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Communication for Technology Transfer in Agriculture (CTTA)
(AID/S&T Project 936-5926)

Component of

Malawi Agricultural Research and Extension (MARE)
(USAID/L Project 612-0215)

P R O J E C T I M P L E M E N T A T I O N P L A N

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ACRONYMS and DEFINITIONS

ACT	-	Applied Communication Technology, Inc., the CTTA Subcontractor for summative evaluation
Academy for Educational Development	-	Prime contractor for the Communication for Technology Transfer in Agriculture Project (CTTA)
ADD	-	Agricultural Development Division
AED	-	Academy for Educational Development, Inc.
AID	-	The United States Agency for International Development
AID/S&T	-	The AID Bureau for Science and Technology
AID/W	-	AID/Washington
Alley cropping	-	A cropping system in which rows of leguminous trees (or other legumes) are interspersed among rows of the principal crop.
Cognizant Technical Officer	-	The Officer in AID/S&T who serves as AID Project Manager for the CTTA Project worldwide, and who approves actions of the CTTA Contractor.
Communication intervention	-	Messages (information) disseminated to a target audience (farmers in the case of CTTA) through one or a combination of media
CRSP	-	Collaborative Research Support Project; a U.S.-funded project conducted by U.S. universities in collaboration with LDCs.
CTR	-	Contractor (agent responsible for procurement shown in Appendix B)
CTTA	-	Communication for Technology Transfer in Agriculture, a worldwide AID/S&T project that requires shared funding by USAID Missions in collaborating countries
CTTA Contractor	-	Academy for Educational Development, Inc.
CY	-	Calendar year
DAR	-	Department of Agricultural Research of the Ministry of Agriculture of the Government of Malawi
DOA	-	Department of Agriculture of the Ministry of Agriculture of the Government of Malawi; responsible for Agricultural Extension
EAB	-	Extension Aids Branch of the DOA

PROJECT IMPLEMENTATION PLAN (PIP)

For

Communication for Technology Transfer in Agriculture (CTTA) Component of
Malawi Agricultural Research and Extension Project (MARE)
(Projects AID/S&T 936-5826 and USAID/L 612-0215)

I. OVERVIEW

The Communication for Technology Transfer in Agriculture (CTTA) Project provides an opportunity to apply what is known about and to develop innovative approaches for the use of communication, especially mass media, to support agricultural extension. Integrated communication strategies to improve LDC extension performance will be synthesized from: 1) experience gained around the world in the use of communication in agriculture and in other sectors such as health and education; 2) advances in development communication; 3) concepts from other fields such as behavioral science and social marketing. The CTTA strategy will focus on development and use of:

- o Farmer feedback and institutional networking.
- o Specific farming practices and behavior.
- o A communication system that integrates broadcast, print and interpersonal channels.
- o Communication support programs that LDC governments can continue after the project is completed.

CTTA will collaborate with USAID Mission projects in up to nine countries during the life of the project. In Malawi, the CTTA Project will function in close collaboration with and as a component of the Malawi Agricultural Research and Extension Project (MARE). The MARE project will coordinate and supervise the services described herein with respect to administrative matters within the Ministry of Agriculture (MOA). Technical supervision will be provided by the Academy for Educational Development, CTTA Project Contractor, through its headquarters and collaborating universities and agencies in the United States. Until the MARE Project Contractor is selected and the MARE Research and Extension components are operational, the CTTA Contractor will coordinate directly with the MOA.

Authorization for the CTTA Project to provide technical services as a component of the MARE Project will be established through a Project Implementation Letter approved by the Government of Malawi (GOM) and USAID/L.

II. BACKGROUND

Agricultural Extension, an essential component of the technology development-testing-transfer system, is well established and functioning throughout the country; but many men and women farmers are still not receiving or making beneficial use of improved agricultural technologies. Four major constraints to the effective transfer of technology by Extension are: 1) lack of appropriate localized technological information; 2) inadequate numbers of and inadequately trained staff; 3) ineffective communication support; and 4) inadequate Extension-Research-Farmer-Agrosupport Sector linkages. Significant improvement in Extension performance will require concurrent coordinated action to alleviate all of these constraints.

