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RADIO LISTENING GROUPS

IN

MALAWI, AFRICA

by

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for

University of Missouri
Malawi Mass Communications Project
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INTRODUCTION

The primary purpose of this report is to discuss the Farmers' Forum Radio Listening Group Project in Malawi, Africa. The observations on which this report is based were made by the author during a five-week visit to Malawi in July and August 1967. During this period the author was a research consultant to the University of Missouri--AID Mass Communications Project.

Importance of Agriculture in Malawi

Malawi is a rural country. According to the 1966 Malawi census, approximately 92 percent of the population lives in approximately 16,000 traditional villages. Since the main source of wealth for the Republic of Malawi is agriculture, a high priority has been given to the development of agriculture production in the country. Many varied programs to increase agriculture production are being implemented, such as new basic agriculture research efforts in crops and livestock, a new agriculture college and an expanded extension program. One of the more specific programs designed to improve agriculture production is the Farmers' Forum Radio Listening Group Project.

Why a Farmers' Forum Radio Listening Group Project in Malawi

It has been estimated that there are approximately 800,000 farm family production units in Malawi. If agriculture production is to increase in Malawi, many of these 800,000 decision-making units will have to change their agriculture production orientation from a primarily subsistence goal orientation to a commercial goal orientation. These farm family decision-making units will also have to learn about new means of agriculture production and how to utilize them.

The Malawi Extension Service of the Department of Agriculture has been given the major responsibility for introducing new ideas and practices to the farmers of Malawi. The Extension Service is utilizing various communication methods to inform farmers about new ideas and practices. An extension field staff has been organized to set out demonstration plots, to hold formal classes, to work on a personal basis

with farmers, and to carry out other programs. Impersonal mass media approaches are being initiated: bulletins and other agriculture pamphlets are being written, printed and distributed and farm radio programs are being broadcast.

Since the extension staff has limited resources to allocate among the alternative communication methods, criteria must be developed to decide the appropriate mix of media to carry messages to farmers. Criteria such as exposure, speed, control and cost are all factors in such considerations.¹ Exposure refers to the number of relevant potential receivers the media will reach. Speed refers to the time it takes for the message to be conveyed by the media to the potential receivers. Control refers to the degree to which the sender will be able to maintain control over the media. And cost refers to the expenditures needed to obtain a given end result from using the media.

Why radio as part of the overall extension effort in Malawi

Because the extension staff could not possibly work directly with each farm family and because many farm family members cannot benefit from agriculture bulletins because of their inability to read printed material, a major effort is being made by the extension service in Malawi to utilize radio in extension work. It was believed that radio could perhaps provide more exposure faster and cheaper than some alternative media. However, other media would continue to be developed as a means of communicating agriculture ideas and practices to farmers. Although it was believed that radio broadcasts have the advantage of reaching more people in a shorter period of time than other means (more coverage), it was also emphasized that farm radio broadcasts would not be considered an activity separate and apart from the educational work

¹ For a detailed discussion of criteria to evaluate alternative communication methods see: Gerald E. Klomglan, Role of a Free Sample Offer in the Adoption of a Technological Innovation, Unpublished Ph.D. Dissertation, Ames: Iowa State University Library, 1963.

being done by extension staff members in the field. This important relationship between the farm radio programs and the field extension worker was expressed as follows in an extension publication:

To be fully effective, the agricultural radio broadcasts must not be, and should not be considered, an activity separate and apart from the educational work being done by the extension worker in the field. Extension work is a cooperative effort, and those concerned with the actual preparation and broadcast of radio programs are actually members of the extension team, working toward the same goals as the worker in the field. In fact, the broadcaster of radio programs will, of necessity, look to field personnel as his source of information. He will not tell his radio audience any information that the field workers are not already telling them. The broadcasts will simply emphasize the field worker's message, and carry it to farmers with whom he may not have been able to "communicate" in his day to day activities.²

Why Radio Listening Groups in Malawi

The establishment of Radio Listening Groups in Malawi was generated by two primary factors. First, it was known that most Malawi farm families did not have radio receivers of their own and therefore would not be able to listen to farm radio programs developed by the extension service. In order to deal with this problem, i.e., to obtain more coverage, a program to organize farmers into Radio Listening Groups was developed. Under this program, farmers within a selected location would be invited to come together at a central location where a radio receiver would be provided so they could hear the Farmers' Forum Radio programs.

Second, in order to increase the effectiveness of the Radio Listening Groups, it was decided to have an extension staff member present at the listening group during and after the Farmers' Forum broadcast. The extension worker would serve as a coordinator and be responsible for ascertaining whether or not the listeners correctly understood the ideas presented on the radio. The coordinator would also answer questions asked by farmers and encourage discussion among those in attendance. The coordinator could also demonstrate the ideas presented on the radio. In

² No author, date or publisher listed. However, title was "Radio in Extension Work."

addition he could discuss topics relevant to the listening group but which were not covered on the radio program. This second consideration is quite important to the basic education desired by the Extension Service. Past radio research has found that radio is most effective as a means of making people aware of ideas and practices, and that radio is less effective as a means of basic education, i.e., communicating more complex ideas. The role of the coordinator at the Radio Listening Group is a means to move from awareness of new innovations to a basic and more detailed understanding of the innovations.

The Farmers' Forum Radio Listening Group program

The Farmers' Forum Radio program, a half-hour educational broadcast for farmers was initiated in November 1966. Prior to this initiation a plan for the broadcasts was agreed upon by Central and Southern Regional Agriculture officers, extension officials and field personnel.

Decisions were made about the format of the programs, subject matter, time and frequency of broadcasts, and the organization of Radio Listening Groups among farmers in the Central and Southern Regions of Malawi.

The Farmers' Forum broadcasts were presented on the Malawi Broadcasting Corporation network at 1:15 p.m. each Wednesday and repeated at 2:00 p.m. each Friday.

One hundred battery operated transistor radio receivers were supplied to the Malawi Extension Service by the United States Agency for International Development, and 20 Nzeru receivers were purchased by the Extension Aids Branch of the Malawi Department of Agriculture. These receivers were assigned to selected extension field personnel, called the Radio Listening Group coordinators, who were instructed to organize and meet with Radio Listening Groups in their area. Only the most qualified extension field staff members were selected to be radio coordinators. The handbook prepared to introduce coordinators to the Farmers' Forum program is found as Appendix A of this report. It also presents the subject matter for the first series of programs. A brief outline of subject matter presented on the Farmers' Forum program for the period the author was in Malawi is presented in Appendix B.

GENERAL FRAMEWORK

The primary purpose of the remainder of this report is to present the author's observations about the Radio Listening Group program in Malawi. (The Radio Listening Group program or project has two distinct parts: first, the Farmers' Forum Radio program and second, the discussion and question and answer period directed by the extension radio coordinator.) The observations will be organized by utilizing as a general framework a communication model consisting of four major elements: 1) the sender, 2) the message, 3) the media, and 4) the receiver. At a general level these four concepts may be defined as follows:

The sender is that person or group of persons with a purpose for engaging in communication. The sender always has concepts which he desires to convey to other people.

The message is the content sent by the sender. The content is structured to accomplish the purpose of the sender.

The communicator's message must then be transmitted through a medium. Various media exist: radio; television; speech; telephone; art; music; the printed page, including newspapers, magazines, pamphlets, letters, circulars, memo's and so on.

The receiver is the person or group of persons receiving a message from a sender via a medium.

When these concepts are applied to the Radio Listening Group program in Malawi we have the following:

<u>Sender</u>	<u>Message</u>	<u>Media</u>	<u>Receiver</u>
Malawi Extension Service	New agriculture technology (means) and decision to pro- duce for commercial market (goals)	Radio	800,000 farm families in Malawi

The observations will be presented in the following order:

1) comments about the receivers, 2) comments about the media, 3) comments about the message, and 4) comments about the sender.

A number of other concepts and models will be introduced later in the report to give more structure to the observations.

METHODOLOGY¹

The data upon which this report is based were derived primarily from personal interviews with village people, extension workers and other officials in the country and from the personal observations and experiences of the author. The data do not represent a research study since no attempt was made to draw a statistically valid sample of Radio Listening Groups or extension areas. The report should be considered only an organized set of observations based on limited experience and limited data. Consequently, the conclusions drawn and the generalizations made should be regarded as tentative, exploratory and, to a degree, impressionistic. A carefully designed research study might contradict some of the generalizations included in this report. The report should therefore be interpreted with the above limitations in mind.

The author's itinerary is briefly outlined in Appendix C. It lists the various individuals and groups with whom the author interacted and from whom information was obtained. The major source of information was from personal interviews with persons knowledgeable about the Radio Listening Group program and Malawi agriculture. Some secondary sources were also used.

The primary informants about the Farmers' Forum Radio Listening Group program were: four staff members of the Extension Aids Branch, two regional agriculture officers, two regional extension specialists, two regional training specialists, four regional extension subject matter specialists, three extension divisional officers, four extension area supervisors, three extension field assistants, and two extension demonstrators. One-half (thirteen) of these informants were native Malawians, twelve were British, and one was American.

The author also attended Radio Listening Groups in four different villages. The author also visited three villages where there were no Radio Listening Groups.

¹ The methodology utilized by the author was very similar to that used by Dr. Daryl Hobbs, Department of Rural Sociology, University of Missouri, during his 1966 study of social and communication patterns among the village people of the Republic of Malawi.

Other informants about Malawi agriculture and agriculture communication included: one British chief agriculture officer, one British agriculture planning officer, one British agriculture economist, the African principal and two staff members at Tuchila Farm Institute, four staff members at Colby College, one American professor at Bunda Agriculture College, one American extension farm credit advisor, one African principal of an extension regional training center, one British sociologist at the University of Malawi, two Chinese members of the agriculture mission to Malawi, one African member of the Taiwan agriculture mission, two American and two African staff members of MBC, one American National Statistics Office statistician, two British officials of the International Tobacco Company, two African "fisheries" employees, one African Nzeru Radio Company official, one British forest and game ranger, two American Lutheran missionaries, and two staff members of USAID.

OBSERVATIONS - FINDINGS

The Receiver

One of the first questions asked about any communication event is: "What is the impact of the message-media on the potential receivers or potential audience?" In this section observations about the impact of the Farmers' Forum Radio Listening Group program on the potential receivers are made. Observations will be made on the coverage obtained by the Radio Listening Group (RLG) program, potential future coverage, and characteristics of RLG participants. A communication impact model that has been developed to study various types of communication events will be used in a later part of this section to discuss such factors as differential exposure, comprehension, attitude and action change, and the two-step flow of information.

Coverage: farm families contacted by the Farmers' Forum Radio Listening Group program

Actual coverage. The actual number of farm families participating in the RLG program is not known with certainty. However, meaningful estimates can be made from the preliminary reports submitted by RLG coordinators. For example, during the month of June the Southern Region reported that approximately 123 different RLG were meeting with a total attendance of 3,257 individuals or approximately 800 per week. Approximately 55 radios had been distributed in the Southern Region. Although the reporting system in the Central Region was not as detailed as the Southern Region it is estimated that approximately 3,000-3,500 were in attendance in June. Approximately 55 radios had also been distributed to the Central Region. Thus, from regional office figures and estimates approximately 6,250-6,750 individuals attended RLG in June. It is important to note that this estimate is an estimate of extension contacts and not necessarily of unique individual attendance and not necessarily of unique farm family attendance. Some people have estimated over 10,000 extension contacts are made monthly by radio coordinators.

