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EVALUATION OF THE RADIOPHONIC SCHOOLS
OF THE PRACS PROJECT

Draft
Report Prepared for USAID/Nicaragua

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Consultant, AED

December 1976

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PREFACE

This report, entitled "Evaluation of the Radiophonic Schools of the PRACS Project,"* by Dr. Heli Sagasti Perrett, a consultant to the Academy for Educational Development, was submitted in draft to the Division of Public Health and Population of USAID/Nicaragua in December 1976. It reflects approximately six days work over a three-week trip.

The radiophonic schools, influenced by the Colombian "Sutatenza" model but devoted exclusively to health-related topics, are integrated into a total health delivery system. Dr. Perrett assisted in refining the evaluation design and methodology for the radiophonic schools component of the PRACS project.

Peter L. Boynton
Project Coordinator

* PRACS is the Spanish-language acronym for the AID-supported Rural Community Health Service Project.

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This report was produced for USAID, Nicaragua, as one product of the consulting services lent during December, 1976. The purpose was to assist in the refinement of the evaluation design that accompanies the radiophonic schools component of the Rural Community Health Services Project (PRACS).

1. Introduction:

PRACS is probably one of the most important projects in rural health improvement currently being carried out in Latin America. It uses an integrated approach, relies heavily on education for extension of health coverage, gives a major role to paramedical personnel, takes a different approach to the training of health educators and makes use of modern communication tools. For these and many other reasons evaluation of its effects and where possible, the contribution of its individual components, is important for health planning not only in Nicaragua but in many other countries.

The radiophonic schools are one such component. The radiophonic schools of the PRACS project, while based in some ways on the Sutatenza model, and with similarities to radioschools elsewhere, are probably the only ones in Latin America that have focused solely on health. There are also certain other differences in the approach they have used, such as their use as a training tool for health educators and their intimate linkage with village health workers. Since PRACS takes place in several phases, their evaluation is also

important so that improvements can be introduced with each subsequent phase and the approach perfected by the end of the project.

The approach used in this report is to first discuss the objectives of the radiophonic schools, since they represent the starting point for any evaluation design, and then to discuss accomplishments and recommend improvements which might be looked into to see if they are feasible in the next phase of PRACS.

2. Objectives of the Radiophonic Schools:

PRACS uses an integrated community level approach towards the delivery of health services, with considerable emphasis on education at various levels. The main interrelated components of PRACS as defined by the MOH are:

- o the training of health educators
- o the diagnosis of the rural health situation
- o the setting up of community health committees
- o the training of rural health promoters (CRS)
- o the development of community health projects
- o the implementation of radiophonic schools
- o the development of programs of school health education

- the establishment of inter-institutional coordinating committees
- the development of community organization abilities among health team members

The radiophonic schools and their evaluation should therefore be approached in terms of the function they are expected to perform within the total project. The objectives of the radiophonic schools as stated in the MOH project report (draft, p. 32) are:

- to bring about the adoption of specific positive health habits among certain groups of the population
- to stimulate community participation in health programs and activities

However, other parts of the MOH report, AID documents, and those who are actually working on the project, obviously feel that they should also perform a training function. In the training of health educators they become an important part of their 40% field practice in health education. This fact in practice conditions how the radiophonic schools are actually designed and implemented since the ideal procedure at times has to be sacrificed to allow the student health educators the opportunity to participate.* It is therefore recommended that evaluation also consider a third objective and not limit itself to the traditional approach to evaluation where radiophonic schools are more isolated activity (as in Radio Sutatenza

on which this program was patterned). This objective might be defined as:

- To develop expertise in the design, implementation and evaluation of radiophonic schools among health educators in Nicaragua.

3. Description of the Radiophonic Schools as Implemented in Phase I

The radiophonic schools actually conducted by PRACS in the first phase have consisted of two courses. The first one was directed toward pregnant women in five communities in Esteli with the below 10 lessons, usually 25-30 minutes each. These were:

- 1) Male and female reproductive organs
- 2) Symptoms and signs of danger during pregnancy
- 3) Importance of control at the local health center
- 4) Basic food groups
- 5) What a pregnant woman should eat
- 6) What articles an expectant mother should have ready for the birth of her child

* For example, it would probably be better to use a CRS or other local person's voice in the taping of programs, or at least the same person each time so that familiarity and identification can be developed, but the need to give different students experience means that this can not be done.