The MARE Project Extension Component strategy is to strengthen Extension institutional capacity and its effectiveness in transferring improved agricultural technologies to smallholders through alleviation of the four overriding constraints identified above. To implement the overall strategy, the Extension Component will draw heavily upon, and function in close collaboration with, the MARE Research and Training components.

The CTTA Project, which provides an opportunity to apply what is known about and to develop innovative approaches for the use of communication (especially mass media) to support agricultural extension, has direct relevance to the third area of MARE Extension Component focus--alleviation of the "ineffective communication support" constraint. The CTTA design and methodology are consistent with, and highly complementary to, those of the MARE Extension Component.

The MARE Project Extension Component provides assistance in developing and using integrated mass communication strategies to strengthen communication support capability and performance at the national and ADD levels, and for strengthening linkages between research and extension. That assistance includes a communication pilot project in Mzuzu ADD. MARE will coordinate activities with the IDA Research Project and the IDA Extension and Planning Support Project, the latter of which also projects a mass communication pilot project in Mzuzu ADD.

The CTTA Project focuses on improving communication support in a selected "lead" or "pilot" region of each country in which it functions through developing and testing a 14-point iterative process of investigation, action, feedback and formative evaluation, monitoring, and adjustment. This is the first stage in adaptation and extension of the tested methodology to other regions of the country. (A substantive set of diffusion activities organized through CTTA will accelerate the sharing of experience gained and methodologies developed among the participating countries, and more broadly.)

Thus, MARE Extension Component and CTTA designs essentially coincide in at least three important areas: 1) the development and use of integrated mass communication strategies to strengthen Extension capability and performance; 2) a pilot project concept; and 3) institutionalization and expansion of methodologies and approaches developed and tested in the pilot project to other regions of the country. The CTTA design goes beyond that of the MARE Extension Component, however, to include a systematic, well-defined iterative process for developing, testing and implementing farmer-oriented mass communication

III. MARE PROJECT EXTENSION COMPONENT OBJECTIVES

The MARE Project purpose is to strengthen the MOA's institutional capacity and performance with respect to increasing the production and incomes of smallholders through a technology development-testing-transfer system. The project's extension component objective is to strengthen Extension institutional capacity and its effectiveness in transferring improved agricultural technologies to small farmers through alleviation of four major constraints, of which ineffective communication support and inadequate Extension-Research-Farmer-Agrosupport linkages are two.

That objective is completely consistent with the CTTA global objective of assisting in developing the capacity for and effective use of communication in support of agricultural technology transfer programs. CTTA activity in Malawi will be directed toward contributing to achievement of the MARE "communication support" and "linkage" objectives.

IV. PARTICIPATING INSTITUTIONS AND PROJECTS

A number of Malawi institutions and external donor assistance projects are involved in strengthening the country's extension institutional capacity and performance. CTTA activities and inputs must be associated and coordinated with all to achieve efficient management of project assistance and to avoid duplication of effort. The principal such institutions and projects are identified below.

A. Ministry of Agriculture

The primary relationship of CTTA, under coordination of the MARE contractor, will be with the Ministry of Agriculture.

1. Department of Agriculture (DOA)

The Extension Service and Extension Aids Branch, with which CTTA activities will be most closely related, are under the purview of the DOA. All major planning and implementation decisions must be approved and coordinated by the Chief Agricultural Officer (CAO). Involvement and approval of the CAO are also vital in establishing linkages and lines of communication among other divisions of the DOA and with other departments and agencies of the Ministry.

2. Extension Aids Branch (EAB)

The Extension Aids Branch of the DOA, established in 1958 to provide communication support to the MOA at the national level, will be the national level institutional base for the CTTA component. All planning and implementation of CTTA inputs and activities will be developed in collaboration with and coordinated by the Extension Aids Branch at the national level, subject to approval of the EAB Head and Chief Agricultural Officer.

