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INTERIM REPORT

CHARACTERISTICS OF ILLITERATES AS KEYS
TO DESIGN OF DEVELOPMENT PROJECTS

AID/TAC-C-1203

Submitted by

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Bloomington, Indiana
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I

WHAT ARE SOME OF THE CHARACTERISTICS OF ILLITERATE LEARNERS?

As we had suspected when we first began this research, the question can easily overwhelm one, and it needs to be narrowed down to more manageable terms. We looked through much of the general material on literacy and adult education, hoping to find some solid leads about the characteristics of illiterate learners. I have already mentioned in an earlier memo that most of the work written by such people as Haramati, Cass, Kidd, Laubach, Knowles, Bergevin and others is too general, too oriented to North American adult learning situations, and usually geared to "adult evening classes" with much emphasis on organizational and curricular aspects of adult education.

The observations made in this type of literature are too broad to be of much use in pursuing our principal question in any depth. Granted, illiterates have had many years of experience, they may be sensitive about their inability to read and write, they are indeed "purposeful" and may be impatient with study and achievement. These general descriptions, or social characteristics, even if completely accurate, tell us very little about the cognitive processes used by specific individuals to accomplish specific tasks.

Literacy and Development

In the realm of literacy and development, we looked at a number of interesting and valuable studies which tried to show the relationship between the degree of literacy and the degree of individual modernization. Most of the authors in this realm have not been very careful about making

a sharp distinction between literacy, education and formal education. They have a tendency to use the terms interchangeably, thus making it extremely difficult to isolate literacy as a measurable variable. Putting it another way, it would be very difficult to construct a social experiment in which you compared "literate" to "illiterate" by excluding all other variables. There are simply too many other possible influences on the way in which the literate copes with the environment to suggest that "literacy" is the single explanation for a given set of behaviors.

Case Studies in Literacy and Adult Education

The case studies on literacy and fundamental adult education are interesting reading, and they provide some valuable insights about materials, techniques, problems encountered, proposed solutions and so forth. There is considerable merit in getting away from the somewhat abstract level of literacy as a phenomenon, and literacy as a variable in national development, and getting down to the field level case study. Here we find that much of the material, as you might expect, is descriptive in nature, rather than experimental. It is concerned with concrete problems, rather than with the construction of theory. The vast majority of case studies are written about literacy projects, or projects in fundamental education where literacy is a vital and integral component of the curriculum.

Relatively little is written about programs or projects that attempt to reach illiterate audiences with specific, useful information, without making literacy a requisite first step. In those few cases where this approach is taken, there is a natural tendency to assume that radio, television and film, supplemented wherever feasible by trained field workers, is the ideal, or at least a very defensible means of communicating to illiterate people.

Some Assumptions

Based on our review of much of the material in the three categories given above we made the following assumptions before moving on to the next stage of our research.

1. Many educators and government officials throughout the world are still committed to achieving universal literacy in their countries. International organizations devoted to the education and well-being of people in Asia, Africa, Latin America and the Middle East have no intention of abandoning literacy. This raises a serious political and ethical question with regard to a government, a ministry, or an international organization which is trying to "by-pass" literacy in educating rural, illiterate people. The argument that literacy programs have by and large been disastrous failures simply is not convincing to many educators and government officials. In looking for ways to reach illiterate audiences with useful educational experiences, no one should be suggesting that illiteracy is just as good as literacy. If we could reach everyone in the world with a well-designed literacy program, that would be a most desirable thing to do. But the evidence from a large number of studies tells us that literacy programs have not been very effective, including the so-called "work-oriented" literacy programs sponsored by UNESCO in the last five years.

Reaching illiterate people with useful, well-packaged information in health, nutrition, agriculture, and family planning could very well be the first step in a literacy, or basic adult education program. It is simply reversing the traditional approach by introducing useful concepts before the learner has acquired the requisite literacy skills.

2. Although there is ample evidence to support the argument that the ideal information and education system would provide a variety of learning resources including mass media, discussion groups, demonstration agents, field workers, mobile vans, professional and para-professional teachers, and trained specialists in health, nutrition and agriculture, it is unrealistic to think that such a comprehensive network of information and education will ever reach large numbers of rural people living in isolated rural areas.

We agree however with the point of view that is succinctly expressed in the rationale for the radio software project at the University of Massachusetts:

Recently USAID has made serving the rural masses one of its top priorities. Nonformal education has been identified as one promising vehicle for doing this. Radio is the most feasible way of reaching large numbers of widely scattered, illiterate people.

If any mass medium can be said to be the medium for nonformal education, it is radio.

Unquestionably there have been instances in many countries of illiterate people having learned specific skills by means of direct instruction in small groups. These experiences should be catalogued and examined for future planning. In this project, however, we have assumed that AID is more interested right now in expanding the current knowledge we have about ways of reaching large numbers of rural illiterates with useful information in health, nutrition, family planning, and agriculture.

In summary we are not seeking a substitute for literacy, nor are we suggesting that "by-passing" literacy is a desirable social goal. It is our contention that if you provide illiterate people with useful facts and concepts at the outset of a learning program, they may see the need for literacy as a means of opening up additional channels of information. If people do not go on to become literate, at least they have received information that has helped them to improve their health and nutrition practices, and increase their agricultural output.

Finally, in the absence of ideal learning conditions in most rural areas of the world, we are focusing our inquiry on finding effective methods of reaching large numbers of widely scattered illiterate people in rural areas.

We move now to a consideration of the central question: are there any characteristics (psychological, cognitive, affective) that distinguish the illiterate from the literate member of society? Since the general works in literacy, the more specific work in literacy and development, and the case studies in literacy training did not provide us with very much in the

way of substantive information we turned to a review of some of the literature in anthropology and psychology, two fields which ought to contain substantial information about the learning characteristics of illiterate people.

The Literature of Anthropology and Psychology

We ran quite a few searches through the ERIC computerized retrieval system using descriptors such as "developmental programs," "developing nations," "illiterate adults," "illiteracy," "non-formal education," "educational technology," "mass media," "cognitive processes," "cognitive styles" matched with forty or fifty countries chosen on a geographic distribution basis, with emphasis on those countries which were most likely to have need for large scale educational programs for illiterate audiences.

We directed several graduate students through Psychological Abstracts, Education Index, CIJE (Current Index to Journals in Education) index, and most of the other guides to social science and education literature. In discussing literacy and development we noted that there tends to be a certain casualness about using the words "education" and "literacy" or "educated" and "literate" as if they were synonymous. In the literature of anthropology, we find a similar problem with regard to terminology. There is a tendency to use the terms "non-literate," "pre-literate," and "illiterate" somewhat indiscriminately, although a few authors make clear distinctions among terms.

There is also an occasional lapse into the imprecise use of "primitive" as in the "primitive" mind, and "primitive" mentality. This imprecision with regard to descriptive terminology leads to all sorts of anthropological mischief. For now, let me offer one of my favorite statements from

Studies in Cognitive Growth by Jerome Bruner, Rose Olver and Patricia Greenfield. Patricia M. Greenfield in her article on "Culture and Conservation" notes that:

Both too much and too little have been said about "primitive mind"—too much in that the descriptions given us by anthropologists have been for the most part rather global generalizations based on inference from language, myth, ritual and social life. Such accounts are not founded upon the observation of "mind in action," upon an analysis of behavior in concrete situations. So, we know very little indeed about "primitive minds" at work, and their operation remains largely to be explored. In fact, it is not unreasonable to ask in what sense the label "primitive" is even applicable to the thinking of non-Western peoples.

If Greenfield seems to be too critical of the anthropologists, she is equally critical of the psychologists who have attempted to study cognitive development in a cross cultural context:

Psychologists, when they have gone abroad, have usually approached their work in other cultures as though they were dealing with familiar phenomena, present in greater or lesser quantity (usually lesser). Hence the equation of "primitive" adult with "civilized" child.

The criticism of method and personal bias noted above are far from discouraging. In fact, Studies In Cognitive Growth marked the beginning of a more serious and sensitive reconsideration of cross-cultural studies in cognitive development. The "field of inquiry" having to do with the development of knowledge about human learning patterns falls somewhere between psychology and anthropology, and the pioneering works in this field have been Cross-Cultural Studies, Selected Readings, D.R. Price-Williams (1969); Perception and Cognition: A Cross Cultural Perspective, B. Lloyd (1972); Culture and Thought: A Psychological Introduction, Cole, Gay and Scribner (1974); and Culture and Cognition: Readings in Cross Cultural Psychology, Berry and Dasen (1974).