- 7) Repetition (of courses 1-6)
- 8) Care of the new-born child
- 9) Precautions that the mother should take of the giving birth
- 10) Family support

The second course was directed towards breast feeding mothers of children 0-2, with 6 lessons of 15-20 minutes each.

These were:

- 1) Importance of enrolling the child in the health center
- 2) Feeding of children of 0-1 years
- 3) Precautions to be taken with children
- 4) Personal hygiene and diet of the breast feeding mother
- 5) Common diseases of the child of 0-2 years
- 6) Repetition - what the whole family needs to know

Each course was preceded by spot announcements on the days before the radio lessons. Radio listening groups were organized in each of 16 communities, usually in the school house, health center and home of the CRS. In the first course these were run by the health education students and in the second by the CRS under supervision of the student health educators. The latter also participated in the radio program design and transmission.

being almost the sole responsible in the second course. They designed the programs around what the nurse of the health center told them the mothers should know. Flip charts for the second course were also designed by the student health educators. Demonstrations with dolls were also used on a few occasions (e.g. to teach how to bath the infant).

4. Discussion of Evaluation Procedures used and Recommendations for Refinement :

4.1 Basis of the Discussion

It is necessary to recognize that the information base for the discussion that follows is fairly limited. Some meetings with key individuals have been less than satisfactory due to the timing (closure of phase I), some of the materials needed have not been able to be located, the radiophonic schools had already finished by the time the visit to the project site was made so it was not possible to study closely the actual application of evaluation tools, and finally, time dedicated to the activity has been limited at this point to a few days. These obvious limitations should be kept in mind. The documents primarily used have been:

- The Project Paper for the Rural Community Health Services (524-0110)
- The draft of the Ministry of Health latest report on the Project, titled PRACS

- o Other documents, forms, and reports that were available at the project site in Esteli

2. The following people have been talked to and informally interviewed; both in Managua and at the project site in Esteli:

- o Lic. Maria Francisca L. de Carrillo, Chief, Division of Health Education, Ministry of Health
- o Dr. James E. Sam, Advisor in Public Health, USAID/Nicaragua
- o Lic. Leonel Gallardo, Advisor in Health Education, PRACS
- o Lic. Teresa Gallardo, Director, Training of Health Educators, PRACS
- o Approximately half of the fifteen health education students who at some time or other worked on the radiophonic schools

3. Other project materials which studied were:

- o Tapes and scripts of radio programs
- o Flip charts used for local level support
- o Forms used for testing and recording knowledge
- o Charts used for recording health habits

4.2 Evaluation Procedures Used Interpretation of Findings and Recommendations for Refinement

4.2.1 Pre-Testing of Radio Programs and Visual Materials

Discussion: Since the radiophonic schools of the PRACS project are the first of its kind in Latin America, and there is little experience in activities of this kind in Nicaragua itself or among those directly responsible for their implementation (the health educators), it is advisable to try out the radio scripts and the visual materials on similar populations before they were actually used. Since the radiophonic schools also serve for training purposes this is also important in terms of developing knowledge and acceptance of such procedures among the health educators in training.

The absence of such adequate pre-testing is probably one of the weaknesses of the PRACS radiophonic schools. The procedure that apparently took place was the following: The student developed the script around the ideas given them by the nurse at the health center, and under the supervision of their instructors. When the script was ready, it was tried out on fellow students in a very informal way, but without well defined criteria of what they were actually looking for. The student health educators were also a quite different population to usually illiterate rural women that the program was meant for. In the case of the flip-charts, whether designed and produced at the Ministry of Public Health in Managua, or by the

student health educators themselves , no pre-testing was done.

This lack of pre-testing in the first phase has probably been at least partly due to the time pressures under which this component of the project operated. According to the students who worked on it, the radio programs were usually recorded in the middle of the night , and support materials often were finished at the very last minute and rushed out to the communities.

Recommendations:

In spite of the extra time this will take , it is nevertheless strongly recommended that the second phase of the PRACS project place more emphasis on pre-testing both for its importance in terms of the effectiveness of the radiophonic schools and for its importance in the correct training of the health educators. Both radio programs and visual materials should be pre-tested. To save time and money, such pre-testing can take place with people close to the township, and possibly even those who are waiting for attention at the health center.