3. Department of Agricultural Research (DAR)

Although the CTTA component will relate most closely to the DOA as described above, involvement with the Department of Agricultural Research will be required for development of technical message content of communication interventions, and for strengthening research-extension-farmer-agrosupport sector linkages and the two-way flow of information between and among them. The national coordinator of adaptive research will be particularly crucial in this regard. Development of such involvement and linkages will be accomplished through the Extension Aids Branch and DOA.

4. Training Unit

The MOA Training Unit will have responsibility for coordinating all training of Ministry staff, including the in-service training which will be an element of the CTTA approach (see Section VB).

B. Mzuzu Agricultural Development Division (MZADD)

Extension in Malawi has been decentralized, and functions through a system of Agricultural Development Divisions to permit concentration of program development and operations at the regional and local levels. The regional

institutional base for the CTTA component will be the Mzuzu ADD in which the "lead" or pilot project will be implemented as the first step in extending methodologies for improving communication support to extension into all ADDs.

C. Malawi Agricultural Research and Extension Project (MARE)

The USAID/L-funded MARE Project consists of three components: Research, Extension, and Training. The CTTA Project in Malawi will function as a part of the MARE Extension Component.

1. MARE Contract

Technical services for the Research and Extension components of MARE will be provided through an AID contract. CTTA inputs and activities will be associated with the Extension component, and will function under the coordination of the MARE contract. The manner in which this will be accomplished is described in Section VF.

2. Training Component

A wide range of training activities, including both off-shore and in-country training, will also be supported under the MARE Project. This support will be provided separately from the above-cited contract. CTTA activity will include participation in (and leadership, in some cases, particularly at the ADD level) communication-related training. Such activity will be coordinated with and through the MARE contract.

D. USAID/Lilongwe

All MARE Project activities will be planned and implemented under the general supervision of and with approval of USAID/L. For purposes of efficient management, however, CTTA activities will be considered by the Mission as a component of the MARE Extension Component for which the MARE contractor will have responsibility. An exception will be CTTA activities that precede implementation of the MARE contract.

E. IDA Projects

The MARE Extension Component, including the CTTA activity, will complement and coordinate with the Agricultural Extension and Planning Support Project, and will benefit from several IDA project inputs. The planning support and training inputs of this IDA project, and the institutional development and adaptive research inputs of the IDA National Agricultural Research Project will facilitate development of research and extension linkages. They will also increase the capacity of the research/extension system to identify local problems and develop locally adapted improved technologies, and strengthen Extension's capacity to plan programs and upgrade staff competence. The credit input of the first-mentioned IDA project will enable more smallholders to utilize high-potential technologies which require purchased inputs, thus expanding the potential target audience for technological information. Assistance provided by the IDA Extension Project at the ADD level will be concentrated in Mzuzu ADD, the site of the CTTA mass communication pilot project.

F. Other collaborating institutions

In addition to the institutions and projects identified above, CTTA will also collaborate to the extent possible, through coordination by the MARE Contract, with educational and training institutions such as Bunda College and the Natural Resources College (NRC)--whose graduates, diplomates and certificate holders provide the source of manpower for Extension--in strengthening their study programs in the areas of communication planning and support. CTTA will also seek to draw upon the experience, findings and trained personnel of Bunda College, NRC, the University of Malawi Social Science Research Institute, and other appropriate institutions in conducting a summative evaluation of Mzuzu pilot project impact (see Section VE). In addition, CTTA will maintain linkages, and collaborate as appropriate, with other international institutions and projects such as the IARCs and INTERPAKS, and with other private and public sector institutions and agencies in Malawi.

G. Linkages, coordination, collaboration

In summary, CTTA participation in Malawi will involve establishing linkages, coordination and collaboration with a series of host country and external donor institutions and projects. Mechanisms through which this will be accomplished are presented in Section VF below.

