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**Nicaragua**

**Education Sector Assessment**

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MASTER

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X. COMMUNICATION MEDIA AND EDUCATION\*

The purpose of this section is to respond to one basic question; How can the media be applied to rural information needs? This response will involve a description of the media facilities that already exist, some speculation on what further services can be offered, and a discussion of how these added services might be delivered and administered. To a great extent, what is talked about in terms of communication relates directly to the structure of Nicaraguan society, because communication flows reflect the type of society in which they exist. The AID goals of rural education for Nicaragua (taken in a broad sense of "information") represent a focus that this section hopes to maintain, while applying to the Nicaraguan reality the experiences of other countries.

A. What Exists Now?

Radio and television in Nicaragua are controlled by a national director, responsible jointly to the Ministry of Government and the Ministry of Defense. A military man, he has the task of monitoring all broadcast communications within the country. For example, someone in Managua who wants to buy some air-time to broadcast a message may be required first to check out his program through this office. In other departments, a member of the local National Guard would carry out this task. The national director's office is not directly involved in programming of any kind.

Listed in the government statistics on radio stations are seventy-four medium-wave stations, two television stations, and sixteen short-wave outlets. This is how they are distributed by departments:

	<u>Medium-wave</u>	<u>Short-wave</u>	<u>Television</u>
Managua	35	10	2
Chinandega	7		
Leon	7		
Granada	3	1	
Nueva Segovia	2	1	
Esteli	4		
Masaya	1		
Matagalpa	4		1 (Relay Station)
Jinotega	2		
Carazo	2		
Rivas	2		
Boaco	1		
Chontales	2		
Zelaya	1	4	
Madriz	1		

\* This section was written to discover how communications might relate to education in Nicaragua. It was also undertaken to fill a request from AID/Washington to study communication and technology in various Latin American countries. Due to the dual nature of this portion of the study, it was felt best to maintain its integral concepts together and not separate out constraints and recommendations.

In addition, there are five television stations not yet on the air. Of these, only one is completely new; four of them will be repeaters of existing stations. Another channel is being reserved for future educational use. At this time, the signals of the two existing channels can cover the entire country, except for the East Coast region. That region receives television signals from Costa Rica.

Radio Nacional can cover the entire country and is linked to all stations for news broadcasts each day. Several other stations, including Radio Mundial, Radio X, and Radio Corporación, also reach the entire nation through a system of repeaters. Obviously, with so many stations all over the country and with stations that have national reach, radio broadcasts penetrate every corner of Nicaragua. Not everyone has a radio; one estimate is 500,000 sets for over 2 million people. Conversations with rural people suggest that more than half of the people have personal radios, and that everyone can certainly listen to someone's radio. In rural areas, news of the nation or of the world comes through radio, while local events still are shared through word of mouth.

Television has been used chiefly for entertainment and is confined mainly to the cities where more people have the means to own a receiver, though figures to be cited later indicate that a surprisingly high number of urban homes have a television set. Radio is the medium that cuts across all classes and areas. While radio broadcasts are also mainly entertainment (music, sports, and so forth), some efforts have been made to provide educational material over the air.

#### B. Radio Católica

The most notable educational radio project has been organized by Radio Católica. Las Escuelas Radiofónicas de Radio Católica de Nicaragua are based on the model of ACPO Radio Sutatenza in Colombia. Their principle advantage for reaching into the rural area is their link with the Catholic Church. In each town, the local pastor organizes groups of monitors, who in turn organize listening groups in their particular villages. The orientation given to these men, who must be functionally literate, is minimal, lasting one or two days. They are then responsible to organize the groups, maintain attendance lists, and administer tests at the completion of the courses. At times, they also meet with the priest for encouragement or to receive the simple printed materials that Radio Católica distributes. The village people provide the radio itself and any extras such as a blackboard and chalk or pencils.