Having discovered the "field of inquiry" we found out that a great deal of the work that had been done in this field was cross-cultural Piagetian research. Patricia Teague Ashton describes the theoretical issues in cross-cultural Piagetian research as follows:

Cross-cultural Piagetian research has typically been of two types: (1) attempts to verify whether patterns of stage transition as suggested by Piaget's research on European children hold for children in other cultures, and (2) attempts to identify cultural factors that influence patterns of cognitive development.

Since much of the research and experimentation in this area has been done with school children, the findings are not often central to our concern with the learning characteristics of illiterate adults. Professor Ashton does however raise a question with regard to methodology which is very provocative. Since experimentation in different cultures has yielded findings which are inconclusive and often contradictory, Ashton observes that the variation in response between the Wolof and the "WASP" illustrates a central problem: do the differences in task performance reflect the non-universality of Piagetian theory, the differences between cultures, or the failings of the cross-cultural research design?

Going on a little more into the realm of cross-cultural research and experimentation in cognitive development we came to the work of Michael Cole, Sylvia Scribner and John Gay, which seems to us to merit very careful study. They are sensible, coherent and very much aware of the difficulties that they encounter in their own investigations. We have read quite a few articles on culture and cognition since we first discovered Culture and Thought last September, but we keep coming back to it, as a point of reference. I am sure that we sent you a long memorandum regarding the relevance of their observations, but just in case we did not send you a copy, we will include it here:

1. Under the sub-heading "What is culture" they have been commenting on the inherent difficulties involved in cross-cultural investigation:

This tendency to compare cultures as though they were homogeneous units that could be lined up against each other has diminished in recent years. Investigators have singled out a certain few sociocultural factors as potential causal mechanisms for specific phenomena. Among these have been language, urbanization, formal education institutions, and literacy. In addition, ecological features such as the nature of the landscape (jungle versus arctic expanse) and economic factors such as subsistence activities (hunting versus planting) have figured in psychological explanations. While this search for factors that can make a difference within cultures as well as between cultures is certainly an advance, it still has serious drawbacks. For one thing, it suggests rather simple connections between culture and cognition; in reality, cultural features rarely operate in isolation. For example, many anthropologists have speculated that literacy is a crucial factor in changing the way people think. But, except in rare cases, literacy co-occurs with other cultural features such as the presence of formal education, increased industrialization and urbanization. When we find, as many have, that educated and uneducated rural Africans differ in their performance of some cognitive task, how are we to say what features of their cultures caused the difference? Furthermore, simply showing a relation between some aspect of culture and some aspect of individual performance does not tell us anything about the nature of the connection between them; yet that is precisely the psychologist's interest.

In summarizing their discussion on the meaning of culture, they note the difficulty in completely covering the "facts" about culture and cognition. They note that investigators have not pursued any single line of work long enough to bring the issues at stake to a clear resolution. "Consequently, it is necessary to patch together evidence from an often-bewildering array of cultures and techniques in order to illuminate any specific culture-cognition relation (as, for example, the relation between literacy and memory)."

2. In their chapter on "Culture and Perception" they note that the research questions most actively pursued today include the following:

- A. Are there experiences that influence the perception of artificial visual representations (like photographs and drawings)?
- B. Do different experiences lead to alternative ways of organizing ambiguous or deceptive stimuli?
- C. Does growing up in a particular cultural environment predispose a person to select specific features of his environment for special attention so that they are seen more clearly or quickly than others?

For our concerns, the following passage seems especially relevant:

Hudson (in an article entitled "Pictorial Perception and Educational Adaptation in Africa") was concerned with a practical problem: how to train largely nonliterate Bantu workers employed in South African mines and factories. He found that training films and safety posters often failed to have the desired effect, and an investigation indicated that the problem was one of interpretation--the visually presented material was being misinterpreted or not interpreted at all.

Hudson investigated this phenomenon further among several different groups, finding that school children in South Africa responded to the pictorial stimuli as three dimensional, at the end of primary school, while the Bantu children and Ghanaian school children, as well as the nonliterate laborers, both Bantu and European, responded to the pictures as flat, rather than three dimensional. Hudson concludes from his studies that "formal schooling in the normal course is not the principal determinant in pictorial perception. Informal instruction in the home and habitual exposure to pictures play a much larger role.

Hudson's conclusion was seconded by Mundy-Castle who conducted similar experiments in Ghana. He reports that he found:

no evidence of activities (on the part of Ghanaian school children) such as reading, drawing, painting, looking at pictures,

pattern-making, or playing with constructional toys, and it was exceptional for a child to have used a pencil prior to going to school... the opportunity for informal pictorial experience was therefore negligible.

Cole and Scribner note that the results seem quite convincing for Hudson's task, but they raise the question "How representative is the task itself?" Is it the case that people who respond inappropriately to questions about Hudson's pictures simply can't perceive pictures three dimensionally? Or are there other ways of evaluating what people see, perhaps with different kinds of stimuli, that would reveal three-dimensional perceptions? This question was asked by J.B. Deregowski who carried out studies on the relation between culture and perception with 7 to 16 year old school-boys and adult domestic workers in Zambia. Deregowski used pictures similar to those used by Hudson, and he also used drawings in a different style. Instead of asking subjects questions about these pictures, Deregowski asked them to construct a model of the picture, using sticks that could be stuck together easily. The major question was, would people who respond two-dimensionally when asked about Hudson's pictures also respond two-dimensionally when asked to make models of abstract line drawings. In general, Deregowski's answer to this question was no.

Consistent with previous results, Deregowski found that verbal statements about the object relationships portrayed in Hudson's pictures overwhelmingly indicated two-dimensional perception: 100 percent of the domestic workers and 80 percent of the school boys responded in this manner. But more than half of these same subjects constructed three dimensional models of the figures in Deregowski's pictures. (Original text

in Cole and Scribner in Italics, here represented by underlining) The models were not perfect but they clearly reflected information about depth.

Deregowski summarizes these results in the following manner:

The frequency with which subjects who were 2D on Hudson's test made 3D responses to the construction test suggests that it is probably illegitimate to extrapolate from Hudson's findings to all types of pictorial material. A subject, it appears, cannot be classified as a 2D perceiver of all pictorial material merely because he is a 2D perceiver as far as Hudson's test is concerned. This does not invalidate Hudson's remarks about the difficulties which might arise owing to the cross-cultural differences in pictorial perception (Hudson, 1960, 1962a, b). It does, however, limit their applicability by excluding, at least in part, the type of pictorial material used in the construction test (Deregowski, 1968b, p. 203).

3. Culture and conceptual processes

In discussing the studies conducted by D.R. Price-Williams, the authors note that we cannot speak of abstract and concrete thinking in general. Not only the familiarity and form of physical representation of the things classified, but the specific domains from which the items are drawn, appear to influence the abstractness of the responses given.

In summarizing the experimental evidence on culture and conceptual processes, Cole and Scribner make this observation:

When we moved on from grand theory to a review of studies on classification processes among traditional people, we found that the terms frequently used in the psychological literature to classify thought processes are somewhat deficient. Abstract and concrete have been used in a rather loose manner to designate a number of different operations, which do not always co-vary: the particular attribute the individual selects as the basis for grouping; whether he uses this attribute consistently to form all groups in an experimental task; whether he switches from one basis of classification to another; and how he describes and explains the classes he makes. With these many meanings of the term in mind, it is clear that experimental findings do not allow the conclusion that in general the thinking of any group of people is, or is not, abstract...Finally, the one unambiguous finding in the studies to date is that schooling (and only schooling) contributes to the way in which people describe and explain their own mental operations.

This last fact suggests an important distinction that should be made in future research—that is, a differentiation between what people do and what people say they do.

4. Culture, learning and memory

In commenting on a wide range of studies in free recall, Cole and Scribner note the tendency for American children to use one type of clustering device, compared to the different devices used by Kpelle children in Liberia, noting further that the American children seemed to perform better in the free recall testing:

How are we to interpret these results? Taken at face value, they tell us that we should seriously question reports of fabulous memory power among traditional nonliterate peoples. Not only were the performances of our Kpelle groups poor when compared with American groups of similar ages, but educated children tended to perform better than their nonliterate age-mates. This result is just the opposite of what we would expect if lack of literacy fostered memory.

Had the experimental series stopped at this point, our conclusions would have had to be that in a laboratory experimental situation, which makes arbitrary demands on memory, African memory (as measured by free-recall performance among the Kpelle) is worse than American memory, and that literacy improves recall rather than the other way around...As we remarked at the outset of this chapter, the study of memory and culture began from a different set of premises from those that motivated the study of culture and other cognitive processes; memory was the one cognitive process said to be more highly developed in nonliterate than literate peoples.