V. CTTA PROJECT DESCRIPTION

The principal CTTA area of activity, in conjunction with the MARE Project Extension Component, will be development and testing of integrated mass communication strategies that provide improved communication support to extension programs. That activity will be concentrated initially in Mzuzu ADD (MZADD) which will serve for a period of two to three years as the "lead" or pilot region for adaptation, refinement and testing of a systematic investigation-action-feedback and formative evaluation-monitoring-adjustment process for developing and implementing such strategies. Beginning in the second project year, CTTA will collaborate with the MARE contractor in providing assistance for extension of methodologies developed in MZADD to other ADDs, a process that will continue throughout the life of the project.

The Extension Aids Branch (EAB) in the Department of Agriculture (DOA) of the Ministry of Agriculture (MOA) at the national level, and the MZADD at the regional level, will constitute the CTTA's institutional base. All in-country CTTA activity will be carried out in collaboration with the EAB and MZADD.

Initial CTTA activity will precede negotiation and implementation of the projected MARE contract. During this period, CTTA will have dual responsibility for providing assistance to the Extension Aids Branch and to the MZADD pilot activity. Upon arrival in-country of the MARE Contract team, CTTA's responsibility will be focused on the Mzuzu pilot region, and CTTA in-country activities will be coordinated through the MARE Contract as described in Section VI.

A. CTTA Project objectives

As pointed out in Section III, the overall CTTA goal is completely consistent with that of the MARE Project Extension Component. Stated more fully, the overall CTTA objective is to develop and test methodologies and communication strategies (including the integrated use of mass media--such as radio--print and interpersonal channels) that effectively support extension in achieving the transfer of appropriate agricultural technologies from research to the farmers.

Within this overall objective, specific CTTA objectives include:

- o To develop integrated communication strategies--synthesized from state of the art use of communication in the agricultural and other sectors such as health and education, state of the art development communication, and relevant concepts from social marketing, behavioral science, behavioral analysis and formative evaluation.
- o To develop and test an iterative process (methodology) for developing, applying and sustaining the use of such improved communication strategies in support of technology transfer programs that can be continued by LDC governments after the project has been completed.
- o To institutionalize the communication support methodologies developed and tested in a pilot region to the point that they are being extended into other regions of the country.

B. Methodology overview

The basic methodology to be developed and tested by CTTA in the MZADD pilot project (and worldwide) consists of an iterative 14-component process for the systematic development and implementation of communication strategies that increase the capability of technology development and transfer systems to respond to the technology needs of developing country farmers. These components are not necessarily sequential in terms of action required. On the contrary, they are highly interrelated and will be part of a continuous process of investigation, action, formative evaluation, monitoring, and adjustment that requires involvement of extension, research and others in addition to the communication staff.

Since a basic element of the CTTA strategy is development of communication support programs that LDC governments can continue after the project is completed, CTTA will function within existing institutions as indicated in Section IV above. The project will provide only the minimum technical assistance required to train and work with host country staff in planning and implementing the 14-component process--with emphasis on in-service and on-the-job training. Although major focus will be at the regional level (MZADD), the Extension Aids Branch will be substantively involved throughout, and will provide leadership to institutionalization and extension of the methodology into other ADDs in the country.

The CTTA process components to be utilized in the MZADD pilot activity are described briefly below.

1. Identification of new and underutilized agricultural technologies

Selection of the specific agricultural technologies to be used in communication interventions with farmers will involve:

- o Detailed analysis with researchers and extensionists of available technologies to determine--from the perspective of research and extension--if the technology is scientifically sound and adapted to the pilot region, economically viable, practical, and dependable (the risk factor is acceptable).
- o Target audience analysis, developmental investigation and product/feasibility testing to determine farmer reactions and potential receptivity to the technology.
- o Surveys of public and private sector agrosupport institutions and firms to determine whether or not the inputs, credit, marketing, and other goods and services required to enable the farmers to adopt the technology are or can be made available to them in adequate and timely fashion.

This is an iterative process that will be necessary for each technology considered for inclusion in the communication interventions. It is complementary to and will build upon the farming systems approach to identification of local technological problems, and will be carried out in close coordination and collaboration with the adaptive research team in the region (when that team becomes operational).