There are actually several factors which make it difficult to make either individual or farm family unit estimates at this early stage of the RLG program. In outline form these include:

1. Some RLG have been formed but are not listening to the Farmers Forum because the extension worker in that area has no radio.
2. It is difficult to determine whether or not individuals are double, triple, or quadruple counted in existing records of monthly totals, e.g., if a person attends an RLG that meets every week he could show up as four extension contacts, which is true, but in this case he would represent only one individual and not four. In present records it is impossible to always differentiate extension contacts and unique individuals reached by RLG.
3. It is difficult to determine the extent of husband-wife combinations attending the RLG programs from existing records. There are frequently 10-15 women in attendance at an RLG. If these are wives of men also in attendance, the number of individuals reached is greater than the number of farm family units reached.
4. Some extension areas have been having more RLG meetings and greater attendance than has been reported to regional offices. In some cases local coordinators or area supervisors were apparently not forwarding complete records. Thus, in some cases the regional totals are an under enumeration of the actual extension contacts occurring as part of the RLG program.

Both the Southern and Central regional offices were in the process of developing more valid and reliable procedures for obtaining accurate and complete RLG coverage in terms of extension contacts, individual attendance, and farm family attendance.

To gain a more valid assessment of the impact of the Farmers' Forum Radio Listening Group program in Malawi, a more rigorous data collection instrument and procedure is needed. One instrument that would begin to more rigorously provide such information is developed below. The author recognizes that such an elaborate form may not be feasible to initiate in all extension areas because of more important extension priorities. However, it might be utilized on a sample basis and provide meaningful data for use in decision-making by the Extension Service.

The following form (or modifications thereof) would provide the following information: (See form on page 14.)

1. Number of Radio Listening Groups (RLG) formed by any one coordinator. (The data on such forms could then be pooled by sections, areas, divisions, regions, or the nation as a whole.)
2. The name of each village that had an RLG. The form assumes that the name of each village in the extension worker's area will be written on the form.
3. An estimate (or exact count) of the potential number of farm families in each village.
4. The date each RLG was formed.
5. A completed form would show the number of RLG serviced by an extension Radio Listening Group coordinator (RLGC) each day, week, and month.
6. It would show the actual attendance of men at each RLG serviced by the RLGC.
7. It would show the actual attendance of women at each RLG serviced by the RLGC.
8. It would show the actual attendance of total adults at each RLG serviced by the RLGC.
9. It would show the estimated attendance of men at each RLG not serviced by the RLGC.
10. It would show the estimated attendance of women at each RLG not serviced by the RLGC.
11. It would show the estimated attendance of total adults at each RLG not serviced by the RLGC.
12. It would clearly show the topics covered by each Farmers' Forum Radio program.

In addition, data from the form could be used as follows:

1. To calculate the proportion of men, women and total number of adults in attendance at the RLG from each village (by comparing to census figures or other estimates).
2. To calculate differential attendance at RLG by different topics.

3. To calculate the proportion of farm families in each village in attendance, provided:
 - A. Special sub-samples of Radio Listening Groups were studied to determine how many women in attendance were married to men in attendance. This data would be needed before men and women totals could be added to determine the total number of farm families reached in any one meeting (or series of meetings), although polygamous husbands may be a special case where wives may be more important decision-makers. Also, it may be that the use of men only in calculating farm family attendance at RLG is the most meaningful for decision-making by extension personnel.
 - B. Special village RLG sub-samples could be selected where names of all people in attendance at the RLG over a year's period are recorded. (Is attendance record keeping done in Malawi? For example, do any farm clubs keep attendance records?) These attendance records could be used for analyzing who attends from a village and who doesn't attend, etc. These data could also be used by extension personnel to compare attendance at RLG to actual adoption rates of innovations by farmers.
4. To provide a partial basis for determining where to place additional radios received by the Extension Service. The form would clearly show the current and potential coverage of any new RLG. Other criteria such as receptivity, staff ability, etc. would also have to be taken into account in determining new RLG sites.

5. To provide a partial basis for planning and evaluation purposes for the Department of Agriculture.

A. Samples of farmers within an area or section or village could be selected for study utilizing the RLG-RLGC as a major stimulus variable in Before and After studies of Adoption Behavior. For example:

	<u>Adoption Progress Before</u> ¹	<u>Stimulus (Extension Input)</u> ²	<u>Adoption Progress After</u>	<u>Change</u>
Group 1 Villages		RLG, plus RLG present		
Group 2 Villages		RLG, no RLG present		
Group 3 Villages		No RLG, but is next to a village with RLG		
Group 4 Villages		No RLG and <u>is not</u> next to a <u>village</u> with RLG		

B. Commercial crops or livestock relevant to a district, area, or village may also be a relevant factor in assessing RLG impact. Therefore, estimates could be made for each district, area, or village as to the number of growers of relevant crops or livestock, for example, cotton growers, tobacco growers, etc. Many of these figures are already available as estimates.

¹ By adoption progress "Before" is meant the stage of adoption (unaware, aware, information, evaluation, trial or adoption) each farmer in a village is in before the stimulus; and adoption progress "After" is the stage of adoption each farmer is in at a specified time (perhaps one growing season) after the stimulus. Actual adoption is the goal, but progress through other adoption stages is important.

² Other Extension Stimuli would probably have to be controlled for: Mobile Units, location of demonstration plots, special short courses at training centers, distribution of pamphlets, etc.

More detailed research is probably needed by crop, however, as more rigorous extension programs are attempted by agriculture personnel.

- C. The data would provide detailed information about Radio Listening Group audiences which should help extension radio staff plan farm radio programs.
 1. Small detailed studies in selected villages could be made to compare characteristics of farmers who attended RLG with farmers who did not attend. Characteristics studied could include commercialization, adoption behavior, reasons why some attend and others don't attend, etc.
 2. Note: as agriculture change increases, the audience of farmers will probably become more heterogeneous, and thus will probably generate the need for more different information on the farm radio programs.
6. Other data relevant to RLG analysis which could perhaps be incorporated into the attached form, or on a second form, include:
 - A. Was each RLG already an existing group before it became an RLG, such as a farm club? Or was the RLG new group with whom extension was working for the first time? Also an analysis of other existing groups in Malawi society could perhaps be incorporated into some type of RLG scheme: church or other religious groups, youth groups, women's groups, etc.
 - B. A statement explaining why each RLG is terminated.

Potential coverage. USAID provided an initial 100 transistor radios and the Extension Aids Branch purchased 20 Nzeru radios. In July 1967, USAID provided an additional 100 radios to the Extension Service to be used in the RLG program. Therefore, as of August 1967, a total of 220 radios were available for the RLG program. If the assumption is made that each radio is being used by one coordinator to service four different groups each fortnight, then a total of 880 Radio Listening Groups

MONTHLY RADIO LISTENING GROUP ACTIVITIES

Region: _____
 Division: _____
 Area: _____
 Section: _____
 Coordinator: _____

Names of Villages in Section	Estimated No. of Total Farm Families	Radio Listening Group Formed	
		Yes ¹	No
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
2. _____	_____	_____	_____

Date	W July 5, '67				F July 7, '67				W July 12, '67				F July 14, '67				W July 19, '67				F July 21, '67				W July 26, '67				F July 28, '67			
	CP ²	M	W	T	CP	M	W	T	CP	M	W	T	CP	M	W	T	CP	M	W	T	CP	M	W	T	CP	M	W	T	CP	M	W	T
Topics	1. Independence Broadcast by Government Officials								Burn tobacco stalks								Buying Sprayers and insecticides								Uprooting cotton stalks							
	2. --								Uproot cotton stalks								Farm Planning								Breeding cattle							
	3. --								Buying fertilizer								Poultry Management								Buying fertilizer							

¹ If yes, write in date the RLG was formed.

² CP=Coordinator Present; check () dates coordinator met with each group and record attendance. If group met without coordinator mark an X and estimate attendance.

could be established in Malawi. The assumption of one coordinator servicing four groups would mean the coordinator would meet two groups one week and two different groups the following week. The coordinator would be meeting each RLG approximately two times each month. And, unless the RLG had another radio to listen to on the coordinator's "off-week," members of each RLG would be able to hear one-half of the radio programs broadcast during any one year.

If one further assumes that an average of 40 families will be in attendance at each of the 880 RLG, one would estimate approximately 35,200 farm families could be reached twice each month by the Farmers' Forum Radio program. The estimate of 40 farm families per month would appear to be reasonable based on detailed estimates made by the author of figures reported in selected extension areas and on the personal observations of the author at four Radio Listening Groups. The four groups the author observed had respectively 80 (50 men, 30 women), 50 (33 men, 17 women), 40 (men only), and 55 (45 men, 10 women) attenders. Thus, approximately 35,200 of the approximately 800,000 farm family units in Malawi could be served by the RLG program.

There are, of course, some farm families who own their own radio and could therefore benefit from the Farmers' Forum program without participating in an RLG. Although precise figures on radio ownership by farm families throughout Malawi are not yet available, data from small area studies and sales of radios would estimate that from 3 to 7 percent of farm families have radios. A survey of agriculture small holdings (SASH) in the Chikwawa Area in 1965 found 2 percent of the households with radios. A 1967 SASH study in seven areas near Lilongwe estimated that 8 percent of the households had radios, with 38 percent of them purchasing radios within the past year. Since production of Nzeru radios began in mid-1966 approximately 10,825 had been produced by the end of July 1967. Some of these were sold to farm families although the exact number is not known. Estimates of radios in Malawi based on export-import figures and past radio licensing would be approximately 70,000-80,000 radios, with approximately one-half in "rural" households. Although these findings all vary from each other, an "average" figure of five percent of farm families having radios might be a meaningful estimate as of August 1967. Five percent of 800,000 would be approximately 40,000 farm families with radios.

Assuming the 40,000 farm family radio owners listen only within the family, i.e., don't have a listening of relatives, etc., and that the RLG program reaches 35,200 farm families, a total of 75,200 farm families could listen to the Farmers' Forum during the 1968 season. This would mean that approximately 725,000 farm families (90 percent) would not have access to farm radio programs during the 1968 season. Thus, even with a large coverage by the RLG program a majority of the farm families would not be covered by radio. The policy question could be asked as to whether more coverage is desired. More coverage could perhaps be obtained with existing resources by increasing the number of radio coordinators to assure the radios would be used twice each week; or by spreading the 220 radio coordinators over more RLG, i.e., have each coordinator meet eight different RLG each month. Neither of these may be feasible given the present size of the extension field staff, other priority extension programs, and the amount of education desired for any particular RLG.

Characteristics of RLG participants

Commercial vs. subsistence farmers. It appears that the men and women attending an RLG are more commercial oriented than are men and women in the same village who are not attending. Thus, the Farmers' Forum program is being listened to by larger producers with more capital than the average villager. The receivers are thus not the hard core subsistence farmers but rather "growers." If the program and extension efforts have an effect it will be by educating farmers with some commercial orientation to be more commercial by utilizing new agriculture technology. However, even these more commercial producers are small and inefficient.

Men vs. women. Men were always reported to outnumber women in attendance at the RLG. However, women frequently make up one-fourth to one-third of the participants. There are some cases where no women attend the program. Some extension personnel were interested in encouraging greater women participation because of their role in agriculture production. And some farm units are entirely managed and operated by women.

