goals. Creativity is still needed to make tapes interesting, but sophisticated studios are not a necessity.

5. Non-professional talent, in performance and scripting roles, also can be used effectively; professional broadcasters, while an asset to anyone who can afford them, are not essential to a successful program. Programs still need to be carefully designed.

6. Cassette technology helps rural development programs reach people in ways and circumstances that other systems often cannot. The unique combination of advantages linked to cassette technology includes: (a) oral presentation; (b) flexibility in the length of the content; (c) flexibility in where and when listening can take place; (d) providing listeners a chance to control the listening circumstances; (e) relative ease of localizing to fit local culture; (f) simplicity of operation, both for recording and playing back; (g) physical characteristics such as portability and durability; (h) low cost, considering the job it can do.

7. Persons not very qualified in a special area (for example, nutrition) can still provide information and instruction in that field without distortion -- by using cassettes. Thus, even non-literates can literally carry messages to places which might be inaccessible or uncongenial to "regular" professionals.

8. Cassette communication is an effective system for conveying information, teaching, and motivating people. The mechanism itself often carries authority.

9. Those who carry cassette programs to others often themselves become more expert in the content. Thus incipient training is a common by-product of a program using intermediaries.

10. The basic cost of audio cassette technology is relatively low, but government import duty and other taxes may inflate the cost substantially.

11. It is difficult to compare the cost/efficiency of cassette communication systems with alternative systems when often feasible alternative systems do not exist.

12. Group listening tends to provoke spontaneous discussion even though it may not be an organized and structured listening group.

13. Because of the sensitivity of some subjects (for example, family planning), it may be easier to communicate through cassettes than through direct inter-personal communication.

14. Cassettes provide a useful system for feedback, especially for groups unable or disinclined to write.

15. Tapes and machines used in households usually attract an audience considerably larger than the principal adult members of the household. Other relatives, friends and neighbors are often listeners.

16. The opportunity for repetition is an extremely important asset in using cassettes.

17. Cassette communication is not simply another way of tape recording. It represents a communication system unique in its own right and different from reel tape technology, phonograph recordings, and radio broadcasts.

CHAPTER VIII. THE COSTS OF CASSETTE COMMUNICATION

We have suggested a wide variety of applications of cassette communication for reaching women and rural families with information and education designed to help them live better lives.

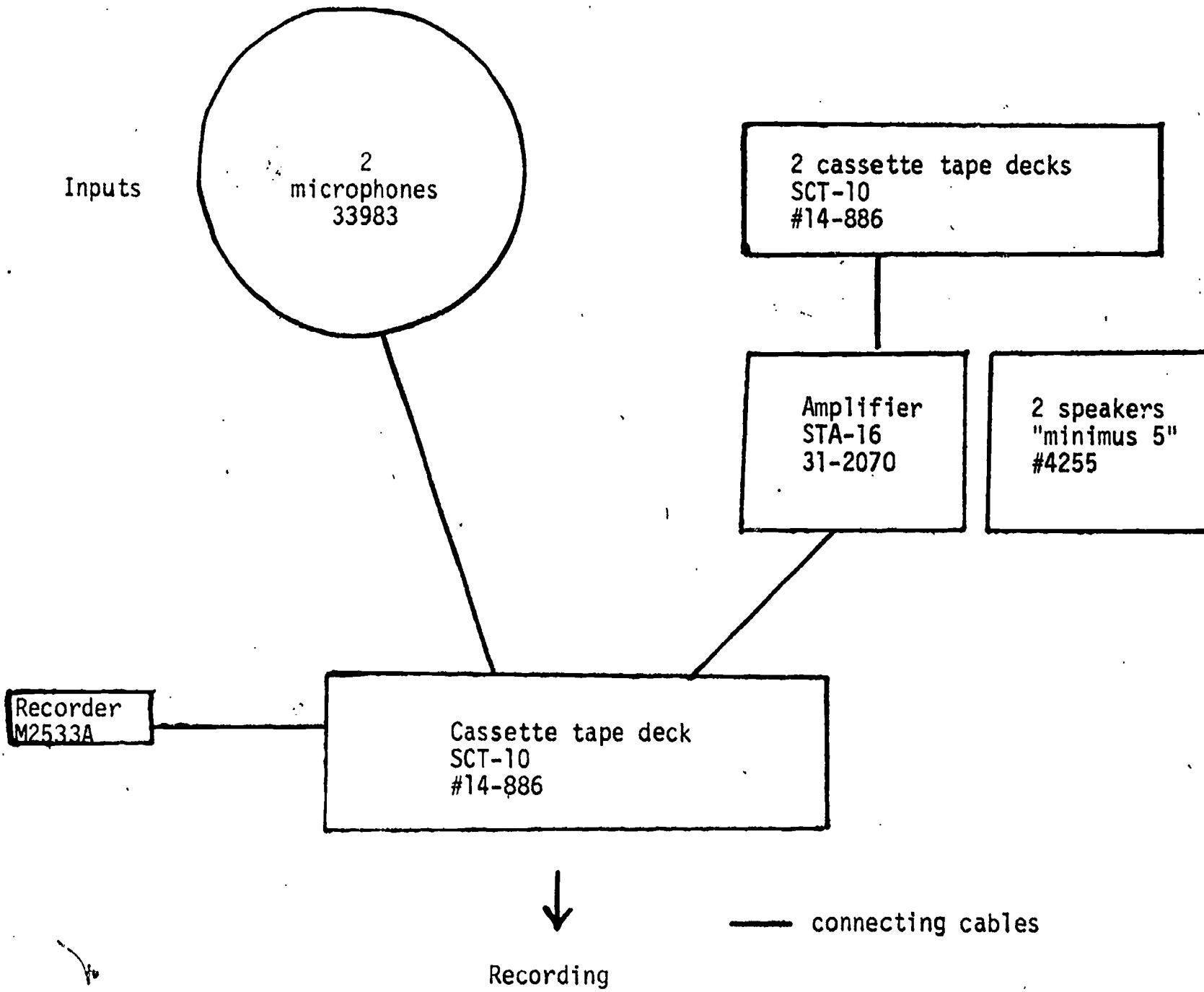
Although cost should always be related to effectiveness and benefits, we have included some basic data on equipment costs to help guide program planners in decision making.