Had such pre-testing of radio program occurred in the first phase it would probably have avoided some of the problems that occurred, such as:

- 1) the excessive length of programs (corrected in the second course);
- 2) the occasional incomprehensibility of one or other speaker;
- 3) what would appear to be somewhat excessive complexity and overabundance of the information;
- 4) the occasionally inappropriate terminology, considering the educational level of the intended audience

In the case of the visual materials, there would seem to be little doubt that they suffer from some similar problems and can be improved, even if this will mean an additional cost, if prepared by the student health educators in phase II, it will also serve as practice for their future activities. Because of this care should be taken that the basic rules of such materials preparation for illiterates be understood, including the need for pre-testing.

It is generally agreed by those responsible for implementation of PRACS in the MOH that expertise in preparation and testing of audio-visual materials is weak point, and this has been evident in the present phase of PRACS. Technical assistance in this area has been requested. One possibility might be a short workshop to serve both for upgrading the expertise of the "experienced" health educators in the country (30), that of the new graduates (15), and for developing such skills among the new students (20). It

might also be advisable to invite participation in the workshop for delegates from other AID funded project in Nicaragua. Technical assistance might include an expert in low-cost audio-visual materials design and production for illiterates, and one with communication planning experience in Latin America with illiterate populations, for total of 20 days.

In this workshop, emphasis should be placed on the preparation of self-sufficient materials so that no additional explanation is required from the monitors of the radio schools.*

*Some of the materials used in Phase I were dependent on additional explanations either because they were potentially ambiguous or because crucial information appeared in print, and most of the audience was illiterate. While there was no chance with PRACS to observe the radiophonic schools in action, observation of similar situations in other projects has shown that monitors do not usually supply such information but act as passive presentors of visual materials.

Evaluation of Knowledge Change

Discussion: The test of knowledge change were performed in the following manner: before the radioprogram was passed, the students were tested on knowledge. Immediately after the program was passed and again one month later they were again tested, to perceive any change. Since many of them were illiterate, the testing was often done orally, one by one.

It is obvious that the elaboration of such tests is no easy task. The tests reviewed demonstrate this difficulty. In general it would appear that either the monitors (health educators or CRS) were not adequately instructed as to how to conduct the tests and record the results, or there was absolutely no knowledge change with some of the students. There was also some lack of correlation between information tested and information transmitted and evidence of testing of information which might be interesting in itself, but has no direct relevance to actions within the control of the rural mother (e.g. testing of knowledge on the correct scientific term for reproductive organs or to be able to list laboratory tests which are performed on pregnant women at the clinic). However, it must be emphasized that such an evaluation orientation

did reflect the actual stated objective of the individual radio classes, and was therefore valid. Thus this is a planning issue rather than an evaluation issue.

Recommendations:

While subject to further closer examination of the evaluation procedures and the actual results obtained by using them, it is suggested that the second phase of PRACS, and perhaps, subsequent technical assistance available to the project might examine the following:

1. Check more carefully that there is perfect correlation between information actually transmitted in the radiophonic schools and knowledge tested,
2. Test only the most important knowledge in terms of health improvement of the population, since such testing in itself is a form of repetition, and therefore learning,
3. Ensure that the knowledge tested is more closely linked to the kinds of actions and habits that are the objectives of the learning (e.g. instead of asking whether the rural women can list all the danger symptoms in pregnancy, asking what they should do in the event of having symptom X).
4. Attempt to simplify and generally improve the testing and recording of results so that there is less chance of error in the system.
5. Improve the wording of questions so that there is emphasis on knowledge of correct procedures rather than correct terminology. Obviously this was in part

overcome by the interpretations of questions given by monitors, but the questionnaire should not be dependent on such individual interpretation.

6. Attempt to develop alternative and more efficient knowledge testing procedures, perhaps designing visual forms of responding to oral questions so that the teacher could read the questions to the entire class at once instead of going through the cumbersome procedure of individual testing. While this may not be very critical at the pre-testing stage since people tend to arrive one by one, it is more important afterward, since by all account time for discussion was often at a minimum testing of knowledge change, while helpful in learning, should not take a great deal of the valuable time available.

EVALUATION OF CHANGE IN HEALTH HABITS AND PRACTICES

Discussions:

At this stage there appears to be no scientific evaluation of change in health habits and practices of the rural women who attended the radiophonic schools. There is however some belief among both project staff and health education students that such an evaluation tool exists in the form of the progress chart which was developed to follow the members of the first radiophonic schools course for a period of three months after they gave birth (see Appendix B).