Multiple village. All of the listening groups known to the author were one village oriented. There was no indication that the RLG program was crossing village lines. This may be very relevant for planning programs that discuss innovations requiring decision-making at a group or village level rather than an individual or household level, for example, purchasing fertilizer in five ton lots or in deciding whether or not to plant Askari corn.

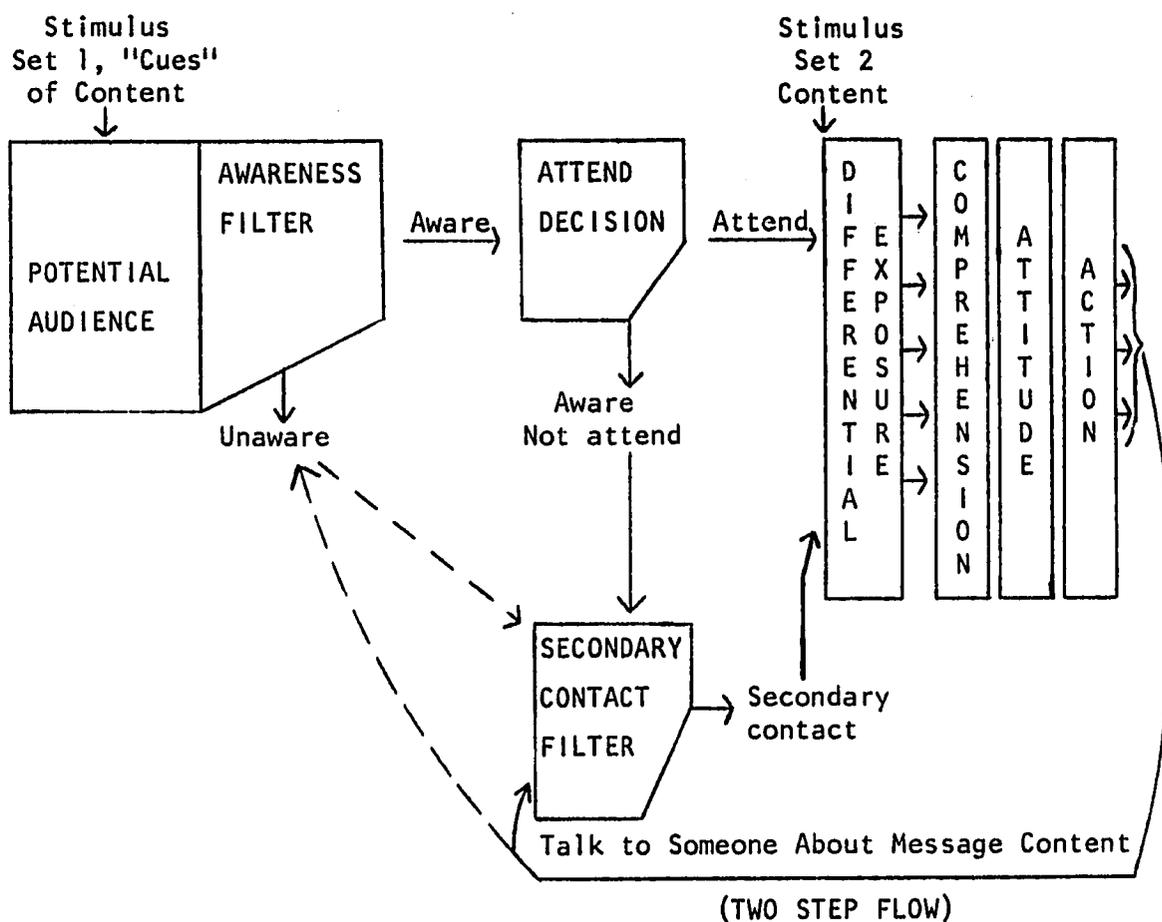
Radio ownership. The men and women who attended the RLG program were not radio owners. Only one person in each of the four groups visited had access to a privately owned radio.

Communication Impact Model Applied to Radio Listening Group Program

A Communication Impact Model that has been used as a basis for analyzing a number of communication events¹ will be used in this section to analyze the impact of the RLG program. The concepts in the model are outlined in the following diagram.

¹ George M. Beal, Gerald E. Klonglan, Joe M. Bohlen, and Paul Yarbrough, Communication Impact, Rural Sociology Report No. 41, Ames: Iowa State University, Department of Sociology and Anthropology, 1967.

A Communication Impact Model



The basic assumptions about the model are as follows:

1. The model is written in a "mass" communication framework. In its present state the model is not sufficient to explain the process of communication in a face-to-face situation involving a diad or triad of persons where sender and receiver roles rapidly change.
2. In attempting to communicate, the sender has a specifiable intent. This intent is to produce some observable effect upon the understanding, attitudes and/or actions of receivers. The desired effect can include changing, maintaining and/or reinforcing the receiver's existing cognitive and action structure.
3. The sender wishes to produce this effect upon a specified audience of receivers.

4. To achieve this effect, the sender incorporates his intent into a message and makes this message physically available to the potential audience.
5. In receiving and responding to this message, the receiver must perform several functions. These functions can be logically integrated into a flow of action. The stages of action can be designated as a series of communication filters.
6. At any communication filter, the receiver has two or more possible courses of action. If the alternatives are dichotomous (as in the initial attention stages) failure to pass through the filter means the receiver is eliminated from the communication situation until subjected to another set of stimuli (or resubjected to the initial stimuli set). If multiple alternatives are available at the filter stage (as in the differential exposure, comprehension, attitudinal acceptance and action stages), then the receiver's response at the one stage will mediate his responses at subsequent stages.
7. The response of the receiver at any filter stage is not a random process. Factors in the receiver's existing social-psychological state--the receiver's predispositions--and factors evolving from the immediate social environment in which the message is received are the filtering mechanisms; these factors account in large part for his response.
8. Because communication filter stages are numerous, because alternative courses of action are numerous and because individuals differ in their social-psychological states, relatively few individuals are likely to respond to a message in the manner intended by the sender in most communication situations.
9. Methods can be devised to observe, record, measure and analyze the empirical referents implicit and explicit in this model.
10. If the above are accepted (provided with empirical support), then one should be able to predict the impact of a given communication event by knowing the dimensions of the relevant factors in the potential audience which influence reception of and response to messages.

In the remainder of this chapter the concepts included in the above diagrammatic model will be elaborated. As each concept is explained its relationship to the author's observations of the Farmers' Forum Radio Listening Group program will be stated.

Attention. The potential audience is the set of receivers to whom the sender wants to ultimately communicate. Let us assume that the potential audience for one Extension Service RLG program consists of all farm families in a village where an RLG has been established. (The model could be applied at a National, Regional, District or Area level but in this report the village will be the starting point for analyzing communication impact.)

Awareness filter. The first communication filter standing between a sender's message and the members of the potential audience is that of awareness. The receiver must realize that a message is being offered. He becomes aware of the message on the basis of the "cues" the communication sender has provided.

In the case of the RLG program posters were made telling farmers about the program. Personal contacts were made by extension coordinators and village headmen. It would appear that the cues about the RLG have generally been effective, when compared to other communication events. In villages with an RLG program many farm families seemed to be aware of the RLG program.

Attend-decision. Those who become aware that a message is being offered pass through another filter stage: they must decide whether or not to attend to the message. In the case of the Malawi RLG program they must decide to go to the RLG. This is necessarily a decision-making process since the act of attending to the message will require the individual to knowingly expend time and energy. Of those aware of the existence of a message, such as the RLG programs, some will decide to attend; others will likely decide not to attend. This latter group can be classified as aware, not attend.

On the basis of the author's observations at four RLG meetings, approximately one-tenth to one-fourth of the potential audience (the total number of farm families in a village) attended the village RLG. According to extension personnel and villagers, approximately one-half of the potential audience was aware of the RLG program but did not

attend to the message, i.e., go to the RLG. The major reasons given for people aware but not attending were "lack of interest" and "personal reasons."

Differential exposure filter. Among those who attend to a message, there are likely to be differences in the degree of attention given to the message's content. In the case of the RLG program there are a number of dimensions to differential exposure.

First, if one considers the RLG as a communication event over a given time period, say one growing season, some people may attend every RLG whereas others differentially expose themselves by attending only some of the meetings. During the first nine months of the program (November, 1966 - July, 1967) it appears that there is some differential exposure of this type, however, most reports indicated a high degree of continued attention by the same farmers (both men and women) over the period of the program. There has not been a general decrease in attendance over time, nor has there been a general increase in attendance over time. In most cases one explanation given for this is the fact that the extension coordinator worked with the group of farmers before the RLG program was initiated. In a number of cases the RLG attenders had met as a farm club prior to the initiation of the RLG. However, even in those few cases where RLG had been started from scratch, the attendance seemed to be consistent over time. Therefore, when new RLG are formed it appears that extra efforts to develop a large initial group would be desirable. When farmers who generally came to the RLG missed a meeting the reasons generally given were "he was sick," "he is selling at the market today," "a family commitment," or "he is working in his fields."

A second differential exposure dimension is the amount of time spent at any one RLG meeting. The author found that most attenders (95 percent) came 10-40 minutes prior to the beginning of the Farmers' Forum program and stayed completely through the radio program and the discussion which followed the radio broadcast. There were, however, a few cases where individuals were late to the RLG, and a few cases where people left before the end of the program.

A third differential exposure dimension is the degree to which the receivers could understand the language used on the radio. Language is

a problem in some areas of Malawi and will have to be taken into account by the extension coordinators as they handle the discussion following the Farmers' Forum program.

A fourth differential exposure dimension is the amount of concentration the receivers give to the program. The author observed a high degree of concentration by the farmers in the RLG attended. This was evident in all cases when the discussion started; and usually many of the farmers had something to say in the discussion period.

Secondary contact filter. Research has shown the impact of a given communication message does not end with those who attend to the message conveyed by the original sender. Rather, some persons have secondary contact with the original message through the two-step flow of communications. These persons will not themselves have attended to the original message conveyed by the sender, but they will have discussed the content of the message with someone who did attend. These persons could initially have been excluded from the communication situation (unaware) at the awareness stage, or they could have been aware of the existence of the message, but have decided not to attend to it previous to their discussion with someone who did attend.

The author tried to pursue the extent of secondary contact resulting after RLG programs. The insights obtained from villagers and African and British extension workers were mixed. In some cases there appeared to be a reasonable amount of secondary contact about message content. The channels of these secondary contacts were primarily family related and they frequently crossed village lines. In many cases family ties seemed stronger than village ties.

On the other hand there was about an equal number of people (African and British) who indicated there was very little secondary contact about messages heard at RLG (or other places). These people argued that there is little secondary contact because an individual with a good new idea does not want to let others know he has it. He wants to benefit from it without passing it on to others. The reason most frequently given for this behavior is that there is considerable jealousy among villagers and if someone gets an idea that will make him better off than others he will keep it to himself.

Perhaps secondary contact does occur in some instances and not in others. The author believes much more research is needed on this topic. It is especially important to understand the role of secondary contact since much hope is placed on the "filtering down process" of diffusing ideas by the Extension Service. If many Malawi farmers don't filter down the ideas, it will have to be taken into account when planning extension program priorities.

Comprehension. Comprehension is the process by which an individual receiver transforms the message into meanings. All communication messages of which the receiver is aware are comprehended with meaning. However, the meaning comprehended may or may not be that intended by the sender. Some receivers are likely to gain approximately the same meaning intended by the sender; others are quite likely to make quite different interpretations. (The discussion of comprehension is highly related to the message, which will be discussed in more detail later in this report.)