2. Target audience analysis and developmental investigation

The CTTA communication program development process begins with investigation of the characteristics of the farmers who comprise the target audience, the forms in which technological information should be packaged to make it acceptable to and understood by farmers, and the ways in which farmers receive and attach credibility to agricultural information. Such investigations are essential for developing a farmer-oriented communication program--its ultimate success will depend significantly upon the communication team's knowledge and assessment of:

- o The target farmers' current agricultural knowledge, attitudes and practices, particularly as they relate to the particular technologies to be included in the communication intervention.
- o The constraints--whether social, economic, physical, or political--which limit the opportunity for farmers to change their knowledge, attitudes, and practices which relate to the new technology.

Although the primary target audience will be the farmer, program success also will depend upon such secondary audiences as researchers, input and service providers and retailers in the agrosupport sector, markets and cooperatives, government policymakers, and agricultural leaders. Finally, the developmental investigation must yield information about the agricultural research and extension systems and the existing communication and media system.

Some of the needed information will be available from adaptive research team and other studies, or can be obtained from host country staff. Well-designed and conducted investigations will be required to obtain other types of information and verify existing data. The specific developmental investigation design will vary depending upon local cultural and social sensitivities, the existing knowledge base concerning the pilot region and its population, ancillary information available, resources and expertise available to the project, and ease of access to and within the pilot region. It will, however, include a combination of methods and techniques adapted from several social science disciplines to obtain the maximum amount of relevant information rapidly at an affordable cost. Research instruments appropriate for use in the developmental investigation include:

- o Reviews of existing data and information.
- o Focus group interviews.
- o In-depth interviews.
- o Observations through field visits.
- o Central location (intercept) interviews.
- o Other small sample surveys.
- o Ethnographics (a structured system for investigating the relatedness of practices within a total cultural context).

To summarize, the target audience and developmental investigation phase will provide knowledge and understanding about target audience characteristics, the agricultural extension and research systems, and the communication and media system. The design of such investigations will take local social and cultural sensitivities into consideration and include the research instruments most appropriate for obtaining the information needed. This is an iterative process that will be linked closely to formative evaluation as the project progresses. CTTA staff will collaborate with the EAB Evaluation and Action Research Section

in planning and directing target audience analysis and developmental investigation studies.

3. Planning and strategy development

Data collected and analyzed during the developmental investigation stage will provide the basis for planning and strategy development which encompass:

- o Establishing a behavioral framework for the technology transfer to be undertaken.
- o Setting clear and measurable behavioral objectives.
- o Segmenting the target audience (taking into account two types of audience segmentation: within the target audience of farmers; and between the project's primary and secondary audiences).
- o Specifying the communication and other marketing strategies to be used in the program, including use of social marketing concepts; with all 14 components of the CTTA process organized and integrated into a comprehensive strategy for action.

The support of relevant authorities and the agrosupport sector will be developed, and resources allocated for the various elements of the plan during this stage.

Major components of the comprehensive communication strategy will include:

- o Message content development for targeted change.
- o Media selection for interrelated communication (broadcast, graphic and print media, and interpersonal channels).
- o Interaction with on-farm trials and demonstrations.
- o Educational programming system to:
 - * develop message content;
 - * schedule, design, pretest, produce, and distribute materials in all media on time and synchronized with the agricultural cycle;
 - * analyze, interpret, and use results of feedback, product/concept testing and formative evaluation to improve the quality of materials produced;
 - * effectively use technical guidance from agricultural, behavioral and communication research and researchers in the development of educational (information) materials relevant to technology transfer objectives that are sharply focused on and presented in a manner appropriate to the intended audience.
- o Feedforward and feedback.
- o Formative evaluation to determine whether the messages disseminated to farmers have been timely, well received and understood, and

whether the elements of the program are working as planned

- o Staff training and support.
- o Coordination and networking.

The final step in the first round of planning and strategy development will be preparation of an integrated action plan which will provide the blueprint for project implementation. The action plan must be dynamic--under continual review and modified at any time in which information from the various monitoring techniques reveals areas, procedures or materials that are deficient or where changes can be made to increase program effectiveness. A major review, revision and updating of the action plan will be carried out annually.