Yet when we turn to the experimental evidence, we see no hint of a general superiority on the part of nonliterate peoples, nor do we encounter qualitatively different modes of remembering such as the rote recapitulation method suggested by Bartlett.

Summary

We have presented you with these excerpts from the work of Cole, Scribner and Gay, because it has led us to our present position which still needs refinement and clarification but it is essentially as follows:

1. We are assuming nothing with regard to the learning characteristics of illiterate people. Most of the things that we have tended to associate with "illiterates" are well described by Michael Cole as "anthropological folklore." We are not sure what aspects of culture, education, experience, rural/urban living and so forth cause differences among people in performance levels with regard to specific learning tasks, but we are reasonably certain that the literacy/illiteracy dichotomy is only one possible explanation. We have also reached the tentative conclusion that there is no such thing as the "universal illiterate."
2. The biggest challenge to us at this time is of course this: We have cleared the air so to speak, and brushed aside the years of anecdotal information about "illiterates," "primitives," "non-literates," "pre-literates," and so forth, and we are beginning anew. Now we must go beyond this to a more positive characterization of the way people learn and think.
3. It might be profitable to work out a series of profiles on a much smaller scale than literate-illiterate. For instance, we might try to determine some of the learning characteristics of an illiterate adult in a series of distinct contexts:
 - a. an illiterate adult in a rural society that is largely illiterate
 - b. an illiterate adult in a rural society that is largely literate

- c. an illiterate adult in an urban environment that is largely illiterate
- d. an illiterate adult in an urban environment that is largely literate.

I suspect that the interests of AID are in reaching the illiterate adult in a rural environment, so we might concentrate on the first two profiles, with emphasis on the first.

We will of course continue to review as much of the literature as we can, in the hope that we will be able to identify some profitable directions for future research in this area.

II

FIELD INVESTIGATION

We have invested considerable time in the theoretical aspects of the research question, but we find that it is almost impossible to make any generalizations at this time about the learning characteristics of illiterate people. Now is probably a good time to look at a few projects that are attempting to convey information about health, nutrition, family planning, and agriculture to illiterate populations, to see if these practical experiments can contribute in some way to a more general theory of communication and behavioral change.

Field Site Selection

In reviewing the AID development assistance papers, the TAICH documents, the AID program assistance papers on health, nutrition and family planning, annual reports of UNESCO, WHO, and the sector papers of the World Bank we have tried to choose a list of proposed sites that provide us with as much diversity as possible. We have insisted in our selection process that our sites be projects in which some attempt is being made to

change behavior, in specified ways, of rural people, through a combination of motivation, communication, education, and provision of essential service. We have also tried to get a representative sample of projects based on geographic location, level of economic development, type of political structure, and variety of emphasis in subject matter, i.e., health, nutrition, agriculture, and family planning.

The sites that we have tentatively chosen are as follows:

Africa: Dahomey, Kenya, Ivory Coast, Mali, Senegal, Tanzania, Upper Volta

Asia: Nepal (We need Development and Assistance Program Papers for Indonesia, the Philippines and Korea.)

Latin America: Dominican Republic, Honduras, Ecuador, Nicaragua.

WEST AFRICA

Dahomey: In Dahomey UNDP/FAO have sponsored the Rural Radio Program which includes between 500 and 700 radio clubs with between 14,000 and 18,000 members. In addition the German Government is setting up a second transmitter with a building and equipment which was to have been completed by the end of 1975.

The broadcasts are for one hour per day Monday through Friday with 1/2 hour in each of the 13 broadcasting languages (Fon, Adja, Yoruba, and Mina in the south and Wama, Dendi, Ditamari, Bariba, Pila and Peulh in the north). The broadcasts are between 6:30 and 7:30 p.m. (the least bad time according to UNDP experts). The subjects covered in the broadcasts are determined 80% by the Ministry of Rural Development and 20% by other ministries. Twice a week broadcasts are made to youth clubs in 4 languages. While it is difficult to determine the impact of the broadcasts, small surveys in the Fon and Bariba speaking regions show that 57% of the people are listening. In 1968/69 the first radios were placed in villages in support of Radio Clubs. While this practice continues, it has been estimated that in the south 11 out of 100 people own their own radios while in the north the figure is nine out of 100. Furthermore, "individual listening" in most of Africa really means that a group of people are listening along with the "individual" who possesses the radio.

Villages are selected for radio sets by the departmental agricultural officer. These officers are supposed to know which villages deserve to be chosen. A radio club representative is selected by the village and sent for a one or two day training program which deals with subjects such as how to establish a club, how to keep it active and how to make it progress. UN officials have found that if a club accomplishes nothing during the first year, chances are that it never will and therefore the radio should be moved to some other village site. While the clubs are supposed to have a meeting place, many of them do not. The broadcasts are backed up by posters, and while a Swiss group publishes a paper in the northern part of the country, this does not occur elsewhere. The radio representative in the villages provides feed-back on how the programs are being received by the village audiences.

Those working with the radio clubs are trying to achieve a more integrated approach to rural development by having the broadcasts coordinated with agricultural extension agents' work, with the youth 4D Clubs, with the literacy programs, etc. Advisors to the Radio Clubs point out that the people are supposed to listen, discuss, and then act. Provided that the village has some drive, chances of solid results depend upon a cooperative rural extension worker who is backed up by his superior extension worker (the encadreur and moniteur levels). Roughly speaking, about 1/3rd of the clubs are good, 1/3rd are average and 1/3rd are poor.

Recommendation: There is practically unanimous agreement among Dahomean and foreign technical assistance officials that rural radio is making a meaningful contribution to rural development and that it has the potential for doing a great deal more.

Given the Peace Corps' commitment to Dahomey and their programs in rural areas, AID might wish to solicit Peace Corps participation to evaluate the rural radio efforts and to determine how effectively it works. Studies could also be conducted on how much effect program changes would have on performance and on the impact of new media components in support of the radio programs (e.g., a weekly or bi-weekly newspaper, notebooks, slide-tape presentations, supervised practical exercises, etc.)-- in fact a multi-media integrated approach. Naturally this should be coordinated with the complex of ministries and foreign donors who have already participated in getting the radio effort established, but it is recommended that the AID/PCV focus be in the northern or northern and central regions of the country.

Furthermore, the radio program efforts should be more effectively integrated into other developmental efforts, including those of the ruralized schools where possible,

and should be goal (and product) oriented. There should also be a major effort to make the feed-back loop more effective to make the farmers fully realize the importance of their participation. AID may also wish to make its participation dependent upon the continued participation of other donors, especially UNDP/FAO, who apparently are preparing to end their assistance to rural radio in view of the government's reluctance to contribute more to the project's development.

Ivory Coast

AID is engaged in the final negotiations of a project which will provide funding for an External Evaluation Unit for the Ivory Coast's ETV Program for the next two and perhaps five (1975-79) years. The main purposes of the evaluation are: to provide decision makers and staff with accurate information, and to facilitate more effective achievement of program goals on the basis of an analysis of the main problem areas. Pedagogical, economic, technical and management areas are to be evaluated in both primary and out-of-school education sectors.

Some of the main changes which might be expected in the Ivory Coast Program as a result of the evaluation project might be:

1. From the pedagogical evaluation: improved results on criterion tests in main primary system subject areas (French and Math), reduced dropout and repeater rates, improved teaching skills, more positive attitudes towards the ETV Program on the part of parents and teachers, increased relevance of curriculum to development goals;
2. From the economic evaluation: reduced unit costs as a result of, for example, reduced reception and production costs and more efficient management, more accurate forward investment planning;
3. From the technical evaluation: a reduction in frequency of transmitter breakdowns, a reduction in production time and hence increase in time available for training of national staff at Complexe (ETV Complex in Bouake), an increase in the quality and effectiveness of ETV programs;
4. From the management evaluation: increase in job satisfaction of expatriate and national staff working in Complexe (low at the moment by any measure), improved information flow within ETV Program, more rational organization of functions and responsibilities;

5. From the out-of-school sector in particular: increase in attendance at broadcasts, appropriate changes in behavior among target population (e.g., development of cooperatives, improved infant nutrition), tie-in of broadcasts with technical back-up in villages (health care, rural development projects, etc.).

Important changes elsewhere (especially in Niger) may result if the approach and the findings derived from the Ivory Coast (the evaluation model, data collection instruments, cost analysis and project procedures, etc.) are made available to ETV programs in other countries.