One of the major purposes of the extension coordinator is to determine the comprehension of the RLG subject matter by farmers in the discussion following the Farmers' Forum broadcast. It appears to the author that this is definitely needed. There were a number of instances of needed clarification in the RLG discussions the author observed, as well as previous instances described by extension workers at various levels. One example cited was the misuse of tobacco leaves as compost, with the resulting cattle losses. Other examples concerned chickens and eggs that didn't hatch; and the effects of inbreeding cattle.

The need for comprehension has implications for setting up RLG without extension coordinators; in which case discussion would not be possible and the degree of comprehension would be unknown in the short run.

Attitudinal acceptance. In most communication situations, the sender not only desires that receivers comprehend his meanings, but the sender also desires that they accept the same conclusions at which the sender arrives. The sender also usually desires the receivers to accept the sender and the sender's programs. For example, Extension Service communicators not only desire that Malawi farmers understand the concepts of fertilizer, inbreeding, spraying, etc., but they also want receivers

to accept the idea of having an extension organization and to be favorable toward programs of the organization. In short, the sender wants to invoke in the receiver feelings, opinions and attitudes favorable to the sender's position.

An attitude has direction--i.e., the individual is favorable or unfavorable toward an object. An attitude may also vary in the degree or intensity with which it is held. One person may be very favorable toward an idea while another person is only somewhat favorable. Attitudes also vary in their salience for the individual. By salience is meant the relative importance of any attitude for an individual.

The author found a high degree of favorable attitude toward the Extension Service among the farmers at the various RLG. In the post Farmers' Forum discussion there was frequent expression that the RLG participants were willing to do "anything" extension suggested they do. It appeared to the author that among the RLG attenders that obtaining comprehension (understanding) was much more of a problem than obtaining attitudinal acceptance. The willingness to do what extension said, however, did not necessarily extend to non-RLG attenders. There were many comments that the non-RLG villagers were not too interested in learning about how to improve themselves.

Overt action. Most senders desire not only that members of the potential audience attend to, comprehend, and form favorable attitudes toward their message, they also desire that the receiver take some specified overt action. The Malawi Extension Service wants farm families to correctly apply fertilizer, to correctly plant ground nuts, etc.

One of the major interests in analyzing the RLG program was whether or not attenders would actually adopt recommended practices. Since the RLG had been in existence only through one crop year it was very difficult to assess actual overt action of attenders, especially in comparison to other farmers not participating in the RLG program. Activity during the coming crop year should be watched closely to ascertain adoption patterns.

Local extension workers believed that RLG attenders were in general practicing recommendations to a much greater extent than members of the same village who were not attending the RLG.

The planned life of any given Radio Listening Group

One of the policy questions that the Extension Service may be facing in one or two years is the decision whether or not to terminate an RLG in one village so that a new RLG may be started in another village. The decision is highly related to the determination of subject matter for future years. Given the current RLG program only 880 or so villages can have an RLG. These 880 villages should theoretically become more knowledgeable, etc. over a one or two year period. Therefore, if they continue to meet as an RLG the subject matter would probably need to be more sophisticated as the receivers would anticipate more detailed messages. On the other hand the decision could be made that after a year or two existing RLG would be terminated and new villages selected for the RLG program.

This policy question may be further complicated, or alleviated, as the farmers in RLG make individual decisions about purchasing their own radio. For example, a member of an RLG may decide that the purchase of a radio is a high priority item--and assuming funds will become available to him during the next year or two--may buy a radio and drop out of the RLG. If enough farmers would do this in an RLG, the Extension Service could decide to move the extension coordinator to another village. The author is aware of only one case where farmers in a village started to meet as an RLG, but after two months decided to disband because the farmers could listen to their own radios.

Earlier in this report it was estimated that 35,200 farm families might be reached each month by the RLG program. This is less than five percent of the potential audience. Thus, by stopping and starting new RLG every two years or so it would take 30-40 years to reach all members of the target audience in Malawi.

Are farm families the only receivers of the RLG program?

So far in this report the individual farmer or farm family has been considered as the receiver of the RLG messages. However, some regional officials also considered the extension field worker as a potential receiver for Farmers' Forum broadcasts. In other words they perceived the radio as an excellent media to send messages to local extension workers, as well as to farmers and farm families.

The author found most local extension workers enthusiastic with the RLG program. In general, enthusiasm for the program seemed to increase as one moved down extension levels. It appears that the RLG program is providing one opportunity to make the field extension staff feel more a part of the "extension organization."

Media

This section focuses on the second major concept of the general communication model being utilized to organize the observations about the Radio Listening Group program in Malawi. It should be remembered that the Radio Listening Group program consists of two major parts: first, the Farmers' Forum radio broadcast and second, the question and discussion period directed by the extension radio coordinator.

Effective use of existing radios

One question frequently asked about the RLG program was whether or not the 120 extension radios were being effectively utilized. The author found some radios being used as effectively as possible, i.e., they were being used by a radio coordinator each Wednesday and Friday. On the other hand there were some radios hardly utilized at all, i.e., in some cases radios had not been used for over one, or sometimes two, months. Various reasons were given for the non-use of radios: batteries were not received from divisional offices, the radio coordinator was too busy on district celebrations, the radio coordinator was too busy with training center activities, the radio coordinator was too busy giving speeches to schools in his area, it was too hard to transport the radio to some RLG villages and the RLG was not set as a priority by persons of higher authority in the Extension Service.

It is probably the case that every radio will not be used with an RLG each Wednesday and Friday because there will at times be other priority extension activities. However, the author suggests there be a policy clarification on the priority usage of radios and farm listening groups by the various levels of the Extension Service. The author is also quite cognizant of possible negative consequences if radio usage is "pushed" to the exclusion of other extension activities. However, the large coverage obtained by radio usage and the role of radio as a major supplement to other extension activities should not be overlooked as priorities are established.

Could more radios be used effectively by the Extension Service?

As of August 1, 1967, approximately 220 radios were available to Extension Service staff. Plans call for an increase in Extension Service field assistants from the present 400 staff and 600 positions to approximately 1200 field assistants by 1974.

Assuming 220 radios, 220 radio coordinators, and 4 RLG each (meeting each once a fortnight) the following are possible uses for additional radios: 1) about 20-25 radios to cover repairs, losses, etc.; 2) perhaps a long-run goal could be one radio for each field assistant, which would mean an additional 400 radios in the short run and another 600 by 1974; 3) sufficient radios for Divisional and Regional Training Centers and Farm Institutes, perhaps 10-15 radios; 4) if a policy is made that each RLG meet once a week, i.e., meet one week with a radio coordinator and the following week without the coordinator--but with an extension radio--there would be an immediate need for an additional 220 radios, and if more radio coordinators were established they would each need two radios for their four groups. Thus, approximately 650 or so radios could possibly be utilized in the short run and another 600-1000 over a five-year period. The decision to increase radios must of course be made in terms of the priorities and resources available during each planning period. The coverage obtained by radio, as well as control, cost and speed should be compared to possible alternative message-media combinations, as was discussed in the introduction to this report.

Time of day and days of week

At each RLG meeting the author asked the radio coordinators and villagers if it would be advantageous for the Farmers' Forum program to be offered on different days of the week. There was unanimous consensus that the present day scheduling was the best for that RLG. There was a similar agreement that the present time of day for the broadcasts was the best for each respective RLG.

Image of the radio

My observation about the credibility of radio as a media to convey information to villagers was the same as that reported by Dr. Daryl Hobbs in his 1966 Malawi report: the radio is a very credible media for Malawians.

The credibility of radio has implications for villagers' acceptance of new agriculture ideas from young extension workers. In Malawi, older people have traditionally been seen as the "experts." Thus, the many young extension workers have sometimes found it difficult to be a credible source to farmers. Since the radio is sending the same message (with high credibility to farmers) as the young extension worker (lower credibility to farmers) the RLG program may result in an enhanced position for the younger extension workers.

Message

The third concept in the general communication model delineated in the introduction to this report was message. In this section observations relating primarily to the RLG message are presented.

Network and/or Regional Messages

The development of regional (area) transmitters in Malawi makes it technically possible to broadcast regional programs. If a capability is eventually developed to produce the necessary materials for regional stations, it may become feasible to consider some regional Farmers' Forum programs. There are a number of factors that may be considered arguments for having some regional programming:

1. Relevance of subject matter. There is a great differential in type of products, both crops and livestock, by region, district and area within Malawi.
2. Differential language by areas.
3. Timeliness of subject matter. Local programs should theoretically be more timely with recommendations, therefore decreasing possibilities of farmer misinterpretation of recommendations because of area differences.
4. Regional specialists may be willing to spend time with radio extension staff if they are producing "local" programs. For example, cotton production necessitates three types of insecticide spraying. Radio could be used to make the important announcement when to switch from spraying one type of insecticide to another.
5. Local (or regional) extension radio staff may be more able to obtain successful case history stories from local farmers.
6. As more and more extension areas develop more detailed programs of work (program planning) it may be imperative that radio extension specialists become familiar with priorities in their region and/or area, in addition to being familiar with national agriculture goals.

At each RLG I asked farmers about their perception of the relevance of subject matter on the Farmers' Forum. Farmers were generally

interested in having regional or area broadcasts. They would generally say they didn't mind hearing about crops they did not produce, but they would much prefer more programs about crops and livestock relevant to their area.

Many extension field workers also thought that some regional programs would be desirable. Most field workers thought that some mix of national and regional programs would be the long-run ideal toward which to work, while the villagers tended to emphasize primarily regional programs as the ideal long-run goal.

Developing the message content for the Farmers' Forum program

The success of the RLG program depends in large part on the staff responsible for developing the message content. Three of the alternatives for developing material are:

1. Having extension staff at local, area, district, regional and national levels feed information to an extension radio staff;
2. Having extension radio staff contact extension staff at various levels and develop the message based on this contact;
3. A combination of alternatives one and two.

Alternative 1 assumes that the extension staff is radio prone, i.e., that they recognize worthy radio material and that they will develop it and send it to the extension radio staff.

Alternative 2 assumes that the extension radio staff is large enough to travel to the extension field staff, and that they have the necessary portable recording equipment and necessary transportation.

Alternative 3 assumes an appropriate mix of the factors outlined under Alternatives 1 and 2.

Throughout the life of the Farmers' Forum programs the message content has been developed primarily by a one-man extension radio staff. While the author was in Malawi two additional men were beginning training as extension radio specialists. This increase in staff was definitely needed if the Farmers' Forum (and other farm programs) were to keep a high quality message. The increase in staff, and their placement in regional offices, should help develop the potential of Alternative 2 above.

However, there is much work needed to make many extension staff members "radio prone" or "radio oriented." An example of the lack of radio orientation is found among regional extension specialists. The regional extension specialists are a key source of sound agriculture advice in Malawi. However, as of August 1967 only one or two of the regional specialists were extensively utilizing the radio as a means of communicating technical agriculture to villagers. The extension radio specialists are hopeful that the regional (and area) specialists will provide more support for radio programs. However, at the present time the regional specialists are much more problem oriented than radio oriented.