4. Product/concept testing

Product testing, basically aimed at providing corporate management with meaningful feedback on the probable acceptance of their products in the marketplace, has long had a major role in commercial marketing research. Social marketers have started to explore how this concept can be applied to agricultural extension and technology transfer. In the CTTA context, it relates to the transformation of information from the agricultural research institution into a straightforward, interrelated set of messages for transferring the technology to the target audience, taking into consideration such issues as perceived risks and benefits, ease of management, dependability, and appropriateness of the technology. As applied in CTTA, product testing will also consider issues of correct usage in field applications.

Feasibility testing in which approaches, strategies and systems are tested systematically under actual field or market conditions is closely related to product testing. On-farm trials conducted by researchers in collaboration with extensionists and farmers, and result demonstrations conducted by extension, are important types of feasibility testing of new technologies and practices.

A second application of the product and feasibility testing technique will involve the introduction of new instructional materials, dissemination channels or formats. While detailed format and channel testing are part of pretesting (see step no. 5 below), some type of feasibility testing is needed and will be done in collaboration with the EAB Evaluation and Action Research Section prior to making significant investments in media design and production.

5. Materials development and testing

Results from all of the foregoing steps will be utilized in development of materials in the various media included in the communication strategy. Production and dissemination schedules will remain flexible to adjust to unforeseen situations, and cost factors will be taken into consideration in making decisions concerning media and format selections. The types of materials to be produced will depend upon availability of resources and expertise available to the project.

Pretesting will be an integral part of the materials development process. Although knowledge of audience characteristics, etc., determined through developmental investigation and other techniques, will provide guidance in

developing appropriate and acceptable (from the farmers' perspective) materials, production staff's interpretation of those results will still require verification.

The volume of materials to be produced will preclude the pretesting of every piece of media material produced and used in the communication interventions. Nevertheless, prototypical materials--particularly those representing the most innovative strategies, formats and vocabulary--must be pretested regularly and materials revised as necessary in accordance with pretest results before final production and use in the communication interventions. Pretesting will be planned and directed at the national level by the EAB Evaluation and Action Research Section with involvement of media production staff. At the regional level, the ADD Extension Aids Unit (EAU) evaluation assistant will pretest locally produced materials under the general guidance and supervision of the EAB Evaluation and Action Research Section.

6. Program implementation and ongoing monitoring

Three factors will assume overriding importance as the communication support program moves into full action, using multimedia messages produced, tested and disseminated according to plan:

- o Overall program management.
- o Distribution of media materials to the point of dissemination, and verification that they are used as programmed.
- o Ongoing program monitoring.

Careful monitoring of the project's performance will be an ongoing activity in recognition of the fact that it can never be assumed that the program is functioning as planned.

7. Formative evaluation

Formative evaluation, as defined for purposes of the CTTA methodology, will differ from developmental investigation in that it will follow the project in progress to:

- o Determine whether the messages disseminated to farmers have been timely and well received, and whether the various elements of the program are functioning as planned.
- o Assess such factors as the attitudes of farmers about the usefulness and practicability of the technologies included in the messages disseminated, and whether the messages have been understood.

Techniques and methodologies used in developmental investigation will also be used in formative evaluation studies, as well as more conventional techniques such as KAP (knowledge-attitude-practice) studies. Results obtained through formative evaluation will be correlated with those from developmental investigation. Both developmental investigation and formative evaluation, for which the EAB Evaluation and Action Research Section will have primary responsibility, will continue throughout the life of the project.

8. Review, replanning, adjustment

The entire communication process represented by the 14 components is iterative and the components are highly interrelated as has been emphasized earlier. There can be no letup in monitoring of program performance and in responding with appropriate interventions.

Replanning and action to respond to all information collected from developmental investigation, product and feasibility testing, feedback, and formative evaluation will be continuing activities; and adjustments will be made whenever such information reveals the need. Program performance will be reviewed in depth annually prior to updating the integrated action plan for the following year. CTTA will collaborate with MZADD, EAB, and the MARE contractor in this set of activities.