1. Cost analysis - to project costs of secondary and post-primary school instruction, of the role of education in agricultural and industrial development in terms of training and manpower needs, and of out-of-school education given varying rates of future development.

2. Needs assessment - to take an inventory and make an analysis of needs felt by urban and rural populations in the area of out-of-school education.

3. Administrative history - to identify how decisions are made and what problems arise as an out-of-school education project develops.

4. Immediate impact - to evaluate how the out-of-school TV programs are received in the listening center, with special attention to technical conditions of reception, description of audience, translation problems, discussions on the theme and comprehension of the message.

5. Long-term impact - to compile the long-term results of the out-of-school education programs in their efforts to increase production and income, to improve living conditions and health, and to stem the rural exodus of Ivorian citizens, as well as to study conditions under which behavior changes are obtained.

Mali

The GOM has initiated a number of imaginative programs of adult literacy, practical training for rural families, and community development with the objective of increasing the levels of skills and knowledge of rural citizens. These are being linked, whenever possible with integrated rural development projects. (See Education Sector Assessment) Programs specifically for cotton, groundnut, rice and millet farming and for fishing areas have been initiated.

The segment of the population which has been least touched by formal or informal education is the migratory livestock producing family. Therefore, an experimental program directed at migratory producers as part of the Sahel development activity is planned. The target population is herder groups and those involved in livestock marketing. The objectives are:

1. To sensitize herder groups to the potential for use of information not now available to them and to advantages which may result from exchange of ideas;
2. To permit the GOM to adopt and accomplish a more favorable presence with the herders with a view to expanding its role in helping the herder to improve his opportunities for survival and for economic benefit;
3. To permit identification of the kinds of information which herders and traders would perceive as most useful and of the form in which it may best be used and to organize the collection and dissemination of information;
4. To make possible for GOM officials to obtain from herders their perception of the situation, needs and modalities for addressing them; and
5. To establish a continuous dialogue with a view to evaluating existing efforts and improving them and to organizing complementary activities.

A variety of tools are proposed. The key element will be the Service Pastoral of the Veterinary Services. Radio broadcasts, extension activities at cattle markets, places where families gather and vaccination camps and seminars for family leaders are planned. Selected individuals and leaders will be invited to visit training facilities to view demonstration plots, cattle, and the like. The Sotuba Station will be the center for both training and communications activities.

Establishing better lines of communications between livestock owning families and government is a key element of finding solutions to the complex physical, social and economic problems of the Sudan/Sahel Zone. As such, these activities deserve the support of donor agencies and are clearly compatible with AID's policy guidelines.

Niger

There appears to be some possibility that Niger may establish a new, potentially very important, model which might subsequently be of interest to other developing countries. What could evolve would be a new basic education program which might be termed "functional education." There would not be concern for "formal education" or "non-formal education" systems (such as being created and expanded in Upper Volta), or for a "mass education/non-formal" approach which tends to be independent of the educational structure but is communal and practical in its focus. Instead, educational criteria may be developed identifying a basic core of skills and performance capabilities which citizens should possess. To achieve these, the facilities available will be mobilized with little concern as to whether the teaching/learning/practical experience occurs in a school, a non-formal institution by radio, agricultural extension, or whatever. The objective will be to maximize the use of all facilities available and to integrate them in order to achieve the set objectives. If this approach is in fact adopted, then it is strongly recommended that AID, if invited, should share in attempting to prove the model's viability and subsequently its generalizability within and beyond Niger.

These activities, like those noted above related to the formal educational sector, may also be substantially modified as a result of the proposed educational reform. However, it is again felt that these activities will be continued or that AID-sponsored inputs could help to identify what, if any, roles they could play in a reformed educational system.

A. ITV: Tele-Niger is a French assistance activity. It is one of the most interesting educational television efforts in the world and has received considerable international recognition for the quality of programming it has achieved. Personnel at Tele-Niger felt assured of the support of the previous government but feel somewhat concerned about their position vis-a-vis the new government. In spite of this, the production facilities at Niamey are being expanded by FAC, and plans have been finished for the extension of the T.V. network in four steps so as to cover 80% of the total population of the country. However, there is a fundamental question regarding cost. Although the GON has not yet had to pay these costs, the IBRD report will probably indicate they would prove prohibitive should Niger ever have to meet them.

The ITV project in Niger began in 1962 and by 1966 it had established itself as an experimental project. It was then decided that ITV should concentrate its efforts on the education of pre-school and elementary level children. In 1967 Tele-Niger was producing programs directed at the first four years of primary school; and in 1970, the fifth year was added. The goal was to establish five years of quality tele-education which would cover the six years of material offered in the formal school and thus reduce the elementary program by one year. All broadcasts are in French and the dominant themes for the first four years are as follows: first year-language; second year-reading; third year-study of the environmental milieu; fourth year-introduction to techniques of observation (scientific approach). Considerable emphasis is placed upon promoting the value of manual work, introducing the elements of technology and encouraging experimentation. The basic theme is "learning to learn."

The experimental period launched in 1967 was to last five years and was to reach 500 centers with a total of 4,000 students. By June, 1971 about 20% of 800 students in 20 ITV classes were actually admitted to secondary schools where instruction was carried on in the traditional manner. The students apparently had no difficulty with the subject matter but had serious problems in learning within the confined formal school environment. It was proposed prior to the coup that by 1981 the system would be extended to reach 100,000 primary school students, at which point it would be cost-effective. While it had been further projected that ITV could reach 85% of the total school-age population from 5 to 14 years of age (some 700,000) by 1985, it now appears that ITV will not reach more than 20 to 25% of the students, or from 160,000 to 200,000.

Recently, ITV was also asked to begin to participate in adult education activities--an area of endeavor rejected in 1962. However, ITV is now willing to undertake this additional responsibility, since the primary school program is fairly well completed.

The major problem facing ITV is cost-effectiveness. There is substantial disagreement over what enrollment level would be required to make the system economically attractive. Any evaluation of this question should include its adult education potential as well as its primary school education function.

AID is presently involved in an evaluation of ITV in the Ivory Coast. It is suggested that careful consideration be given to the feasibility of adapting the evaluation procedures which will be developed and used in

The Ivory Coast to Niger. If this can be done at a reasonable cost, AID might wish to consider assisting GON to reach a decision on the role of ITV in formal and non-formal education efforts in Niger based on a more solid cost-related foundation than now exists. In fact, the director of Tele-Niger would welcome such assistance.

Evaluations to date have indicated some very gratifying findings: the results in reading and math have been very positive and students were able to use French after only six months of instruction (instead of dragging out the learning of the language through the whole primary school program). There was almost a total reduction of repeaters, and student output during the first four years was 90% instead of the 50% found in the formal schools. Course material was integrated into the milieu, and there was a distinct feeling that the students were more critical and curious than those attending regular schools. Teachers (instituteurs) were employed for considerably lower salaries than those in normal schools. Maintenance costs of equipment were much lower than had been anticipated. Although the GON provided only \$175,000 per year in operation expenses, this sum still amounted to \$20.00 per pupil year.

What this level of technology costs and what it can produce in a country as poor as Niger provides an important developmental lesson. We shouldn't lose or waste the knowledge to be derived from what has already been expended for lack of evaluation. Nor should larger amounts of money be put into the effort if it has almost no chance of even achieving the level of cost-effectiveness it promised. A careful study of (1) the IBRD evaluation, (2) previous French evaluations, and (3) AID's participation in the Ivory Coast evaluation, would help to determine and define the shape of an AID evaluation of Tele-Niger. If it can be determined in advance, however, that ITV will be selected for political reasons (e.g., to tie the country together, to mobilize support of the people for new government, etc.) then advanced estimations of the cost-effectiveness of the system would be a waste.

B. Radio Clubs: Association des Radio Clubs du Niger (ARCN) is a para-statal organization which has done an impressive job with limited funds. The organization began in Niamey in 1961 to promote economic and social development among the people. By 1962 groups of listeners were asked to participate in preparing the

radio programs and these discussions were taped and broadcast. The topics, related to national social and economic development themes, became the first regular broadcasts through the national radio network. From that point on, groups of listeners began to be established at different locations around the country ("listening posts") and they not only listened to radio broadcasts together but began to be guided in their discussions by animateurs who in turn provided a feed-back loop to the radio programmers. In addition to Radio Clubs, the association has also established Listening Centers (Les Centres d'Ecoute) which are led by a young person from the village. While these centers were youth oriented, they are structured and function like the Radio Clubs.