The author offers the following suggestions in an attempt to maintain and improve the Farmers' Forum by enlisting the support of regional (and area) extension specialists:

1. Regional (and divisional) staff meetings could focus on the use of radio by specialists, especially focusing on the coverage of the potential audience by the RLG program. In these meetings the regional and divisional or area specialists could be given suggestions by extension radio specialists how they can improve their impact via radio.
2. Have each regional specialist visit one or two (or more) Radio Listening Groups (many have not done this) to see who attends, how many attend, how they are operated, etc.
3. Have each extension specialist suggest alternative ways to improve the discussion and demonstrations led by the radio coordinator after the Farmers' Forum broadcast. (There is a need to attempt to improve the discussion part of the RLG program. Some are presently good but most could be improved.) For example, a conservation specialist may be able to devise special simulation demonstrations for post radio discussions. Or a livestock breeding specialist might be able to devise special demonstration procedures for the post Radio Listening Group discussions.

Place of RLG meeting and post radio demonstrations

Radio Listening Groups are usually held in a central village location in a shady area (under a tree or group of trees). They are generally not held in or near regular extension demonstration gardens because most villages do not have a demonstration area and it would be too great a distance to ask farmers to go to a demonstration area for an

RLG meeting. However, the author believes that attempts could be made to improve some of the post Farmers' Forum discussions by using simulated demonstration techniques, i.e., classroom and other training techniques. The purpose would be to let farmers see the ideas being discussed as well as to just hear them.

Messages and adoption behavior: individual vs. group decision-making

Certain innovations can be adopted by an individual farm family unit, whereas other innovations can only be adopted by group decision-making in a village. As Farmers' Forum programs are developed the adoption unit for any particular message should be kept clearly in mind so as to avoid ambiguity.

Farmers' perception of specific subject matter

At each RLG I asked the farmers in attendance what subject matter they would like to have information about that had not been broadcast. Two topics were always suggested.

The first concern was the farmers' perception of the inconsistency between what the Extension Service asked farmers to do and the rewards (prices) the Farmers' Marketing Board gave farmers for following the Extension Service's recommendations. This general concern was usually divided into two subparts: How does the Extension Service decide what farmers should do? And how does the FMB decide what to pay us? (Farmers would frequently argue that the Extension Service tells us to buy fertilizer. We do, but tobacco and ground nut prices were so low from FMB that now we can't buy fertilizer which extension tells us to buy.) This series of questions would then generally lead to the question: What does FMB do with the products it buys? And this would lead into a brief discussion of world markets. In summary the farmers seemed very interested in learning more about market systems (and therefore economics).

The large scale interest in marketing may be one indication of a changing orientation from subsistence to commercial farming. This changing orientation is concerned with the changing goals of agriculture production. The radio subject matter developed to date has focused primarily on the means of agriculture production, i.e., how to use new

innovations, etc. Perhaps more attention could be given to content dealing with the changing goals of agriculture (commercialization), as well as content dealing with the changing means (techniques) of agriculture.

The second concern was more specific in nature. Most farmers wanted to hear the "market news," i.e., prices, on the Farmers' Forum program. Since most (99 percent) of the farmers at the RLG did not have their own radio they could not listen to the evening markets. They argued strongly for current market news on tobacco and ground nuts.

No one mentioned any new production subject matter topics they would like to have broadcast to them.

The Sender

The fourth and last concept in the general communication model developed in this report is the sender. Throughout the report the concept of sender has been used quite extensively. The sender in all cases has been referred to as the Extension Service, the group with an innovation to communicate to some receiver, in this case usually a farm operator. Although it is generally quite clear who the sender is, in some situations it becomes complex and confusing.

One situation which brought the complexity of who is the sender of a message into sharp focus occurred Friday, July 29, 1967, when the 2:00 p.m. Farmers' Forum program was not broadcast as scheduled. (It was later learned that the tape had been "lost" at MBC.) I was attending an RLG at Gonta Village, Chikwawa South on that day. Approximately 45 farm men, 11 women and many children were present for the program. The extension radio coordinator and I arrived at the village at 1:45. From 2:00 to 2:15 the news was broadcast. From 2:15 to 3:05 music was played. There was no announcement over MBC as to why there was no Farmers' Forum program. The reactions of the coordinator to the "dilemma" were as follows:

1. First, at about 2:20 he inquired if any villager had a copy of a recent "Farm News" to see if the Farmers' Forum program was still scheduled for 2:00 p.m. (The coordinator had not met with this group for one month, but he stated that he had not heard that the Friday program was going to be dropped from the MBC schedule.) An April 1967 copy of the Farm News was eventually found--and as of that date the program was still scheduled to be at 2:00 p.m.
2. Second, at 2:35 he told the villagers that something must have "gone wrong," and that we would all wait until 2:45 to see if the program might start. (Some of the farmers started to leave the group at this time.)
3. At 2:47 he said he would discuss the subject matter topics which were supposed to be on the program, while waiting to see if the program would start at 3:00. (More farmers were leaving.) He showed them some posters he had brought along--but did not have too good a response from the farmers.
4. At 3:05 he adjourned the meeting; although he did not know whether or not to tell the group that there would be a meeting the following Friday.

5. The radio coordinator was very discouraged after the meeting. He commented that this was very bad for the image of extension. He said he had worked with these people many times, and this would hurt his future credibility in his total extension program. (Assuming this same reaction in the many other listening groups across Malawi the "no program" had a major negative impact on the extension staff and coordinators.)

This example points to a basic question about who do the farmers see as the sender of the radio program: the local radio coordinator, a generalized Extension Service, or the MBC? And which "sender" is responsible for such an error; and which "sender" must bear the brunt of the error? Since MBC did not announce why there was no Farmers' Forum, the extension radio coordinator had to bear the total responsibility for the "no program" situation in the eyes of the villagers. Since the error was at MBC, MBC should have borne the responsibility for the "no program." However, this did not occur.

With respect to the "no program" event, the author recommends that MBC develop a policy to deal with possible future cases of this type. MBC should bear its responsibility and make the radio coordinator's position more workable in such cases. It is recommended that all MBC staff having any operational relations to the Farmers' Forum broadcast be given a detailed briefing of how the Farmers' Forum is tied to the operational program of the Agriculture Extension Service; especially focusing on MBC's responsibility if there is a "no program." Perhaps the station can keep a library of past Farmers' Forum tapes so that if the current one is lost a previous tape could be played. Or at least the MBC staff in charge could announce over the radio that the Farmers' Forum is to be postponed because of technical difficulties.

It is also recommended that extension coordinators be instructed how to deal with any future "no program" situation: how to handle discussions and questions, and how to take advantage of the group situation even if there is no program.

The author inquired several times (in situations other than the one just described above) as to whether the Farmers' Forum radio program was seen as an extension program or an MBC program. In other words, did the farmers and extension workers clearly identify the sender of the message (Extension Service) from the media being used (MBC). In every case I felt that the question was not completely understood by the farmers.

However, they appeared not to make such a differentiation. Rather they perceived it as a radio program; with the extension radio coordinator playing the role of extension sender. Much more research is needed to ascertain the images Malawi villagers have of the senders of radio messages; whether the "sender" is MBC or the government or private agency developing the message being sent.

Village authorities as senders and/or legitimizers

Some extension radio coordinators were making explicit use of village headmen and other prestigious villagers in the discussion period following the Farmers' Forum broadcast. The headman in some cases gave encouragement to other villagers to adopt the ideas presented over the radio. In some cases the headman or other villager gave testimonials that the use of the practices had achieved good results.

The role of local people as legitimizers and senders could perhaps be used by those extension coordinators not using them, if the coordinators believe this would help their extension efforts in that village.

Farm broadcasters as a sender

As the Farmers' Forum and other agriculture programs are developed over a period of time, there is a high probability that the farm radio broadcasters will be identified with agriculture. It will probably be important to convey to the potential farm audience that the broadcasters represent the Agriculture Extension Service, and are not just MBC announcers.

SOME ADDITIONAL OBSERVATIONS

Potential use of mobile units and Malawi films

Mobile units have been used by the Extension Service over the past few years. The units are sent into extension areas to show films, present tapes, etc. A number of extension workers were concerned that the mobile units were primarily for public relations, i.e., they made villagers aware of the Extension Service but they did not provide the basic education in agriculture needed by the villagers. It was suggested that the messages and programs of the mobile units be changed or the mobile unit idea be ended since considerable extension resources are utilized in manning the units.

One frequent suggested message change for mobile units was the showing of films based on Malawi agriculture. (Present agriculture films shown are set in other countries.) If Malawi agriculture films are to be produced, additional resources will be needed over a considerable period of time. This will be especially so if the goal is to train Malawi staff to produce their own films. It would appear that there is a very high demand for Malawi produced films.

Another rationale for producing Malawi films is to document the present agriculture production methods so as to provide a basis for comparing development success over the coming decades.

Utilization of extension publications

The production of extension publications is increasing rapidly in Malawi. There was concern among several field extension staff about the utilization of the publications. There was considerable expression that there may be a high "demand" for the pamphlets, etc., but not necessarily for reading. Rather they would be used for other purposes since there is usually a paper shortage in villages. The author suggests that small research studies of publication utilization be considered in the future. Such studies should provide more precise insights into the actual utilization of extension publications.

Agriculture and radio commercials on MBC

As the agriculture producer in Malawi becomes a larger proportion of the MBC listening audience and starts to spend a larger portion of his income on production goods rather than consumption goods, agriculture businesses should become more interested in advertising on MBC. The coverage estimates presented earlier in this report could be utilized in estimating potential agriculture radio listenership for both potential agriculture and nonagriculture advertisers on MBC. As of August 1967, most products on MBC were nonagricultural (although agricultural people could utilize most products advertised such as soap, shoes, and cigarettes). However, based on the planned role of agriculture production for the development of Malawi, it would appear that over the next 5-10 years agriculture production goods will be a large part of the market system in Malawi and therefore offer considerable opportunity for MBC advertising.

Potential for scientific adoption-diffusion studies in Malawi

The potential for meaningful scientific adoption-diffusion studies in Malawi is great. The village structure in Malawi makes it possible to delineate clear-cut target audiences. The village structure also makes it possible to easily set up real world experiments to test alternative message-media combinations utilized to obtain adoption of new innovations.

The RLG program itself is very conducive to rigorous research analysis. Some villages are receiving a message that nearby villages are not getting. Are there any differences in adoption rates of innovations between these villages? At several points in this report the author has suggested specific research projects that could be carried out in order to better understand the effectiveness of various extension message-media efforts. It is hoped that some of these can be carried out in the near future.

The completion of these research projects would hopefully provide data for Extension Service decision-makers in Malawi. But hopefully such research would also provide concepts, propositions, and models that could be useful in other countries as well. USAID and the Malawi Agriculture Department should be encouraged to initiate as much research as possible so both groups will have base data to evaluate their present efforts and to be able to make meaningful future decisions.

SUMMARY

General

The purpose of this report was to discuss the Farmers' Forum Radio Listening Group project in Malawi, Africa. A brief description of the project was presented. A general communication framework, or model, consisting of four concepts--sender, message, media, and receiver--was used as a basis for organizing the author's observations. The methods and sources of information used by the author were described. It was emphasized that the observations were not based on a rigorous research study, but on the author's five-week experiences in Malawi.

The author's observations were then presented. (A detailed outline of conclusions follows this general summary of the report.) The coverage and potential coverage of the RLG program was discussed. A more rigorous data collection form to assess the RLG coverage was suggested. A communication impact model was utilized as a conceptual framework for looking at the response of Malawi villagers to the RLG program.

The effective use of radios in the RLG program in the past and in the future was discussed.