The programs cover reading, writing, arithmetic, health, and agricultural information. They are produced in Managua; tapes are then delivered to local stations, particularly in areas far from the reach of Radio Católica's Managua transmitter. The only evaluation is a final exam that touches all aspects of the programming, with literacy being the main object of the testing. Broadcasts are Monday to Friday for two hours each evening, from February to July, depending on the agricultural cycles; attendance is greatly affected by migrations of villagers to work in harvesting crops. Drop-outs are high, and so is absenteeism. These schools do not give the impression

of having elements that are uniquely Nicaraguan. The model comes from Sutatenza, without local adaptation.

After beginning with twenty-one schools in 1966, with 1,044 students, in 1974 Radio Católica counted 314 schools, with 4,963 students enrolled, 2,859 who have been "alphabetized," 1,024 who received some education during the spring courses. The radio schools have been organized in Managua, Masaya, León, Estelí, Nueva Segovia, Matagalpa, Madriz, and Chinandega.

#### C. Open Broadcast Projects

INVIERNO, a rural extension program under the Ministry of Agriculture, uses radio "commercials" for making campesinos aware of its services. These "commercials" last for several minutes and use campesinos in conversations quite similar to ones that might take place in a rural village, except that one campesino seems to have a good deal of information about INVIERNO to contribute to the discussion. The Ministry also provides extension agents to follow through with commodities to meet the expectations that may have been created.

Another radio effort of the same Ministry, "Orientación Campesina," is a half-hour program broadcast at 5:00 a.m. each day (plus one hour in the evening on Sunday) with information and tips about agriculture practices. Radio Nacional transmits the show. Radio Mundial airs a program from Costa Rica called "Educación para todos," with very general information.

Other open broadcast uses of radio for social goals include the use of spot announcements by the Ministry of Health for vaccination campaigns; by the National Emergency Committee to coordinate relief programs following the earthquake; by FUNDE for promotion of its 1974 national convention; and, by the Demographic Association of Nicaragua for birth-control information diffusion. Unfortunately, none of these efforts was ever adequately evaluated. In particular, the birth-control campaign was quite extensive: an 11-month duration (April 1973 - February 1974), national scope, a saturation-level of scheduled spots, and a \$42,000 budget.

A nutrition campaign in the Department of Chinandega coordinated with the Ministry of Health, will begin in February. This is patterned after other campaigns in Ecuador and the Philippines, with very simple 60-second radio messages repeated and repeated like commercials. The Nicaraguan focus has not been decided at this writing.

#### D. An Experiment and Some Plans for Adult Education

In the Department of Masaya, the experimental Proyecto Matemática por Radio has been underway for two years. What is important about this project is that it is producing excellent primary level mathematics teaching by radio. At the same time, it is building up a corps of Nicaraguans who will have had invaluable experience that should not be neglected. The Masaya project will have ramifications wherever radio is used for in-school learning; there is no reason why it should not be used more widely within Nicaragua. The project

staff could form the nucleus of a group that could gradually produce taped classes in other subject areas.

Any radio project needs many elements to succeed. The best in-school programming can fail for lack of supervision or monitoring. On the other hand, a rural infrastructure, like the rural parishes will be isolated without the immediate information delivery that radio could make possible. In Nicaragua there are many excellent communication components scattered throughout several projects. Production skills (Masaya), rural infrastructure (the Catholic parishes and Radio Católica), a rural research ability (DIEEN within the MPE), the use of spot announcements (INVIERNO, the Chinandega nutrition campaign), and the rather broad electrification of the country, all represent an array of potentials existing within Nicaragua now that might be encouraged and coordinated for rural information services.

The Department of Adult Education within the MPE has begun to think about "tele-educación," using radio, newspapers, and the postal service. The objective of this project would be to provide primary education and what is called "functional education" for young people and adults. "Functional education" includes work-related information (seeds, livestock, credit, storage) and preventive medicine. The target populations are those who simply cannot be reached by the formal school system. To launch such a program, the MPE recognizes that there are several prerequisites: a needs assessment study of the target population, focusing of the message, fitting the message to the medium to be used, writing the programs, training of radio-teachers, and, finally, the production of radio programs. The MPE also lists many radio stations that could take part in this project, and air-time has already been approved by the National Office of Radio and Television.