The Association is under the direction of the Service de la Promotion Humaine of the Ministry of Development. The ARCN annual budget is 13,000,000 CFAF, and it is met by the GON. There are presently about 70 Radio Clubs in operation. If additional funds were available the Association would seek to establish two to three (depending upon population) Radio Clubs in each Arrondissement (there are 36) for a total of about 108 clubs throughout the nation. They would also like to have one inspector-coordinator in each Arrondissement to assist Radio Clubs to coordinate their activities with development-oriented services-Waters and Forests, UNCC, Health, Literacy, etc. Present budgetary restrictions, however, prevent any expansion.

The Radio Clubs broadcast on Radio Niger and therefore have little competition for their programs. They presently broadcast for 30 minutes twice a week, once in Zerma (or Zarma) and once in Hausa from December through June. During July and September they establish a broadcasting station in the Tamourzak area (N'Gall) where the Tuaregs are grazing their livestock and broadcast to them in Tammacheck. Special emphasis is given to providing information on livestock, range management, and health. Once the herds begin to leave this area the broadcasts are stopped. Tuaregs who have been trained as animateurs work with the Radio Clubs "on the move" throughout this period.

The animateur, or the group leader of the individual Radio Clubs, is selected for the position from among volunteers. Those chosen to become animateurs are sent to Niamey for a three-week training program. They learn about the general development efforts in Niger, the techniques of animation (organization and motivation), how to work with groups, how to fill out necessary Radio Club forms, how to ask questions (both in discussion

groups and in survey research contexts), and how to make reports to club headquarters. The amateur is also taught how to use the radio most effectively with whatever supplies are provided for each club. The amateur is then issued a radio to be used by the club. (It should be noted, however, that officials questioned confirmed that transistor radios were to be found throughout the country--it is one of the first items farmers and nomads purchase when cash becomes available.) Once a year there is a follow-up one week re-training program. Animateurs receive 5,000 CFAF per month during the broadcasting periods and there are many volunteers seeking these positions.

The problem with the Radio Clubs experience are partially related to the lack of structure and depth in program content. The Clubs seek to support GON developmental objectives but a large part of their programs are not "constructive" or "participation" oriented--they are more propagandistic in nature. Each of the major rural action service organizations attempts to get as much time as possible on the air to emphasize the importance of its individual activities. There is no contact with ITV programming efforts (even now that ITV is moving into adult education), and the Radio Clubs use no other supporting media materials except for a "Club" type of newspaper. The most action oriented programs in which ARCN has participated are those which were conducted in support of the literacy program (in some instances the animateurs for literacy and Radio Clubs are the same person) and campaigns in support of UNCC activities. Some of the special themes on health, livestock, social problems, and commercialisation of agricultural products seem to have been well received but they lack sufficient consistency, structure and follow-up.

Without exception GON officials felt very positive about Radio Clubs and about the prospects for achieving much greater results from using radio for educational purposes. However, the Radio Club system should be carefully evaluated (the last, rather casual, evaluation appears to have been done in 1964); some idea needs to be obtained of its impact beyond the limited Radio Club audiences (ARCN has not attempted to obtain hard data on its impact on non-club listeners); and an assessment needs to be made regarding the increased impact which might be achieved through augmenting the radio broadcasts with other media--pamphlets, brochures, slides, a stimulating regularly published newspaper, etc.

It is strongly recommended that AID give favorable consideration to providing assistance to ARCN to evaluate and improve its educational and informational impact in Niger. Part of the assistance should relate to audience assessment, broadcast impact, introduction of new materials, and perhaps improved training to make the feed-back link more effective; but part of the assistance should also be directed toward improved programming accomplished through better coordination between rural action services. Radio can substantially support all of the rural services' activities provided these are goal oriented and provided that their plans and programs are developed in sufficient detail to permit ARCN to interface with them effectively. Assisting with the development of this type of coordination and cooperation capability would be a major part of any outside assistance. On an initial basis PCV's might be willing to work with an AID Radio Clubs project to help to assess as well as participate in radio stimulated action programs.

ARCN appears to have a good staff and to have made a good start in rural non-formal education activities. The staff, however, has levelled out in terms of growth and program development and innovation. It must have assistance to make the more significant contribution to rural development which Nigerien officials believe they are capable of. In an orally oriented culture where only about 6% of the population is literate, the role of radio is potentially profound. Non literacy based education must precede literacy education if it is to reach the people in the short-term.

Senegal

Set up over the last two years, Promotion Humaine is composed of four offices, or "Directions," combining five separate non-formal programs, each with its independent origins and staff structures. Although the programs are complementary, even overlapping, Promotion Humaine has not yet enjoyed sufficient time or staff to develop a focus and a coordinated program strategy.

According to the July, 1973 National Development Plan, the task of Promotion Humaine is to promote popular participation in national development (a) by encouraging the formation of popular development structures (cells, cooperatives), and (b) by preparing youth and young adults through literacy and practical training to join production organizations and processes. To carry out this task among the some 3,000,000 rural populations in the

15,000 villages of Senegal, the staff of Promotion Humaine totaled less than 440 persons in November, 1974. The Promotion's expansion plans are therefore ambitious, although they are to a very great extent dependent upon external financing.

1. The Direction of Rural and Urban Development (Direction d'Animation Rurale et Urbaine) Animation Rurale is the oldest and largest of the five programs grouped under Promotion Humaine. Dating from Independence (1960), Animation Rurale today employs 279 persons in 30-40 Rural Development Centers (plus Headquarters). Of this total, 190 were women. According to official estimates, 60,000 persons have been involved in Animation activities since inception.

In organizing development from below in the service of human growth, Animation Rurale has developed a characteristic pattern of courses and seminars organized by the Rural Development Centers; these "courses" (First, Second, and Third Degree) are designed progressively:

- a. to open dialogue between the villages and the government technical and administrative representatives in identifying problems and solutions;
- b. to lay an organizational base for village and inter-village development; and
- c. to introduce technical training and expertise in reaction to the problems identified.

Certain villagers are given short-term training (civic and technical) to prepare them to work as "animateurs" in their home settings.

Animation Rurale is seeking \$1,100,000 to cover program costs (exclusive of salaries) in conducting "courses" for 50,000 people over the next four years. The chief contingency factors to the success of the Animation program (as well as the other non-formal programs) appear to be:

- First, the availability of funds (above) and staff (e.g., 21 Peace Corps requested for 1975) from outside sources;
- Second, the effective preparation by ENEA (above) of adequate numbers of national staff (148 additional personnel required);
- Third, the degree of receptivity on the part of local leaders towards development programs involving popular participation and direction. Their resistance

stalled the Animation program for several years until the former Director was reinstated in January, 1974 as General Delegate of Promotion Humaine. The decision to press ahead with Animation Rurale, but to redirect it towards development activities and away from organizational activities, was therefore made at the top levels of the Senegalese government; and

--Fourth, the extent of cooperation offered by the technical services at local levels. Various of the production societies (e.g., SODEVA, SAED) appear to prefer to organize extension efforts in their own manner. Much would depend upon the fate of the Rural Expansion Centers (CERs), the basic groupings of technical officers at local levels under the Regional reform program. Opposed by the Ministry of Rural Development, which preferred the production societies, the future direction of the CER's was in doubt in November, 1974.

2. Middle-Level Practical Training (Enseignement Moyen Pratique, or EMP)

According to present thinking, the EMP Program will rank high in planning priorities for the new period, 1975-79. Designed to offer practical rural training to illiterate youth and to primary school leavers alike, the EMP Program represents the government's answer to the limitations (in both content and outreach) of the primary school system.

Developed since June 1971 by the French IRFED (Institut de Recherche en Matiere de Formation et d'Education pour le Development), the EMP Program by November, 1974 consisted of two experimental village training centers and a national center in temporary lodgings at M'Bour. Ten EMP instructor/"agents" were in training, with nine other staff employed at the M'Bour center and in Promotion Humaine headquarters, Dakar. Yet from this experimental grouping, according to the July, 1973 National Development Plan and confirmed by figures specially prepared for the DAP team in November, 1974, the government of Senegal plans to staff and equip 176 centers, 7 regional teams, and 27 departmental teams, in addition to expanding the National Center. The total EMP staffing requirement would reach 926 persons by 1978. By 1984, when the national system was complete, the EMP Program would involve 801 centers at an estimated \$24,000 apiece with 1730 instructors, plus local, regional, and national support staff.