Considerations pertaining to RLG messages were then presented. Some factors to consider in considering network and regional broadcasts were presented. Factors involved in developing the message content for the Farmers' Forum radio program were discussed. And villagers' perceptions of two subject matter areas needed to be covered by the RLG program were described.

The need for clearly delineating the sender of the Farmers' Forum program was then discussed.

Some additional comments were made about the potential use of mobile units and Malawi films, the utilization of extension pamphlets, the potential of agriculture product commercials on MBC, and the potential for scientific adoption-diffusion studies in Malawi.

Specific

On the basis of the author's observations the following conclusions were made.¹

The Receiver

Actual coverage

1. In June 1967, it was estimated that approximately 6,250-6,750 extension contacts were made in Farmer Radio Listening Groups in Malawi, Africa. (See page 8.)

2. A more rigorous data collection instrument is needed to assess the coverage of the Farmer's Forum Radio Listening Group program. (See pages 9-14.)

A. In assessing coverage there is a need to distinguish between extension contact coverage, individual coverage, and farm family coverage. (See pages 8 and 9.)

Potential coverage

3. Prior to and during the 1968 growing season it may be possible to reach 35,200 farm families in Radio Listening Groups. This assumes 220 radios and 220 Radio Listening Group coordinators (each with 4 Radio Listening Groups meeting once each fortnight with an average attendance of 40 farm families). (See pages 13 and 15.)

4. On the basis of existing data it is assumed that approximately 40,000 Malawi farm families own their own radio. (See page 15.)

¹ It is important to note that some of the findings presented in the body of this report may be relevant to some decisions USAID and the Government of Malawi are presently considering but which the author of the report is unaware. Therefore, there may be much value in the author's findings which are not outlined in the conclusions of this report. A frequent technique utilized by the author (and the research team of which he is a part at Iowa State University) and other government or private agencies to gain more insight about the relevance of the study's research findings for the agency is a half-day or full-day seminar. The seminar setting makes it possible to pursue the relevance of research findings to decisions and problems faced by different agency personnel of which the author cannot be aware. The decisions and problems for which the research observations may be relevant need not be totally related to the particular program studied in this report or to the particular country on which this report is based.

5. Thus, approximately 75,200 farm families could have access to the Farmers' Forum broadcast in 1968. This would mean that approximately 725,000 farm families in Malawi would not have access to the program in 1968. (See page 16.)

6. More coverage by Radio Listening Groups could perhaps be accomplished in 1968 with existing resources (radios and staff) under certain assumptions. (See page 16.)

Characteristics of Radio Listening Group participants

7. Men and women attending Radio Listening Groups were relatively more commercial oriented than men and women in the same village who were not attending the RLG. (See page 16.)

8. From three to four times more men than women were in attendance at Radio Listening Groups. (See page 16.)

9. The Radio Listening Groups are one village oriented. (See page 17.)

Communication impact model applied to Radio Listening Group program

10. In villages where the RLG program was being initiated, a majority (1/2 to 3/4) of the farm families seemed to be aware of the RLG program. The two major external village sources providing awareness appeared to be posters and extension workers. Village headmen appeared to be an important internal village source of RLG awareness to villagers. (See page 20.)

11. Approximately 1/10 to 1/4 of the potential audience in any given village (the total number of farm families in a village) attended the village RLG. Major reasons given for people aware but not attending were "lack of interest" and "personal reasons." (See pages 20 and 21.)

12. Once farmers started to attend an RLG they usually were quite consistent in attending all the Radio Listening Group programs for their village. (See page 21.)

13. Most attenders (95 percent) at any one RLG meeting arrived 10-40 minutes before the beginning of the Farmers' Forum program and stayed completely through the radio program and the discussion which followed the radio broadcast. (See page 21.)

14. Differential exposure due to language differences must be taken into account by extension workers in some areas in Malawi. (See page 21.)

15. Both men and women at the RLG program showed a high degree of concentration to the radio program and the discussion which followed. (See page 22.)

16. There were mixed reports on the effect of secondary contacts among villagers. In some cases there appeared to be a reasonable amount of secondary contact about message content (i.e., the "filtering down process" of information appeared to be occurring). On the other hand, there was an equal number of cases where there apparently was very little, if any, secondary contact. Thus, one cannot assume that the "trickle down process" is always occurring. (See page 23.)

17. There appears to be a definite need for the extension radio coordinator to lead a discussion about the radio content immediately after the radio broadcast. This is needed to assure the correct comprehension (understanding) of the radio message by the farmers. (See page 23.)

18. Farmers (both men and women) participating in the RLG program had very favorable attitudes toward the Extension Service and what the Extension Service was trying to do for the farmers. (See page 23.)

19. Among the RLG attenders it appeared that obtaining comprehension (understanding) was much more of a problem than obtaining attitudinal acceptance. (See page 24.)

20. The favorable attitudes toward the Extension Service did not necessarily extend to non-RLG farmers. There were many comments that non-RLG villagers were not too interested in learning how to improve themselves. (See page 24.)

21. The effect of the RLG program on the overt adoption behavior of villagers was difficult to assess since the RLG program had been in operation less than one year. In many villages the RLG had begun in the middle of the growing season so ideas presented on the Farmers' Forum broadcast could not be implemented until the following season. Actual adoption behavior by RLG attenders and non-attenders should be compared during the 1968 season. (See page 24.)

22. A policy decision affecting the planned life of any given Radio Listening Group will have to be made in 1968 or 1969. Should RLG programs be terminated in any given village after a certain length of operation and these extension resources utilized in another village?

Variables related to this decision include the number of farmers who buy their own radio, the effect of the "filtering down process," the changing nature of the messages to be broadcast, and whether or not additional radios and extension radio coordinators are made available. With existing resources it was estimated that approximately five percent of Malawi farm families could participate in the RLG program in 1968. Assuming current resources, it could take 30-40 years to reach most members of the target audience in Malawi. (See page 25.)

23. Although the individual farmer or farm family is usually considered to be the primary receiver of the Farmers' Forum broadcasts, some officials considered the extension field worker as an important potential receiver for the Farmers' Forum program. (See page 25.)

Media

Effective use of existing radios

24. Some radios were being used as effectively as possible, whereas some radios were not being used too efficiently. There is a need for policy clarification on the priority use of radios and farm listening groups since some resources are not being used to the extent possible. The large coverage of farm families obtained by radio should not be overlooked as priorities are established. (See page 27.)

Could more radios be used effectively by the Extension Service?

25. Approximately 600-1,000 additional radios could be effectively utilized in the Radio Listening Group program in Malawi. (See page 28.)

Time of day and days of week

26. The present day scheduling of Wednesday and Friday and the time of day scheduling (1:30 and 2:00 p.m. respectively) were judged by radio coordinators and villagers to be very satisfactory. (See page 28.)

Image of the radio

27. The radio is a very credible media for Malawians. (See page 29.)

Message

Network and/or regional messages

28. Most extension field workers thought that some mix of national and regional programs would be the long-run ideal toward which to work. (See pages 30 and 31.)

29. Most villagers tended to emphasize primarily regional programs as the ideal long-run goal. (See pages 30 and 31.)

30. Some of the factors to be considered when evaluating regional broadcasts include relevance of subject matter, language differences, timeliness of subject matter, regional extension specialists' use of radio, use of local villager case history results, and program planning goals at district levels. (See pages 30 and 31.)

Developing the message content for the Farmers' Forum program

31. Many regional extension specialists are not too radio prone. Regional staff meetings of extension specialists could discuss how to improve their impact via radio. (See pages 31 and 32.)

32. Regional extension specialists could perhaps visit village RLG in order to see how to improve the radio message and the discussion and demonstration led by the extension radio coordinator after the Farmers' Forum broadcast. (See pages 31 and 32.)

33. The increase in the extension radio staff from one to three men in July was definitely needed. Additional staff will probably be needed in the near future. The farm radio staff needs to be provided with adequate portable radio equipment and the necessary transportation needed to perform their roles adequately. (See pages 31 and 32.)

Place of RLG meeting and post radio demonstrations

34. Most RLG meet in a central village location in a shady area (under a tree or group of trees). (See pages 32 and 33.)

35. Most RLG are therefore not held in or near an extension demonstration garden. Attempts could be made to improve the discussions following the Farmers' Forum broadcast by using simulation techniques (demonstrations) rather than having only a verbal discussion. (See pages 32 and 33.)

Messages and adoption behavior

36. As messages are developed for the Farmers' Forum radio program, the adoption unit--whether an individual (or farm family) or group (village)--should be clearly specified. (See page 33.)

Farmers' perception of specific subject matter

37. Farmers were very interested in learning more about the market system of agriculture, including both farm input and output systems. (See page 33.)

38. Farmers were becoming interested in the new goals of agriculture production (commercialization vs. subsistence) as well as in the new means of agriculture production. (See page 33.)

39. Farmers expressed a great desire to have more "market news," i.e., prices on ground nuts, tobacco, etc., on the Farmers' Forum broadcast. (See page 34.)

The sender

40. Farmers did not appear to differentiate the role of MBC (the media) and the Extension Service (the sender). Most farmers saw the program as a radio program, and not necessarily as an extension radio program. Farmers did see the radio extension coordinator as an extension sender however. (See pages 35-37.)

41. The importance of clearly specifying the sender was illustrated one day when MBC did not broadcast the Farmers' Forum program as scheduled. MBC didn't say why there was no broadcast, thus leaving radio extension coordinators in the field with their Radio Listening Groups but with no program. The extension coordinators had to bear the total responsibility for the "no program" in the eyes of the villagers, even though the "no program" error should have been borne by MBC. (See pages 35-37.)

42. The "no program" incident indicated a need for both MBC and the extension radio coordinators to develop policy and procedures for dealing with such situations. (See pages 35-37.)

43. Some extension radio coordinators were making explicit and successful use of village headmen and other prestigious villagers in the RLG program. Other extension radio coordinators were not using these "senders." (See page 37.)

44. If Malawi farm radio develops in ways similar to farm radio in the United States, the role of the farm radio broadcaster will be very important. The identification of the farm radio broadcaster with the Agriculture Extension Service should be conveyed to the farm audience. (See page 37.)

Potential use of mobile units and Malawi films

45. Mobile units, as presently utilized, are being criticized because they appear to be primarily used for public relations rather than basic education in agriculture. (See page 38.)

46. One frequent suggestion for improving the effectiveness of mobile units was the showing of films based on Malawi agriculture. (See page 38.)

Utilization of extension publications

47. As the production of extension publications increases there is a need to conduct publication utilization studies, since there is a concern about their effective utilization by villagers. (See page 38.)

Agriculture and radio commercials on MBC

48. The actual and potential coverage of the farm market for agriculture products in Malawi should offer considerable opportunity for agriculture advertising on MBC. (See page 39.)

Potential for scientific adoption-diffusion studies in Malawi

49. The actual and potential situation of introducing new agriculture ideas in Malawi by using various sender-message-media combinations provides a very meaningful setting to conduct scientific adoption-diffusion studies. Such research could provide much needed data for government and private decision-makers in Malawi. (See page 39.)

General observation of Radio Listening Group program in Malawi

50. At the present time it appears that the RLG program is a very important program for improving Malawi agriculture.

In concluding this report I would like to express my appreciation to members of the Missouri Mass Communication Project and to the many personnel of the Malawi Extension Service and MBC who cooperated with me during my stay in Malawi. Any inadequacies in the report and in my investigation in no way stem from a lack of cooperation or a lack of opportunity during my visit.