These plans manifest a recognition of many of the needed elements in a rural media project. Missing, however, is some kind of feedback loop, a form of supervision using extension agents or monitors, that makes the communication system a genuine two-way system. Nevertheless, the presence of a needs assessment in the list of prerequisites could form the basis for an on-going dialogue that can transform the model of communication from a lecture to a conversation. At this time in Nicaragua, it is up to the ministry or agency involved to choose what style they wish to adopt.

#### E. The Medium

People who knew the rural situation were asked: What do the rural people need most? The responses came in two categories. Some answered, "Everything. It is very difficult to set priorities." Others seemed to have sorted out the rural needs in their own minds. They answered that the campesinos need information to recognize their own situation through personal awareness and awareness of their rights. In particular, people who have experience with rural agricultural programs stress that the rural person must have a voice in his own development: he should be able to choose programs that may be offered from the outside, accept them, reject them, or make modifications. This process in itself represents a significant change in communications style, and therefore restructures basic

relations between urban and rural Nicaraguans.

The two particular regions on which AID's attention is centered in the present context have adequate radio facilities and, except for the far reaches of Jinotega, television service as well. The usefulness of radio in a developing country context has been well documented, with experiences in many situations. It has been used in formal school situations (Mexico, Nicaragua), in non-formal education (Colombia, Guatemala, Ecuador, Nicaragua, Honduras), for specific goal-oriented campaigns (in Tanzania and Botswana), and for developing rural awareness (in Senegal, Brazil, and the Canadian North). Many other nations have used radio in one or more of these ways.

The widespread utilization of radio in rural situations elsewhere, as well as the projects that already exist here in Nicaragua, argue that radio should continue to receive attention and be developed further. Specifically, radio can be a tool in a coordinated rural development campaign. People who have little else have a radio.\*

Another possibility is television. Given the size of Nicaragua, the electrification of much of the country, and the existence of television coverage for all but the East Coast, television need not be ruled out as it must be in many developing countries which do not share these characteristics. Television certainly does not have the reach that radio has, but it reaches many people in the urban areas.

A 1974 study prepared for the Nicaraguan Organization of Advertising Agencies (ONAP) gives the following percentages of homes with television, in the seven cities that were studied:

Managua	72.1
Chinandega	57.6
Estelí	26.3
Granada	62.6
León	49.1
Matagalpa	50.9
Rivas	59.2
Overall percentage	64.4

The number of sets in these seven cities was estimated to be 65,189.

Not just the wealthy homes have a receiver. More and more urban marginal living units somehow are aglow with a television screen. Furthermore, the same 1974 ONAP study analyzed its Managua sample, breaking it down according to family income: high (more than \$500 a month), medium (between \$150 and \$500 a month), and low (below \$150 a month). The high group's

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\* In fact, no studies have been done of rural radio or television ownership in Nicaragua up to now. But many conversations in Nicaragua and much experience elsewhere leads the team to believe that the radio is much more widespread in the campo than is television. The ONAP study, cited in this section, was an urban study, in seven selected cities.

percentage of homes with television sets was 93.9; for the middle group, it was 83.7; and, for the low group, the percentage of homes with television was a surprising 64.4. While smaller proportions of other cities are reached by television, those percentages are growing too. Receivers are not found in rural areas to any notable degree, and while television seems to be an unlikely vehicle for direct rural development, the fact is that many of the more prosperous Nicaraguans can be reached by television at this time. If a rural development campaign were to be undertaken, whatever the particulars of the campaign, all people should be informed about it, and television could be a way to do it.

The presence of so many television receivers in the homes of poor urban families is a phenomenon that should not be passed over too rapidly. Although the main objective of this entire sector assessment is to focus on rural education in Nicaragua, the fact that so many poor city homes have a television set suggests possibilities for using television for urban development without massive additional investment. Programming costs for television are not small, but Nicaraguan cities may offer a logical setting for making that investment. The prestige of television and the existence of so many receivers make a strong initial argument for considering the use of television for assisting the urban poor.