The following page contains a block diagram indicating the key ingredients for a simple production system which could be easily set up in a regional community development center or health station. It can be a low cost but durable system which requires no technical engineering experience to install or operate. It would provide reasonable production flexibility.

Obviously, an even less sophisticated production system which could be used is simply one tape recorder.

Then on page 58 is a list of specific items of equipment. The model numbers are given for illustration purposes only. Other brands of comparable or superior quality could be substituted for these. The prices are approximate and were available in early 1978 in the USA.

SIMPLE DESIGN FOR CASSETTE COMMUNICATION SYSTEM



EQUIPMENT INFORMATION

Following is a system of equipment which includes simple, easy to operate units, and which provide good quality sound. It is suggested that a system be used in each operational region or district.

A. For production and duplication of messages or "programs:"

<u>Quantity</u>	<u>Item</u>	<u>Representative Model</u>	<u>Approximate Cost</u>
2	microphones, cardioid	*33983 (Hi-ball)	\$100
3	cassette tape decks	*14-886 (SCT 10)	300
1	amplifier	*31-2070 (STA 16)	150
2	speakers	*4255 (minus 5)	60
50	C-60 tapes	*44-607 (Concertape)	50
1	head set	*33-1012 (Nova 10)	15
1	mike stand (floor model)	*33320	15
2	mike stands (desk model)	*33370	14
3	production quality tape recorders for field recording	**M2533A	180
4	cables	*42-2436	10
4	cables	*42-2444	7
4	cables	*42-2351	12
			Total - \$913

B. For message distribution

30	field quality cassette machines, for playback and feedback	**M1540A	\$900
6	combination public address/cassette tape units	**M3000	300
6	auxiliary microphones	*MC1000	90
			Total - \$1290

*Radio Shack/Tandy Corporation model numbers

**Sanyo model numbers

CHAPTER IX. FINAL NOTES

Summary

Our emphasis in this paper has been on the role of women in rural development, and especially how non-formal education programs related to health, family planning, nutrition, agriculture and other fields can be integrated at the community level so that they will reach women in a useful form. We have been concerned primarily with simple systems that should be affordable by governments anywhere which take seriously the welfare of their poorer rural populations. We have tried to develop and describe systems which provide opportunities for rural people themselves to have a role in community improvement programs. This we believe is consistent with the observations of Dr. Irma Morales and Mrs. Bebe Orlich of DELPHI, a coalition of Costa Rican women's organizations involved in COCASDECO (Costa Rican Committee for Coordinating Support for Community Health and Development). They say: "The trend of international development is away from foreign groups providing services for our local communities and toward joint efforts to help people work together, mobilize their resources, and solve some of their own health problems."

Additional reading:

Royal D. Colle and Susana Fernandez de Colle, The Communication Factor in Health and Nutrition Programs, teaching unit prepared for the World Health Organization, 1977. Available from the authors in English and Spanish.

Sumanta Banerjee, Audio Cassettes: The User Medium, UNESCO, 1977. Describes in detail the equipment used in cassette recording, and how to use it in producing programs.

About the authors:

Royal D. Colle earned his Ph.D. in Sociology at Cornell University (U.S.A.) where he now teaches in the Department of Communication Arts. He has served as a consultant on communication aspects of rural development in Asia and Latin America and the United States for the Ford Foundation, the World Bank, the East West Communication Institute, the Academy for Educational Development and the U.S. Agency for International Development.

Susana Fernandez de Colle earned a master's degree in Communication Arts at Cornell University. She is a native of Guatemala, where she worked on rural development projects for the Government of Guatemala, the U.S. Agency for International Development, and various medical missionaries. She is now an independent communication consultant, with special interests in the education of rural women.