These ambitious expansion plans, before the EMP Program is yet firmly established, raise three serious questions (in addition to the usual question of the source of financial support):

--First, would such a rapid expansion not violate the principle at the heart of EMP, namely, the community-centered nature of the program? Assisted by the EMP tutors, the community should design the learning programs, voluntarily construct the center ("foyer"), and contribute village specialists (model farmers, masons, blacksmiths) and unpaid monitors ("selibes") to supervise the students during their practical training and to provide the program with feedback from the village. Was this concept consistent with a crash EMP expansion program?

--Second, could EMP staff be prepared in time to run a drastically expanded program of the type planned? To deal with this question, Promotion Humaine headquarters plans the retraining of primary school teachers in the EMP, non-formal approach, beginning with six months on-the-job training in village centers. Whether regular teachers were susceptible to retraining in irregular methods, geared to the local community, was open to question.

--Third, even if retraining were largely successful and an EMP cadre established in the time allowed, when would the government be prepared to support a national EMP program at the same salary levels as the existing primary school system? In time, would not the two systems bear a strong similarity to each other?

With Senegalese assurances of careful planning and supervision, the World Bank agreed in December, 1974 to fund 30 EMP Centers, 4 regional centers, 15 departmental teams, a part of expanding the national center, plus training and 2 full-time experts (EMP formative evaluation and EMP management and logistics). The centers, it was agreed, would go to areas of Senegal entertaining development projects, according to criteria to be drawn up by the National Planning Office.

3. Rural Professional Training (Formation Professionnelle Rurale, FPR)

FPR in Senegal was initiated by ILO nine years ago; under the terms of its ten year rule, ILO is required by December 31, 1975 to withdraw its support. The GOS is therefore actively seeking another donor who will agree to share the costs of further construction, equipment, training, and follow-up for the FPR system.

The FPR system employs between 66-70 instructors and other professionals, distributed between a small headquarters complement in Dakar, seven farmer training centers, one herders center, and five artisan centers. Two more artisan centers are planned in association with existing farmer centers. A second herder center is planned for Bakel.

The per student costs of FPR training were not immediately available in November, 1974. As a general indication of the range of costs, however, construction costs of the Kael artisan center in Central Senegal were \$80,000 in 1970, using self-help labor and local building materials. Equipment costs were \$18,000. Given an enrollment of 35 currently in training, and an operating budget of \$15,740 (seven staff, total), unit training costs of Kael were in the neighborhood of \$500. Compared with this, the Labgar herdsman center cost about \$96,000 to construct in 1970, plus \$12,000 to equip and \$1,250 to stock with animals. Current operating costs were \$15,320 in 1974. With a total enrollment of 70 (20 in the six month course, 50 short-course students), unit costs for Labgar were about \$250 per trainee. But according to ILO/UNDP records for July 1, 1971 to June 30, 1972, operating costs (natural and personnel) for 11 operating centers averaged \$38,240 per year. This did not include the costs of running project headquarters (Dakar) or the value of ILO technical assistance. This discrepancy between ILO/UNDP figures and the figures provided by the centers suggests that the individual centers may not include the costs of the Center Director's salary in their operating costs, thus artificially lowering the unit cost figures cited above.

How well is the Rural Professional Training system working in Senegal? Considerable concern focuses on the problems of follow-up after training is completed. Adequate follow-up is required to ensure that the pilot farmers are properly equipped with the implements upon which they have been trained, and to ensure that they can find an outlet for their increased produce. Adequate follow-up also ensures that the artisans can find work. Where follow-up has not been effective, as at Labgar, enrollments fall off in numbers and in quality. In an attempt to ensure a supply of tools and land credit to pilot farmers and herders, Promotion Humaine agreed in 1974 with ONCAD to draw up a list of simple agricultural cooperative societies. Coop members may then purchase the equipment over five years, with Promotion Humaine guaranteeing the purchase payments. For more complex, motor-driven equipment, Promotion Humaine is prepared to set up model farms which would be manned by the top 10 per cent of graduated pilot

farmers. Promotion Humaine recognizes that the local reorganization of the cooperatives themselves, to promote the wholesale marketing of farm produces, is, with credit, the second essential part of program follow-up. Too often, however, one or both parts of follow-up is insufficient or entirely lacking.

Indications are, nonetheless, that pilot farmers and artisans trained by the FPR centers are beginning to have the leavening effect intended in rural areas: through their employment in rural development schemes, through the taking on of apprentices in the case of artisans, or in the usual way, through traditional practices of cooperation which occur at peak points in the crop year. The multiplier effect of FPR training has been estimated by ILO, perhaps too generously, at 1:10; local officials believe a ratio of 1:4 would be acceptable. The fact remains, however, that FPR has met with general satisfaction in Senegal. FPR is considered an activity meriting wider attention for possible replication elsewhere. It also would appear deserving of combined GOS and other donor support to continue the present program.

4. Rural Family Training Centers (Maisons Familiales d'Apprentissage Rurale, MFAR) The Maison Familiale program is directed at training teen-age youth and young adults at the village level in an assortment of practical skills, from literacy and crop production to spinning and health care. Although in the Promotion Humaine organization, Maisons Familiales fall under the direction of Rural Practical Training (above), the MFAR program is staffed separately and the program itself is of a quite independent origin. The Senegalese MFAR system is one of a total of perhaps 17 national systems to be found in Europe (France is the mother country), Francophone Africa (Algeria and Senegal lead), and Latin America (Brazil and Argentina).

There are nine Maisons Familiales currently in operation in Senegal, although nineteen exist on paper. These nine are distributed among four regions and enroll a maximum estimated 2,610 trainees, or 290 per center, at most. The average Maison Familiale center is purposely a simple affair, consisting of a free-standing, self-help building of between one to three rooms for class space, plus two huts of one or two rooms for the resident instructor (s) and instructress(es). The official estimated cost of constructing and equipping a Maison Familiale center in November, 1974 was thus only \$19,630. MFAR in that month employed an estimated 45 men and women, including teachers and regional and national supervisors, with perhaps twenty more in training. In 1972-73, total

costs for the MFAR program amounted to approximately \$188,000 or about \$70 per trainee/year. Part of this cost already is met by local governing committees and enrollees.

In what way is the work of Maisons Familiales different from that of the Middle-level Training Centers (EMP), or even from that of Rural development (Animation Rurales)? In many concrete instances, the differences are hardly visible. Maison Familiale's concentration on fighting the rural exodus by training post-primary aged youth in rural skills, alternating between classroom instruction and practical work supervision, is very close, indeed, to the aim, means, and methods espoused by EMP. Both programs emphasize the cultivation of host village support and guidance.

On the other hand, at the village of N'Der, northeast of St. Louis, the resident instructors of a new Maison Familiale were winning local acceptance by doing the work of rural development agents. The technical knowledge of the new instructors, but just as important, their contacts with Regional and National headquarters, won for N'Der the installation of a village well and the procurement of a motor pump for the area irrigation scheme near Lake Guier (Senegal's only lake). The MFAR monitors at N'Der continue to serve as effective spokesmen to win outside assistance for the ambitious irrigation project.

Incidentally, the distinction in outlook and attitude between regular civil service employees when posted to the bush, and Maison Familiale instructors and instructresses is no easier to draw. During a visit to the Maison Familiale at Fandene (near Thies), a DAP team member was presented by the resident staff with a well organized list of grievances: their lack of transport, their poor lodgings, the delayed payment of their salaries, their low pensions, their negligible chances of promotion, paucity of their teaching materials, and the long haul required for their water supplies. The notion that employees of the "formal" and "non-formal" educational systems live by entirely different sets of expectations should be put to rest. Given the essential similarity of much of their work, it may be assumed that even fewer differences exist between employees of the five Promotion Humaine programs in terms of the support they demand.

Upper Volta

As indicated above in connection with the 4 C Clubs, radio education appears to have considerable promise in the area of non-formal rural education. It has been estimated by

Mr. Zongo, Chief of Programming for Radio Rurale. Ministry of Information, that there are already from 150,000 to 200,000 radios in Upper Volta and 300 radio clubs have been started with another 350 planned. Radio Clubs are formed for "supervised" listening under the guidance of a *moniteur* (male) or *monitrice* (female). About two-thirds of the broadcasts are in French with the remainder in More (Mossi), Dyoula (Bobo Dioulasso), Gouroussi (Gourmantche), and Peul (Fulani), plus Lobi and Dagki. The plan is to increase the vernacular broadcasts at the expense of the French. Broadcasts occur five days per week from 7:00 to 7:45 a.m. and from 5:00 to 5:45 p.m. On Sundays there is a broadcast from 3:00 to 3:30 p.m. which is used as a control broadcast to examine listeners on the materials covered during the week. During the weekly broadcast there are special 15 minute Radio Club sessions. The Radio Club's "listening posts" members assemble, hear the broadcast, then turn off the radio and discuss the materials covered on timely and pertinent topics. Radio Rurale is attempting to place "correspondents" in the field as representatives to keep in touch with the radio clubs in the ORD areas and to provide personnel who will maintain contact with club members and provide a feed-back channel.