The National Office of Radio and Television has, in fact, reserved a channel for educational television, though no concrete plans for its use have yet been made. Some discussions have been held, however, with the Children's Television Workshop about possible broadcast of a Spanish version of the CTW program, Electric Company.

The use of communication technology in education of any kind at any level is based on several arguments. One, of course, is that the media can provide excellence in the style of teaching by using the very best resources of personnel and materials. Another is the fact that the media can provide certain educational services at a lower cost than the usual system of a teacher in a classroom. According to one study\* on the cost of educational media in developing countries: "1) It is realistic to expect the costs of instructional television to range from 1.5¢ to 15¢ per student per hour, depending most importantly on the number of students in the system. The low end of this range can only be reached if close to a million students are using the system in a reasonably compact geographical area. 2) It is realistic to expect the cost of instructional radio to range from 1/3¢ to 3¢ or 4¢ per student per hour, about one-fifth as much as instructional television. The high end of this range can be reached with very small numbers of students (several thousand); the low end might require several hundred thousand." This analysis is based on television and radio projects in Colombia, American Samoa, Mexico, El Salvador, the Ivory Coast, Thailand and Indonesia.

A danger with using the media is that their coverage of an area can give the impression that development programming can transform that area quite

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\* Jamison, Dean, and Klees, Steven, The Cost of Instructional Radio and Television for Developing Countries, Academy for Educational Development, Washington, D.C., 1973.

rapidly and quite easily. The media are seen by some policy makers as much-needed tools fitted precisely to problems of distance and inaccessibility. They have a great deal of prestige, particularly television, and they represent twentieth-century modern technology, reaching into corners of humanity that have known very little of the twentieth century. The media suggest to persons who are genuinely interested in development that perhaps they need not go to rural areas personally, where the style of life is certainly hard and generally unknown, that the developer's total focus can be on the production of programs to be beamed to the rural areas. The media may be welcomed by a perceptive cynic as a way of keeping the disturbing problems of rural poverty at arm's length. The media can do all these things, but none of these is development.

Where the media have been useful in the rural development process, they have been part of a larger system. In Tanzania's radio campaigns, materials had to be delivered nationwide, evaluations were done, successes and failures were publicized by radio. In Honduras, the rural radio schools that began on the Sutatenza model had their best success when true rural needs were stimulated by other circumstances, so that radio could be a part of the process of meeting those needs. In Mexico, the greatest drawbacks of the Radioprimeria system were the lack of supervision, the lack of infrastructure, and the lack of rural participation. In Senegal, peasants took the promises of the radio programs at face value, but only with the intervention of President Senghor himself were services provided and materials delivered to the rural ground-net areas. In itself, the use of media has no relation to furthering development, to sharing national resources, or to involving people in managing their own lives, although the media certainly can be a part of these processes.

The broadcast media, of themselves, are one-way channels can be a stimulus to much more than passive listening. Feedback loops, production of taped programs right in a rural village, question and answer shows in response to letters from the campesinos, delivery of services that were mentioned on the radio, and extension agents to follow-up and follow-through on the broadcast message: these elements are what excite people about the use of radio. AID has sponsored many of the projects of the last decade that have contributed to an improved understanding of the media's role; and at this point, AID is in a position to implement many of those hardwon lessons in its future assistance programs.

#### F. What Then for Nicaragua?

Concretely, in the rural areas of Regions II and V, Nicaragua could begin a needs assessment program. Based on a belief that people should be involved in their own development, this research program could be a first step in peasant participation, through interviews and village discussion, and a genuine give-and take with the people whom the GON and AID hope to serve. The MPE, outlining the steps that should precede a tele-education project for adult education, suggests beginning with a needs assessment. Involving rural participation right from the start, such a study would be a keynote for the adult-education development effort. The experience in other countries supports the choice of this starting point. In brief conversations with a necessarily small number of persons

during this sector assessment, participation of the rural people in itself was what several people called "the development process."