While some baseline data does exist for certain components of the chart in the health diagnosis which was carried out for all the community earlier in the year, there are several problems with assuming that the changes that have come about among any of the women who gave birth to another child since then, and attended the radiophonic schools, was indeed a result of such attendance. For example, there is the time gap between the diagnosis in May and the radiophonic schools at the end of the year. There is also the fact that the diagnosis used a survey tool and the chart appears to be based on observations by the CRS.

Even more important are the facts that not all the information in the chart was measured in the survey, and the fact that several other educational activities have gone on in the interim period apart from the radiophonic schools, especially the interpersonal educational activities of the student health educators and the CRS.

There is also the additional fact that four out of fourteen actions are being measured in the chart (those of the articles necessary to have ready in preparation for the birth of the child) were actually made available in association with the radiophonic schools through gifts of materials and sewing lessons to the women. While this was an incentive associated with the radioschools, it can not rightly be considered a result of the health education activities.

Other weaknesses of these charts are the fact that they allow no recording as to the date of the action, what reasons might be responsible for non-action (e.g. economic, distribution systems, etc.) or reversals in some of the actions (e.g. attendance at the birth control clinic), any action being assumed to be a permanent one.

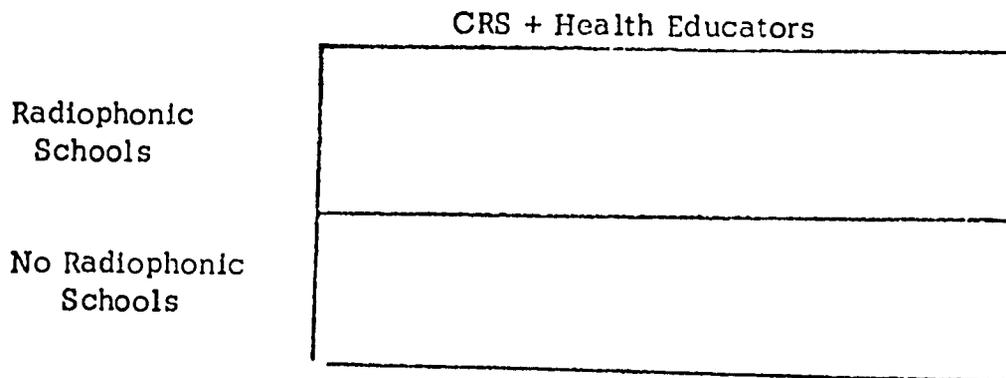
Finally there is the fact that the chart itself is very limited probably to the kinds of information that a nurse might assume to be important. Thus the new-born child's clothes are included, but hygiene practices are not.

In sum, if present knowledge is correct, it should be assumed that evaluation of the actual impact of radiophonic schools on health habits and practices and community participation in health programs and activities, that is, the objectives of the radiophonic schools are not being measured in phase I.

Recommendations:

Assuming that information currently available on what has actually been done in Phase I (and not done) in terms of evaluation and other kinds of data collection , it is recommended that a comparison be considered between those pregnant women who matriculated and did attend them and those who matriculated but did not attend in terms of the behaviors taught in the radiophonic schools and also previously surveyed in the community health diagnosis. This procedure is of course subject to several weaknesses , but in the event of control groups not having been set up earlier and an adequate design not having been developed , it is probably the best solution , especially since it should not involve a great deal of extra time and money.

The design would then be as below:



Pregnant Women in Esteli - Dec. 1977

While this procedure is probably better than that of measuring actual change among the women who attended the radiophonic schools, and especially, using the CRS record forms to do so, it still makes certain assumptions which may or may not be true.

Among these are:

- that the pregnant women who matriculated but did not attend the radiophonic schools were no different along a series of other dimensions than the women who did do so.
- that the regular non-radiophonic school related activities of the health educators and the CRS gave equal attention to the women who had attended the radiophonic schools and those who had not done so.

Obviously these are big assumptions to make, and it is very likely that they do not hold.

Attempts should be made to check them. The relevant information available in the community health diagnosis should be used to check the first one, and the second assumption might be checked by at least some interviews with both CRS and the women themselves.