Foreign assistance has come from Germany (which has provided a 100 kw middle wave transmitter during 1974), to make the radio powerful enough to reach the entire country, although the strength of Radio Niamey is stronger than that of Ouagadougou in the eastern part of the Eastern ORD. The German Government also provides a resident technician and programming advisor. UNESCO provides a principal technical counselor who is involved in an experimental program to promote equal access to education for women and young girls which depends upon radio clubs, but which, unfortunately, has no budget to support the activities of the counselor. The GOUV hope to be able to include a radio education project in its second five year plan, but so far this project has remained undefined.

Without exception GOUV and donor personnel working with human resources programs felt radio was not being adequately employed and that its promise was significant and realizable. There should be coordinated effort on the part of those individuals, agencies and donors involved in rural radio. Beyond that the programming should be incorporated into the goals and objectives of national and project plans. Follow-up evaluations, better feed-back mechanisms, and perhaps a multi-media approach needs to be considered and evaluated to see how and if radio could be more effective if supported by pamphlets, slide tape presentations, newspapers, etc.

Consideration should be given to serving the needs of the people not only in terms of educational and informational content, but for amusement and cultural purposes as well. This must be built into the development plan or it will continue to be relatively ineffective both in terms of content and personnel because the present national budgets leave no room for the support of unbudgeted expenditures. This development of radio education could have substantial impact and pay-off for relatively small investment and it is recommended that AID at least consider providing this assistance in the Eastern ORD on a pilot project experimental basis. It should be integrated with the efforts of other national and foreign organizations already committed to the improvement of rural radio. AID and U.S. institutions have already had substantial experience with radio education efforts elsewhere in the world, especially in Latin America, and these insights could be relevant inputs in working with the development of an effective viable rural radio system in Upper Volta.

ASIA

Nepal

1.

The USAID strategy for educational assistance to Nepal is based on four elements: (a) Nepalese priorities as established in the NESP; (b) USAID policies and priorities as laid out in general Agency guidelines and in The AID Education Program Strategy; (c) National Education Committee (NEC) concerns that pressures of the NESP not obscure the need for long range planning and educational innovations; and (d) other donor activity and interests.

USAID recognizes, as do other donors, that the quantitative goals of the NESP are beyond the capacity of the Government of Nepal, even with the assistance of any single donor, or any combination of them. It follows that USAID concerns should be directed basically at quality, innovation, and programs in limited, high priority institutions and areas. Extensive discussions between the Mission and HMG have resulted in general understandings and agreements as to the role USAID can most effectively play, and there is an intersection of interests in several key areas.

Element (a) of the strategy is to assist with the development of those institutes and those areas judged of highest priority by the NESP. This takes the form first of a small ongoing project at the Institute of Education which is aimed at qualitative improvement.

of the system. It takes the form secondly of an institutional development project at the Institute of Agriculture and Animal Sciences at Rampur. The development of an institute for the preparation of post secondary trained manpower for agriculture is one of the highest priorities of HMG in education and manpower. Not only are manpower needs in agriculture clearly established, but the IAAS sets two patterns for higher education in Nepal; (a) the service role, and (b) the role of higher education in the development process. The Mission has developed a proposal for this project which has been forwarded to AID/W, with early action on it anticipated. Full rationale for that project is continued in the PROP.

Element (b) of the strategy has been tied to element (c), for at this point there is a clear intersection of interests. The National Education Committee believes that unless specific attention is given to long range planning and educational innovation, both of these areas are likely to suffer, and both are necessary to achievement of the NESP goals. The NEC has therefore undertaken the task of broad planning for educational innovation, with USAID being involved in a direct but low key way through continued professional dialogues, and through the provision of very small numbers of the best consultant assistance available as their services are required. The continuing professional dialogue has resulted in agreement that the broader goals of the NESP, such as reaching the rural unserved masses, are unattainable in the foreseeable future through traditional means, and that major innovations must be explored, notably in educational technology and non-formal education; that such innovations must be thoroughly researched and explored prior to major commitments of resources; and the USAID can play a key role in this endeavor.

Element (d) of the strategy, other donor activity and interests, takes the form first of making certain that USAID activities not overlap and duplicate those of other donors; and most importantly, that maximum coordination be developed in areas of highest mutual concern, one of which is educational technology. Hence, there have been, and will continue to be, full and frank discussions between USAID and other agencies which share our interest in this field, most notably the British Council, and UNESCO/UNICEF/UNDP.

6.

All the educational statistics available on education in Nepal, ranging from the literacy rate to educational finance, argue two points: (1) that it will be impossible for the foreseeable future to extend the current formal educational

system to the point of giving nationwide service to even the advantaged, much less the disadvantaged; and (2) that some means must be found for giving more education for less to more people, both in the formal school setting and outside it. It has been generally agreed by various participants in discussions that national development a part of which is national integration, cannot be based solely on the literate portion of the population, and that the spread of literacy will be slow. There is the possibility of using oral means of information exchange and education to engage a much wider spectrum of the population development, which suggests radio. Further, it is hypothesized that the formal school program can be strengthened, as can teacher training, through radio.

Radio, then, is the innovation which has captured the attention of Napalese and foreign donors as well, as the medium which might deliver knowledge (non-formal education) to the disadvantaged at reasonable cost, and which might also be used as a powerful device for strengthening the formal school and teacher training programs.

A second innovation that is receiving increased attention is non-formal education, meaning that education which does not necessarily rely on the requisites, personnel, or institutional structure of the formal system for its transmission. It is education that is designed for those cut off from formal education, but it may be given as an extension of the formal school or apart from the school. Educational technology and non-formal education are not mutually exclusive in that radio education will deal largely with non-formal education. Hence, the two thrusts in innovation will be closely related through the developmental period.

A third innovation is the use of pilot programs to test the effectiveness of both ongoing educational activities and educational innovations.

A fourth innovation is the use of a long term consultant-- a "Guru"--to engage with HMG and the Mission over an extended period to help articulate ways to address and resolve particular problems. Such an agreement has been made with the Dean of the School of Education at Stanford University.

(a) *Radio*

Interest has been generated, planning has begun, and extensive consultations have been held with various donors as well as several segments of HMG.

No major educational technology project has yet been visualized, though it is generally agreed that a nationwide educational radio network might be the result. USAID and HMG agree, however, that a period of intensive study of the implications and costs of technology must precede any decision on ultimate utilization of a particular technology. USAID believes that for a variety of reasons this undertaking must engage other interested donors from the outset, therefore we have begun preliminary discussions with UNESCO and the British Council. It is anticipated that studies on the feasibility of radio education in Nepal (both hardware and software) will be conducted from May to December 1974, with results ready for presentation to the National Planning Commission in January 1975.

(b) *Research and Development in Non-formal Education*

Although the Mission and HMG share great interest in this field, they also share the view that given the newness of "non-formal" education, and the lack of evidence that non-formal education models exist that are immediately transferrable, an intensive R & D effort is mandatory before long-range policy or project decisions are made. It is the Mission purpose, therefore, to devote the next one or two years to carrying out intensive research and development work in non-formal education, and conducting pilot activities in educational radio, to the end that HMG might be able to make sound decisions as to the feasibility and desirability of proceeding with large scale activities in this field.

This research and development will be closely related to activities generated by HMG, one of the most significant of which is an educational pilot project with multiple purposes:

- (a) laboratory for testing elements of the NESP before they are expanded nationwide;
- (b) laboratory for controlled educational research;
- (c) test site for development of community based learning programs as extensions of, or apart from, formal schools;
- (d) study innovative ways for upgrading teaching/supervisory personnel.

Through this relationship between Mission supported R & D work and the NEC pilot program, the pilot can be expanded and enriched, while specific goals of testing non-formal approaches are attained.

The R & D activity will focus on the rural populations. Its purpose will be to discover alternatives to the formal education system for the transfer of knowledge either to or within the villages, and to carry out sufficient field testing of promising approaches to be able to validate their utility.