Participation in a communication process with government agencies has not been traditional. To choose this participative mode seems, from what experience this assignment has provided, to represent a break with that tradition. To choose participation, however, would be to choose a style of communication which previous experience in other countries indicates has the most promise. To recommend a commitment to a communication system using the broadcast media implies recommending an entire support system that allows participation and a two-way flow of communication.

In a country like Nicaragua where the tradition has been otherwise, it is doubtful that the rural people will be ready to jump into a dialogue with outsiders; that is, with their fellow citizens who live in the cities. They are wary and have little experience with outsiders, but what they have had has probably not been on an equal footing. They are not ready for it now. One of the first steps is to make them ready; to build up the credibility of outsiders in the eye of the campesino. To talk or write about participation is quite easy. But the first task is to make potential participants confident that it is in their interest to take part in any proposed program.

The government agency that initiates any program begins with a commitment of its own. Advertising that commitment within the country will put the prestige of that agency on the line. But what the agency commits itself to should be realistic, and "realistic" may mean "small" at this point. The needs assessment could determine what seems possible for a start. It could also clarify as best it can all the needed elements of a program. If the project succeeds, then the agency involved can expand it to other regions of Nicaragua. Some of the rural people whose hesitancy may now have been reduced could become part of the group involved in the expansion. Let us suppose that a needs assessment gave priority to literacy training. In a project that would last for an initial two years, adult education personnel could be trained, and these teachers could then hire "monitors" from rural villages and outline for them the basics of literacy training. The monitors would then be responsible for organizing a listening group in their own villages. This, by the way, is the present pattern of Radio Católica. The project should begin with literacy, but promise that the material to be used after a basic level of achievement would relate to agricultural information, assuming that this was indicated by the needs assessment. The project should then present information about agriculture that demands some commitment of materials from the sponsoring agencies, which rural people have not come to expect in the past. The agency would gradually build up credibility, if it in fact delivered what it promised. Radio could be used for providing high-quality programs for both literacy and agriculture.

The critical outcome for this project would be the creation of a continuing back-and-forth relationship between the agency people and the rural people. The rural dweller would come to see himself differently. A communication process would have been started, with non-rural people involved in that process on an equal footing. Nicaragua might be the locale for a project like this. The example used here is only an example, in terms of literacy and agriculture. But a communication project based on what has

been learned from other projects would be in this participative mode.

#### G. Can this be done?

The possibilities are there. Radio is widespread. The experiences of Radio Católica, the Masaya radio project, and "Orientación Campesina" are available. The Ministry of Health is moving ahead with a nutrition campaign in Chinandega. The Ministry of Public Education has been moving forward on plans for adult education in rural areas through radio.

Many other elements are not there, yet. A rural development program needs to be structured. Training for rural coordinators, village monitors, central administrators, and on-going evaluation teams is only one of the preparations that would be called for. Supervision has not functioned well in the school system, particularly in the rural areas; supervision would be essential here. Leadership to maintain a system like this needs to be firm and competent.

What is involved in communication systems for rural areas is an innovation that conceptually is fairly simple, but operationally quite complex. It would be less than candid to pretend that success in a project like this could be assured. But candor also requires that Nicaragua be aware of the state of the art in communications systems at this time. Hopefully, the possibilities for improving the rural situation through participant communication, which are plainly there, will outweigh the inevitable operational complexities, which are certainly there as well.

#### H. Recommendations

Although no coordinated rural development program exists in Nicaragua, different projects do exist here and there, several of which also use the media. The recommendations that suggest themselves fall into two categories: the present possibility of aiding and improving what now exists and the future possibility of creating a new rural development program, one that is coordinated among several ministries and that uses many of the needed elements for a successful communication system, including the broadcast media.