Appendix A

HANDBOOK FOR COORDINATORS OF RADIO LISTENING GROUPS

produced by

Extension Aids Branch

Ministry of Natural Resources, Zomba, Malawi

INTRODUCTION

The Government of Malawi is engaged in a determined fight against poverty, ignorance and disease. The main source of wealth for this country is the produce of its soil. Therefore, the fight against poverty is largely a question of increasing the quantity and quality of the various crops grown in the country.

The Honourable G. W. Kumtumanji, Minister of Natural Resources, has said:

We must face the fact that economic development can only be based, in its initial stages, upon efficient agricultural practices. Immediate increases in productivity are possible through the observance of certain simple improved farming practices.

We, of the Agricultural Extension Service, have been delegated the responsibility to advise the nation's farmers of these improved farming practices, and to lend whatever other assistance he needs to increase productivity and thus build a better life for himself and a more prosperous economy for Malawi.

Extension work is "communication," of ideas and information, by whatever means is available. RADIO is another effective medium through which the Extension Service can communicate to the farmer the vital information that will enable him to grow better crops and market them for greater profit.

This handbook has been prepared to help you make the most effective use of the radio broadcasts over the Malawi Broadcasting Corporation network.

To the Coordinator:

You have been assigned as a coordinator of a Radio Listening Group because of your demonstrated ability as a leader. This assignment offers an opportunity for you to contact greater numbers of farmers in a shorter period of time and thus broaden the service you are now providing for farmers in your area.

Following are some suggestions which, we trust, will help you make the most of this opportunity:

1. See that the meeting place is prepared before members of your listening group are scheduled to arrive. Arrange posters, displays or other informational material so that they can be seen by farmers attending the meeting.
2. Check your radio to be sure it is working properly and can be heard throughout the meeting room.
3. When the farmers arrive, see that they are comfortably seated prior to the time the broadcast is scheduled to begin.
4. Make any necessary announcements and tell the group the main topics which will be discussed on the broadcast.
5. During the broadcast, try to avoid any incidents which might distract the attention of those who came to listen.
6. After the broadcast, be prepared to discuss the subject matter as it applies to your area. Answer questions and encourage group discussion. Spend sufficient time to discuss individual problems which might be brought out by members of the group.
7. If practical, conduct demonstrations of practices which have been recommended to help the farmers have a better understanding of how they should be carried out.
8. Make appointments for personal visits with individual farmers, if needed, to help them with their problems.
9. Encourage attendance at the next meeting and suggest that those present invite others to attend.
10. Make notes on the reaction of the group to the recommendations made on the broadcast, the number of farmers present, and any suggestions for material you think might be included on future programs. Pass these along to your supervisor so that he may keep us informed on the effectiveness of the broadcasts.

An effort has been made to schedule radio programs at times when the greatest number of farmers will be free to listen. After consultation with agricultural extension officials, district and area supervisors, the following schedule has been agreed upon:

Wednesday, 1:15 p.m. to 1:45 p.m.

Friday, 2:00 p.m. to 2:25 p.m.

A new program will be prepared for broadcast each Wednesday, and the same program will be rebroadcast on Friday. It is expected that coordinators will arrange meetings of their listening groups at the time and date most suitable for farmers in their area.

Each program will include timely information on specific crops and activities which it is felt should be brought to the attention of farmers at the time of the broadcast. Each program will also include late reports on weather conditions affecting farming activities, insect or disease infestations, market information and other information of concern to the farmers.

Following is a schedule of the principle subjects planned for discussion on each broadcast, with suggestions which, it is hoped, will assist you, the coordinator, in making preparations for discussions to follow the broadcast.

NOVEMBER 2, 1966 - 1:15 p.m.

NOVEMBER 4, 1966 - 2:00 p.m.

This will be an introductory program and will include talks by the Honourable G. W. Kumtumanji, Minister of Natural Resources; Mr. Aleke Banda, Minister of Development and Planning; and Mr. John Evans, Commissioner of Agriculture. It is also planned to include some notes on fertilizer application and use of improved maize seed.

It is suggested that coordinators be prepared to further emphasize the importance of agriculture to their particular area and suggest ways in which production can be increased, as well as the benefits that will come to the farmers themselves. Be informed on where farmers in your area can purchase fertilizer and improved maize seed, and the cost. Appropriate posters and other publications should be displayed at the meeting place.

NOVEMBER 9, 1966 - 1:15 p.m.

NOVEMBER 11, 1966 - 2:00 p.m.

Principle subjects of discussion will be tobacco management, and the importance of good cotton seed. Secondary notes will include suggestions on planting, fertilizing and other practices.

Coordinators should be prepared to inform farmers where good cotton seed is available in their area, and be able to answer questions on

tobacco management problems peculiar to your area. Display appropriate posters at the meeting place and have available any printed material which might be passed out to farmers

NOVEMBER 16, 1966 - 1:15 p.m

NOVEMBER 18, 1966 - 2:00 p.m

Principle subjects of discussion will be the planting of maize, beans and ground nuts. Additional comments will point out again the importance of fertilizer.

Coordinators should be prepared to answer questions and make local application of information to your area. Be able to suggest sources of good maize and ground nut seed. Display appropriate posters or other printed material.

NOVEMBER 23, 1966 - 1:15 p.m.

NOVEMBER 25, 1966 - 2:00 p.m.

Principle subjects of discussion will be vegetable gardens and tobacco management. Secondary notes will include information on inter-planting maize and beans and supplying ground nuts and maize.

Coordinators should be prepared to make additional comments on vegetable gardens and tobacco management applicable to your area. Answer questions about other activities which should be undertaken at this time. Display appropriate posters or other printed material.

NOVEMBER 30, 1966 - 1:15 p.m.

DECEMBER 2, 1966 - 2:00 p.m.

Principle subjects of discussion will be about cotton planting and general management, and livestock management and grazing information. Secondary notes will include weeding of maize and other crops.

Coordinators should be prepared to discuss principle subjects in terms applicable to your area, and answer any questions which might be asked by farmers. Display appropriate posters and printed material.

DECEMBER 7, 1966 - 1:15 p.m.

DECEMBER 9, 1966 - 2:00 p.m.

Principle subjects of discussion will be the planting of tobacco and other management practices, fertilizing and weeding maize. Secondary notes will include reminders on supplying crops and cotton management.

Coordinators should be prepared to discuss all subjects as applicable to your area as well as any other activities which should be undertaken at this time. Display appropriate posters and printed material.

DECEMBER 14, 1966 - 1:15 p.m.

DECEMBER 16, 1966 - 2:00 p.m.

Principle subjects of discussion will be timely cotton management practices and the importance of dipping cattle. Secondary subjects will include tobacco management and use of fertilizers.

Coordinators should be familiar with the progress of crops in the area and be prepared to make suggestions to farmers and answer questions about problems. Display appropriate posters and printed material.

DECEMBER 21, 1966 - 1:15 p.m.

DECEMBER 23, 1966 - 2:00 p.m.

Principle subjects of discussion will be poultry, farm planning and good land use. Secondary subjects will include notes on Turkish tobacco and weeding and fertilizing of all crops.

Coordinators should be familiar with poultry problems in the area and be prepared to discuss the most efficient use of available crop land in the area. Display appropriate posters and printed material.

DECEMBER 28, 1966 - 1:15 p.m.

DECEMBER 30, 1966 - 2:00 p.m.

Principle subjects of discussion will be livestock management and cultivation and thinning of cotton plants. Secondary subjects will include witchweed control in maize and notes on tobacco.

Coordinators should be familiar with livestock in the area and be prepared to make recommendations applicable to the area. Answer questions farmers may have about problems relating to cotton or other crops. Display appropriate posters and printed material.

JANUARY 4, 1967 - 1:15 p.m.

JANUARY 6, 1967 - 2:00 p.m.

Principle subjects will be fertilizing and management of tobacco and disease control and cultivation of ground nuts. Secondary subjects will include weeding and fertilization of other crops and dipping of cattle.

Coordinators should be prepared to discuss the above subjects as they apply to the immediate area and answer farmers' questions about activities which should be undertaken at the time. Display appropriate posters and printed material.

JANUARY 11, 1967 - 1:15 p.m.

JANUARY 13, 1967 - 2:00 p.m.

Principle subjects will be vegetable gardens and notes on cotton management. Secondary subjects will include poultry information and suggestions in regard to Turkish tobacco.

Coordinators should be familiar with vegetables best grown in the area and possible markets for surplus. Be prepared to discuss any practices which should be undertaken in management of the cotton crop and other crops grown in the area. Display appropriate printed material.

JANUARY 18, 1967 - 1:15 p.m.

JANUARY 20, 1967 - 2:00 p.m.

Principle subjects will be livestock management and the importance of uprooting tobacco nurseries. Secondary subjects will include notes on cotton spraying and cultivation of other crops.

Coordinators should be prepared to discuss improved kholas for cattle and answer questions about insecticides for use in spraying cotton. Display appropriate printed material.

JANUARY 25, 1967 - 1:15 p.m.

JANUARY 27, 1967 - 2:00 p.m.

Principle subjects will be poultry management and housing and disease and insect control in crops. Secondary subjects will include reminders about cotton spraying and uprooting of tobacco nurseries.

Coordinators should be prepared to assist farmers with problems in poultry management and furnish information about construction of housing. Inform farmers, if possible, when poultry will be offered for sale in the area. Answer questions about problems which may prevail in the area. Display appropriate printed material.

FEBRUARY 1, 1967 - 1:15 p.m.

FEBRUARY 3, 1967 - 2:00 p.m.

Principle subjects will be the topping and priming of tobacco and management practices which should be observed in cultivation of cotton. Secondary subjects will include miscellaneous crop notes and poultry information.

Coordinators should be prepared to advise farmers as to practices applicable to the area. Answer questions and make suggestions as to activities which should be undertaken in the management of all crops grown in the area. Display appropriate printed material.

FEBRUARY 8, 1967 - 1:15 p.m.

FEBRUARY 10, 1967 - 2:00 p.m.

Principle subjects will deal with suckering and management of tobacco and weeding and cultivation of maize. Secondary subjects will include poultry notes and vegetable garden information.

Coordinators should be prepared to discuss these and any other matters relative to the progress of crops grown in the area. Be informed as to when poultry sales will be held in the area.

FEBRUARY 15, 1967 - 1:15 p.m.

FEBRUARY 17, 1967 - 2:00 p.m.

Principle subjects will be livestock management and harvesting of tobacco. Secondary subjects will deal with Turkish tobacco and other crops.

Coordinators should be prepared to assist farmers with problems in all crops produced in the area. Be familiar with the state of the tobacco crop and make recommendations as to when harvesting might begin.

FEBRUARY 22, 1967 - 1:15 p.m.

FEBRUARY 24, 1967 - 2:00 p.m.

Principle subjects will be cotton management and spraying and disease control in maize. Secondary subjects will include poultry and harvesting of tobacco.

Coordinators should be familiar with progress of all crops grown in the area and be prepared to answer questions of farmers. Know whether poultry sales will be held in the area in the immediate future.

Appendix B

PROGRAM FOR FARMERS' FORUM

JUNE, JULY AND AUGUST 1967

June 7 and 9

Preparations for building tobacco barns and nurseries.
Building-repairing cattle kholas.
Uprooting tobacco.
Fire breaks for protection of planted trees.