The R & D work will encompass the following:

1. Analyses of village based mechanisms available for non-formal learning, with some prototype formats developed and tried out, i.e., drama, games, music, village meetings, etc., possibly utilizing in some cases radio or cassettes.
2. Analyses of the merits and feasibility of certain kinds of non-traditional printed materials, with some prototype materials developed and tested, possibly including the foto-novella, and the penny newspaper insert. Also an analysis of what goes into the typical village which might be used as an educational medium.
3. An evaluation of the various possibilities for village based skill training, such as the village "practicum," and utilization of village craftsmen.
4. Analyses of the message requirements, and message effectiveness of village radio programs.
5. Training of a core of Nepalese in development and testing of non-formal education techniques.
6. Coordination established between organizations interested in , or utilizing non-formal education techniques and materials.
7. A minimum of three six-month educational radio programs developed, tested, evaluated, and available for wide spread utilization,

possibly one in the village forum, one in supervisory upgrading through non-institutional methods, and one in a subject area, such as English teaching.

8. Carefully developed analyses of critical elements of the pilots which will be available to interested elements of HMG, including user reaction, training requirements and problems, degree of learning, relative effectiveness of various formats, and merits of the cassette and radio as educational media.
9. Testing of the educational value of cassettes. (Since radio time will probably not be available, it is hypothesized that simulated radio programs can be developed through the imaginative use of cassettes, thus testing the value of both technologies.)

The following projects are described briefly in the Report on Health, Population and Nutrition Activities of the AID for fiscal years 1973, 1974; and we will need complete program documentation for these countries:

Kenya - Population and Health Education Project

Dominican Republic - Health and Nutrition Project

Ecuador - Family Food and Nutrition Project

Honduras - Maternal and Child Health Project

We are awaiting further information from sources in Canada and Wisconsin about rural education projects in *Tanzania* and *Nicaragua*.

III

GENERAL AND DESIGN HYPOTHESES

General Hypotheses

1. The personal characteristics of illiterate people may be less important than institutional or situational factors in determining behavioral change.

a. Hornik, Mayo and McAnany in "Mass Media in Rural Education" Education and Rural Development, observe that:

Up until recently, literacy was regarded as the fundamental human skill without which modern knowledge could not spread; without literacy it was feared, rural communities would remain isolated and underdeveloped. Literacy is still considered a vital factor in building self-esteem and in motivating rural people to adopt other "modern" behaviors and attitudes, but most development experts seem to agree that substantial progress can be made by rural people even if they remain illiterate.

b. Study of small farmer practices:

Of course, project success was also affected by a number of other factors. As might be guessed, the chances for project success are greater if one works with more progressive farmers as measured by per capita income and the percent of output sold for cash. Somewhat surprisingly, greater project success appeared to occur in projects located a considerable distance from all-weather roads and in projects where the literacy rates of participants were low. We believe this is a reflection of a deliberate decision by leaders of some of the most successful projects in the sample to work in remote areas and not the influence of these two factors as such.

c. DAP comment regarding Central America assistance efforts:

A vital ingredient, however, is the willingness and ability of the farmer to make use of these resources--credit, improved varieties, fertilizer, etc. The gap is in large part one of communications. The farmer is illiterate, yet this is not necessarily

relevant to the problem nor an overwhelming obstacle to its solution. While literacy is convenient since it affords access to proven means of communication, it cannot be relied upon to transmit the necessary skills and knowledge to rural peoples, nor is the traditional school system the answer.

2. Cooperative social action at the village level may be a more important factor than literacy in determining individual modernization. In discussing the Comilla cooperative movement in Bangladesh, Alex Inkeles notes in his article "Becoming Modern:"

We were most struck, however, by the dramatic changes in the level of individual modernity which were manifested by the peasant farmers who came under the special influence of the Comilla cooperative movement in what was formerly East Pakistan. Holding other factors constant, every year in a factory in East Pakistan was worth only about 1 point on the OM scale; every year in school produced a gain of about 1.5 points; whereas each year of exposure to the co-op movement as a non-member netted approximately 1.7 points, and every year spent in the co-op as a member yielded a gain of 4 points or more per year. Since the cooperatives did not rely very heavily on new machinery to raise the productivity of the farmers, the exceptional impact of agricultural cooperation in Comilla must be accounted for by reference to other influences. We assume the success of the Comilla co-ops came, in part, from the models of alternative way of doing things which the cooperative instructors provided, and in part from the new principles of social organization and interpersonal relations which the cooperatives introduced.

In summary then, we may say that at the point at which he left school, half the story of a man's eventual modernity score had been told. But this was true only "on the average." Actually, for many men the story really ended at that point. The score they had attained at the time they left school was basically the same one they were going to record when our project staff eventually came by

to test them. Others would add a few points over the years. Still others, however, were to have late life experiences that would raise by many points the OM scores they had had at the time they left school. This increase was frequently as much as 50 percent, and in some cases was almost 100 percent, of the score these men had had on leaving the village. This outcome depended largely on the interaction between the stage at which the men left school, and the nature and extent of their later contact with modernizing institutions. Of these later experiences, the two that were critical were the occupations they entered and the extent of their contact with the media of mass communication.

Since a whole set of institutions including the school, the factory, and the mass media, all operated to make our men modern, the question arises: must a nation be able to bring all these forces to bear, and do so simultaneously, to stimulate the development of individual modernity?

The issue is a sore one, since the key problem of many underdeveloped countries lies precisely in their lack of schools, factories, and media of mass communication. My experience suggests that it is not necessary that all, or even most, of the more effective agencies be available and working simultaneously to bring about individual modernity. On the contrary, any one modernizing institution seems to be able to operate independently. Moreover, contact with any one modernizing institution evidently can be more or less readily substituted for contact with any other, making allowance for the fact that some institutions are more effective than others. Indeed, the evidence from the Comilla cooperative experiment indicates that even in quite isolated villages, new forms of social organization can be highly effective in making men modern without the aid of machinery or electronic communication. The means for bringing about greater individual modernization are, therefore, potentially within the reach of even the least advantaged nations and communities.

3. Since there do not seem to be any "universal" characteristics of illiterate adults, it is unlikely that there is a single version of a successful project design. As there are many kinds of illiterate audiences, so too will there be many kinds of project designs.

Project Design Hypotheses

1. It is essential in the early planning stages of any project to conduct extensive research on the level of knowledge, attitudes, perceptions, level of vocabulary, preferred learning styles and learning constraints, with regard to how the particular group of people might most profitably approach a specified set of learning tasks. The work done by Tisa and colleagues in Bangladesh, although far from sophisticated in its methodology and interpretation is a very positive and commendable step in this direction.
2. The objectives of any campaign to effect behavioral change must be stated in clear measurable terms. Vague exhortations to become better citizens, or take care of your health are not only ineffective, but more important, impossible to measure.
3. Although radio and television broadcasting are the most effective means of reaching a wide audience of dispersed rural illiterate people, broadcasting alone is not sufficient.
 - a. Broadcasts must be supplemented by other learning resources such as listening guides, workbooks, simple paper-back booklets, and a variety of simple audio-visual materials. (The provision of printed materials assumes that a few people in an area are literate.)
 - b. Individual listening without follow-up discussion among members of a social group is less effective in changing behavior than organized reception and discussion.

- c. Listening groups are more effective if each group has a leader who has been provided with a minimum of training in how to effect social organization, how to lead a group discussion, and how to use supplementary learning materials.
4. A development effort to motivate illiterate people to undertake significant behavioral changes must make available fertilizers, equipment, tools, credit, vaccines, medicines, contraceptives or other necessary development inputs.

IV

GUIDELINES FOR PROJECT EVALUATION - SITE VISITS

We assume that each investigator will interview field workers, and client populations as well as project designers and administrators with regard to the points listed under Project Design and Project Outcomes. He will also be expected to gather as much documentation as possible. In addition we expect that each investigator will prepare a thoughtful summary of his own reaction to the projects.

Background of the Project

To be drawn from project papers and other AID documents.

1. Project Origin and Justification
2. Program Objectives
3. Anticipated Benefits
4. Project Evaluation Techniques
5. Sample Program, Materials, and Evaluation Reports

Project Design

1. Nature of pre-post project audience research
2. Degree of client participation in project design and implementation
3. Clarity of program objectives (clients and program personnel)
4. Selection of program strategies suited to population
(For example, if radio broadcasting is a primary means of communication, is the format appropriate, creative, innovative, etc.)
5. Is the content and the level of information/education pedagogically related to the choice of media and channels?
6. Is a clear reward and incentive system incorporated into the project design?

Project Outcomes

1. Are the outcomes of the project expressed in terms of information, skills, attitudes, behaviors, products, or some combination of these?
2. What change, if any, in social organization has taken place as a result of this project?
3. How are the outcomes measured?