In the first category are the following recommendations:

1. An MPE-sponsored "needs" assessment that is scheduled to precede a tele-education program for adults should be supported strongly. Sufficient technical personnel should be involved to insure the validity of the research.
2. MPE should hold conversations with Radio Católica to explore possible coordination of effort or encouragement of Radio Católica's present programs.
3. Closer links should be maintained between the MPE and the Masaya Radio Project, so that Nicaragua may benefit from its lessons once the experimental stage is completed in the next few years. The tapes that have been produced so far should be used more widely. Plans for future utilization of the skilled Nicaraguan staff should be made, with a view to using more in-school radio.

4. The Ministry of Agriculture should specify goals for its daily radio program, "Orientación Campesina," and proceed to evaluate those goals.

5. The MPE should be attentive to the nutrition program starting up early next year in Chinandega. This Ministry of Health radio project, with its accompanying research, represents a use of open-broadcast radio that could be incorporated into MPE programs.

These recommendations relate to present projects, actual or planned. The following recommendations would represent an innovation:

1. An integrated rural development program should be considered at the highest levels of GON planning. Among their considerations should be included the constraints that are found in the following section.

2. An integrated rural development program will involve the Ministries of Public Education, Agriculture, and Health, and perhaps others. Those Ministries should coordinate their efforts before reaching out to begin rural work. This avoids duplications that might occur. Furthermore, the campesino should not have to coordinate his life around different development programs, one for health, one for agriculture, one for literacy, and so forth. A government service to the campesino should be coordinated beforehand; this coordination can validly be seen as a service in itself.

3. Radio should be considered strongly as one part of this program. It should not be considered by itself, without recognizing the strong limitations that radio by itself has been found to have as a development tool. As this recommended program should integrate or coordinate the ministries involved, it should also use a coordinated program of communication. This would follow the participative mode of communication outlined earlier.

4. Because of the lack of receivers in rural areas, television should be carefully evaluated before using it in rural programs. Television should be used, however, to publicize the GON's rural commitment so that the GON rural effort is seen as an important national priority with national benefits. Such publicity also makes the GON commitment more explicit. However, television does have possibilities in the urban area, because of its surprisingly high penetration even into the homes of the poor.

5. If consideration of this program favors implementation, a needs assessment should be a first step. Then the coordinated programming and personnel training follows. Actual field implementation should not be too hasty, and should recognize that these preparatory steps are essential.

6. Serious consideration must be given to the management challenges that a serious rural development program implies. Technical management skills will need to be developed for every level of this program.

### I. Constraints

One major constraint is the present lack of coordination in government programs. The recommendation for a broad rural program has coordination as

one of its main pillars. Precedents in Nicaragua make it difficult to assume that the necessary coordination will be easy to achieve. Less directly, similar problems in other ministries have also been mentioned. In the face of this intra-ministerial situation, contemplation of inter-ministerial programs must recognize the present constraints that exist to coordinate a large project in the campo.

Transportation is another constraint. Roads do not reach by any means all parts of the country. Though jeeps can in many cases reach the villages in these regions, the expense of using a private jeep in contrast to public transportation prohibits their serious consideration. A rural commitment must face this constraint. Lack of rural infrastructure will make it difficult, perhaps impossible, to maintain the type of communication system that has been discussed. Should a rural program make promises by radio that cannot be delivered because of the lack of roads, the credibility of any outside service group in the eyes of the rural population will continue to erode. The development campaign would be counter-productive if implementation is attempted in an area without transportation. Early stages of any project should be tried only in less remote rural areas.

Another constraint is the scarcity of trained personnel to carry out the teaching components of the rural program. The training that will be needed has to be made available, using either internal or external resources.

A final point suggests something of a double-bind. While other constraints may indicate a need for more external technical aid in the form of specialists in management, rural training, and literacy programs, this might increase dependence on foreign aid, to the detriment of national confidence in Nicaraguan ability.

It is hard to document this point well, but it is mentioned on the basis of impressions received during this assessment. It may be that the training program should be expanded and a program begun only after national personnel are independent enough to make decisions, implement projects, and take hold of the total operation of the project.