June 14 and 16

Building-repairing poultry housing.
Advantages of buying Mikolongwe chickens.
Feeding poultry.

June 21 and 23

Livestock management-care of manure.
Marketing cattle.
Building barns-kholas.

June 28 and 30

Forestry.
Prevention of bush fires.
Uprooting tobacco.

July 5 and 7

Special independence broadcast with government
officials stressing importance of good farming.

July 12 and 14

Burning tobacco stalks.
Uprooting cotton stalks.
Buying fertilizer.

July 19 and 21

Buying sprayers and insecticides.
Farm planning.
Poultry management.

July 26 and 28

Uprooting cotton stalks.
Breeding cattle.
Buying fertilizer.

August 2 and 4

Increasing farm income.
Conservation of catchment areas.
Prevention of bush fires.

August 9 and 11

Burning cotton stalks.
Garden preparation.
Selection of nursery sites.

August 16 and 18

Poultry feeding.
Care and marketing of eggs.
Vegetable growing.

August 23 and 25

Digging nurseries.
Buying fertilizer.
Stall feeding of cattle.

August 30 and September 1

Prevention of bush fires.
Garden preparations.
Buying sprayers and insecticides.

Appendix C

ITINERARY OF GERALD E. KLONLAN IN MALAWI, AFRICA

JUNE 27-AUGUST 6, 1967

Tuesday, June 27

Travel-Ames, Iowa, to Chicago to New York

Wednesday, June 28

Travel-New York to Rome

Thursday, June 29

Travel-Rome to Nairobi, Kenya

Friday, June 30

Travel-Nairobi to Blantyre, Malawi. Met with Bill Mackie, Chief of Party, Radio Program Producer and Director Advisor of the AID/Missouri Mass Communication Project

Saturday, July 1

Met with Bill Mackie and University of Missouri team

Sunday, July 2

Set up house in Blantyre

Monday, July 3

Obtained background orientation on Malawi at MBC

Tuesday, July 4

Drove to Zomba. Met with Ewing Canaday, Agriculture Extension Information Advisor of the University of Missouri--USAID Mass Communications team, on Radio Listening Groups

Wednesday, July 5

Malawi Republic Celebration, Blantyre
Attended agriculture exhibits

Thursday, July 6

Malawi Republic Celebration, Blantyre

Friday, July 7

Met with Bill Mackie and Ev Vandagriff, Commercial Radio Advertising Advisor of the USAID/Missouri Communications Project

Saturday, July 8

Visited Namiwa Village, Native Authority Ngamwangi, located between Cholo and Mlanje. The farmers visited were not members of a Radio Listening Group. Toured village area--huts, gardens, etc.

Sunday, July 9

Drove to Zomba. Met with Ned Etheridge, Graphics and Visuals Production Advisor of the USAID/Missouri Mass Communications Project

Monday, July 10

Drove to Zomba. Met with Ewing Canaday and Alfred Mackwecha, Extension Radio Specialist, about Radio Listening Groups

Tuesday, July 11

Met with Ewing Canaday in Blantyre. Visited Southern Region Agriculture Office. Discussed Radio Listening Groups with Mr. Green, Regional Agriculture Field Officer; Tony Standen, Training Officer; Ian McDonald, Extension Officer; and Mr. Hall, Extension Specialist in Conservation and Land Use.

Wednesday, July 12

Drove to Zomba. Discussed my role with Derek Bradfield, Director Extension Aids Branch.
Mr. Canaday, Mr. Mackwecha, and I attended a Radio Listening Group in Zomba East. Detailed discussions with Mr. Umali, Area Supervisor; Mr. Henry Mahawa, Extension Field Assistant; and an extension demonstrator who was also the Radio Listening Group coordinator. Asked many questions of the 50 Yao men and 30 Yao women at the Radio Listening Group.

Thursday, July 13

Drove to Southern Region Agriculture Office. Collected data on the 21 extension areas in the Southern Region from Ian McDonald and Tony Standen.
Visited the Tuchila Farm Institute with Tony Standen. Discussed Malawi extension activities with the principal and two African staff members of Tuchila. Also discussed use of radio for introducing cotton innovations with John Rice, Cotton Specialist for the Southern Region.

Friday, July 14

Drove to Zomba. Attended quarterly meeting of USAID--Malawi Department of Agriculture. Discussed Radio Listening Group programs with those present: 1) Ewing Canaday, 2) Ned Etheridge, 3) Clarence Parsons, Extension Training Advisor, USAID--Massachusetts, 4) Ken Boyden, Farm Credit Advisor, USAID--Massachusetts, 5) Dr. Konvolinka, USAID Education Officer, 6) George Carcagno, USAID Planning Officer, 7) Derek Bradfield, and 8) Chris Stephens, Chief Extension Officer for Malawi. Also met Mr. Evans, Commissioner for Agriculture in Malawi; Mr. Robert A. Snyder, Director of USAID, Malawi; Martin Taylor, Agriculture Economist Planning Division of the Department of Agriculture, Malawi; and Al Graybill, USAID staff member of the National Statistics Office. Discussed past, present and future agriculture research studies with goal of including radio and other communication questions when possible.

Saturday, July 15

Met with Nicholas Wincott, Sociologist at University of Malawi, to obtain information on present research and possible data sources for gaining insights about village agriculture patterns.

Sunday, July 16

Traveled to Lilongwe with Ewing Canaday

Monday, July 17

Visited Colby College. Discussed extension methods with Mr. Parsons; Mr. Parkinson, Vice-Principal of Colby; and two African staff members.

Visited Central Region Agriculture Office. Discussed Radio Listening Group program with George Lowe, Training Officer for the Central Region; Mr. Hugh Proverbs, Central Region Agriculture Field Officer; and Mr. MacCormack, Tobacco Specialist for the Central Region.

Tuesday, July 18

Discussed role of communication in extension with Mr. Grayson Nanthambe, Extension Officer, Central Region.

Met with Mr. Ken Boyden, USAID--Massachusetts, on his insights into Malawi agriculture and role of various sources of information for farmers. Also had further discussions with Parsons.

Wednesday, July 19

Traveled to Nsaru. Discussed tobacco marketing with two local African Farmers' Marketing Board officials. Discussed Radio Listening Group program with Mr. Gray Chapota, District Field Officer, Lilongwe West.

Attended my second Radio Listening Group at Sankani Village with Mr. Richard Chilewe, Area Supervisor, Nsaru Area; Mr. Chingalle, Extension Demonstrator and Radio Listening Group Coordinator; and Mr. Canaday. Asked questions to the 33 men and 17 women present.

Thursday, July 20

Returned to Blantyre

Friday, July 21

Organized notes from Lilongwe visits

Drove to Southern Region Agriculture Office. Discussed communications and adoption studies with Ted Wilmott, Planning Officer, Department of Agriculture, Malawi. Also discussed Radio Listening Group program with Bill Buchan, Divisional Field Officer, Southern Region.

Saturday, July 22

Traveled to Chirimba. Discussed Radio Listening Groups with Ken MacGillvary, Divisional Field Officer for the Lower Shire Division.

Drove to Makoka. Discussed Radio Listening Groups with Mr. Shabanie, Area Supervisor for Zomba South.

Visited Professor Gilgutt, USAID--Massachusetts, Bunda Agriculture College. Discussed plans for Malawi agriculture and role of communication in these plans.

Sunday, July 23

Traveled to Liwonde, Fort Johnson, Monkey Bay and Lake Malawi with Ned Etheridge.

Monday, July 24

Worked out schedule for last two weeks in Malawi
Organized notes and materials obtained to date

Tuesday, Muly 25

Drove to Zomba and out to Lake Chilwa. Discussed relation of fishing in Malawi to crops, livestock and radio demands with Mr. Kapyepye and Mr. Boardman, Malawi Fisheries staff.

Visited Republic of China Rice and Vegetable Demonstration Area near Zomba. Discussed future research and extension activities, especially the use of radio, relating to rice and vegetables with Mr. Shui, Chief of Party of Republic of China Mission; Mr. Wang, Chinese Rice Instructor; and Mr. Mawala, Malawi Chief of Party.

Wednesday, July 26

Traveled to Zomba South Area. Met with Mr. Shabanie on Radio Listening Groups.

Attended my third Radio Listening Group at Nasawa. Discussed Radio Listening Group program in detail with Mr. M. V. Kaliati, Extension Field Assistant and Radio Listening Group Coordinator. Asked questions and had much good discussion from the 40 men who were present.

Thursday, July 27

Organized Wednesday's notes

Met with Ewing Canaday in Blantyre. Met with Ian McDonald to discuss Radio Listening Group record keeping.

Traveled to Nzeru Radio Company. Discussed production and distribution figures of radios in Malawi.

Friday, July 28

Drove to Ngabu, Chikwawa South Area. Discussed Radio Listening Groups with Mr. Anthuacino, Area Supervisor, and Mr. Gopani, Principal of the Lower Shire Divisional Training Center.

Met with Mr. Chapuli, Field Assistant and Radio Listening Group Coordinator. Went with Mr. Chapuli to Gonta Village for my fourth visit to a Radio Listening Group meeting. However, this day no Farmers' Forum was broadcast. (It was later learned that MBC staff members had lost the tape after the Wednesday broadcast.) Mr. Chapuli and I discussed agriculture questions with the 45 men and 10 women in attendance, but it was a disappointing and frustrating afternoon for Mr. Chapuli.

Saturday, July 29

Discussed Radio Listening Group failure on Friday with MBC and extension personnel. Discussed policy and actions needed to avoid such occurrences in the future.

Sunday, July 30

Traveled to Komoto Village in the Cholo District with two Lutheran missionaries, Raymond Cox and John Janosek. The 10 farmers talked to in this village were not participating in Radio Listening Groups. The pastors were interested in pursuing their possible initiation of Radio Listening Groups in villages where they are working.

Monday, July 31

Met with Bill Mackie at MBC

Visited Blantyre Secondary School. Toured facilities and discussed curriculum with students Rex Namarika and Gray Mokola.

Tuesday, August 1

Prepared for end of tour briefings for Malawi Department of Agriculture and USAID
Met with Ian McDonald to collect more information on Radio Listening Groups. Analyzed parts of 100 extension term papers written by Colby students dealing with farmers' source of information and agriculture adoption rates.

Wednesday, August 2

Attended a meeting with the Malawi Committee for Education by Radio. Discussed my observations with committee, which included John Moore, UNESCO.

Thursday, August 3

Drove to Zomba. Presented and discussed my observations with Malawi Agriculture Department. John Evans, Derek Bradfield, Martin Taylor, Ewing Canaday and Bill Mackie were present. Visited USAID Headquarters. Presented and discussed my observations with Bob Snyder, Dr. KonVolinka, George Carcagno, and the AID auditor. Visited National Statistics Office. Discussed future research possibilities with Al Graybill and others. Had final briefing with Derek Bradfield.

Friday, August 4

Prepared to leave Malawi
Prepared final notes and organized material to be sent to Iowa State University
Drove to Zomba. Had final discussions with Ewing Canaday and Ned Etheridge.

Saturday, August 5

Traveled to Ndalma Village near Luchenza with Rex Namarika and Gray Mokola as guides. Visited with the Reverend W. B. Namarika and church elders. Toured village, etc. This was the third village where farmers visited were not part of a Radio Listening Group. Had final discussions with Bill Mackie and Ev Vandagriff.

Sunday, August 6

Departed from Malawi