Those women who either did not matriculate (for one reason or another) or dropped out of the radiophonic schools at different stages, would probably be best left out of the design since this would complicate matters beyond the actual capacity of the project staff.

EVALUATION OF INCENTIVE USE

Discussion:

There is often more than one way of dealing with problems in a given situation. One of the biggest problems with radiophonic schools where attendance is voluntary, is dropout rate. In the present situation a very sensible way was chosen for dealing with the problem. This was the use of incentives in the form of gifts of sewing materials and actual organization of sewing lessons to follow the classes which began at the fourth lesson. However, the use of such incentives costs money, and while a useful activity in itself, should also be evaluated for its actual effect on attendance figures.

Unfortunately, because the mistake had been made of leaking out information about this intended incentive when the women were first being invited to attend, all the radiophonic schools had to have the extra bonus given them, so there are no control radiophonic schools.

Recommendations:

According to available information, the use of the incentives at the fourth class did help to prevent further decline in attendance. In spite of no controls being available, what could be done to actually calculate the cost effectiveness of the use of these incentives in order to have the information

centives in order to have the information available for the second phase of PRACS, is to use projections of attendance figures without incentives, and (based on the pattern established in the first four lessons) compare these with the actual attendance figures, to calculate what it cost per student who was prevented from dropping out.

Evaluation of Radiophonic Schools as a Training Tool

Discussion: It has already been argued at the beginning of this report that in this instance the radiophonic schools should be approached in terms of the function they perform within the total integrated health program, which includes that of supporting the training of health educators as well as that of education of the community. While this may have entered into the general evaluation of field practice it does not seem to have received much attention.

Recommendation:

Even if it is decided that evaluation of student performance in the design and implementation of the radiophonic schools is unfeasible, perhaps a simple test of student attitudes towards the use of such non-traditional means for health education could be

conducted, in the second phase of PRACS, with tests of attitudes both before and after the actual development of the radiophonic schools. This is very simple to do, and would cost very little indeed.

It might also be interesting to compare the attitudes of the new graduates with those of the "experienced" health educators in Nicaragua.

Evaluation of Unforeseen Side-Effects of the Radiophonic Schools

It is not unusual for an educational activity to produce several unforeseen changes or side effects. In order to maximize the effectiveness of the second phase of PRACS and to generally learn from the experience, it is advisable that at least these changes should be looked for, recorded in the program reports, and if possible, measures as part of the evaluation of the program. This seems a particularly important point when one examines some of the information transmitted in terms of its socio-cultural and economic suitability to the population.

General Comments

It is virtually impossible to do an appraisal of the evaluation procedures without also arriving at some conclusions about the design as well. This section will therefore be a short additional note on that question. There is little point dwelling on relatively unimportant issues and thus only a few more important points will be made.

Perhaps the two most basic design issues are the degree of "closure" of the radio schools and whether this is the most cost-effective approach. A rough cost calculation arrived at just under 50 cents per person especially considering students do most of the design and production. The way the programs were designed directed them explicitly to a closed group. Content transmitted by radio was sometimes very dependent on the additional information and interpretation available at the local level in the form of flip charts and interpretation, thus limiting the audience that might want to listen to them (or benefit from doing so) to those in the actual organized setting.

Alternatives that might be considered are:

- o making the radio programs more suitable to a wider audience, and using the organized setting to listen to the broadcast and follow it with a more elaborate and specific tape-recorded message, or with the same message in tape-recorded (or possibly other) form, with regular stopping of the recording and elaboration and specification of issues by the monitor. Which procedure is selected of course depends on a variety of issues and especially the ability of the monitors.
- o using only tape recorded messages perhaps in conjunction with visual material in the group, if possible complimented with open radio broadcasting at different times of the day.

The other more major point is that of coordination with other inputs which would help the local people put ideas into action. This was obviously attempted through the material incentives used, and through the distribution of latrines, but a wider variety of programs could have been focused on had more and better coordination been possible. It is however understood that in the coordination of the next phase with PLANSAR this problem will be overcome.

In summary, it is important to note and commend the important beginning that the first phase of PRACS has made in many ways, including its use of radio to support health education of the population and training of health educators.

Improvement is always possible even in the best of projects. It is obvious that those who are responsible for PRACS are more aware of the comparative weakness of the radio component than anyone. Because of this much of what has been said above will probably be done in the next phase of PRACS.