9. Management

The importance of efficient management cannot be overemphasized. The communication program will be complex in that it involves an array of functions and institutional involvements. It will be demanding in that all functions must proceed in appropriate sequence with several underway concurrently. The communication interventions will be highly time-specific and must adhere to a tight schedule. Effective coordination of all project activities will be essential.

CTTA will, as part of the MARE Project Extension Component coordinated by the MARE contract, participate with MZADD, EAB and DOA, and collaborate with the IDA Extension and Planning Support Project in analyzing the present communication-related internal management structure and lines of communication, and develop recommendations, if needed, for streamlining and strengthening it.

10. Interinstitutional coordination and collaboration

Although the institutional base for CTTA in Malawi will be MZADD at the regional level and the EAB at the national level, and CTTA activities will be coordinated with the MOA through the MARE contract, effective coordination and collaboration with an array of other institutions will be essential to success in developing and testing the methodologies described in this section. In addition to agriculturally related institutions, others will include educational, governmental, and private institutions, programs, projects, and individuals from sectors outside agriculture who can provide the social and behavioral science, social marketing, psychology and anthropology expertise needed to provide technical guidance in such fields. Institutions in Malawi will be involved to the extent possible. Contact and coordination will also be maintained, however, with regional and international institutions and programs such as the IARCs, INTERPAKS, social marketing organizations and programs (the leading U.S. social marketing firm is a collaborating institution with AED in the CTTA contract), and universities.

Intrainstitutional coordination and collaboration will also be required for successful development, testing, institutionalization, and extension of the CTTA methodology. Development of working relations and coordination with extension workers at each level and with collaborating projects will be

particularly crucial.

11. Networking

The need for an uninterrupted and rapid two-way flow of reliable information among farmers and rural communities, extension, research and agrosupport institutions, and decision- and policymakers has been stressed repeatedly. The various activities and coordination mechanisms included in the CTTA 14-component process will provide the basis for development of viable networking procedures. CTTA, through the MARE contract, will participate with the MOA in developing and managing a strengthened communication network. Leaders of other relevant projects and programs, USAID/L, and the AID/S&T CTTA project manager and co-managers will be included in the network as appropriate to keep them fully informed of project progress, activities, and developing situations in the MZADD pilot region.

The CTTA network will also extend beyond the boundaries of Malawi to include other institutions such as those identified in step no. 10 above.

12. In-service training

The CTTA process places high priority on staff training. In general, two categories of training will be required to achieve CTTA (and MARE Extension Component) objectives: 1) comprehensive training in communication planning, strategies and management of a cadre of Malawian counterpart professionals to provide ongoing leadership to the institutionalization of the process into the technology diffusion system; and 2) training within the project of communication staff, extension workers, and others required for successful implementation of the program to be developed.

The counterpart professional group will include those in positions of leadership and authority in the EAB and MZADD who comprise the internal project management team. The major training approach used with this group will be "gaining experience and confidence through doing", supplemented by appropriate training opportunities provided through other projects and programs. In the case of certain key individuals, specialized off-shore training will be provided through the MARE Training Component. The resident communication advisors provided through the MARE and CTTA contracts will provide leadership in developing this counterpart professional group. It is essential that activities of the two advisors be fully coordinated and compatible for achievement of this objective.

A significant core of experienced professional agricultural communication leadership and expertise already exists in the EAB. Therefore, the major emphasis of CTTA in working with this group will be to broaden their perspective and understanding of integrated communication planning and strategies which take full advantage of: up-to-date agricultural communication concepts, methodologies and skills; experience gained from communication support programs in other sectors such as health and education; and relevant concepts from the social sciences, particularly behavioral analysis and social marketing.

The larger training task will be that of in-service training of EAB and MZADD communication unit staff, extension workers, and others involved in the investigative, intervention, and formative evaluation phases of project

implementation. These training needs can be roughly divided into two types: technical skills training (such as scriptwriting or new techniques for graphic production) for EAB and ADD communication unit staffs; and communication skills and agricultural technology training needed by extension workers and other technology diffusion agents upon whom the program must rely for training of farmers through interpersonal channels. The latter group also need to know how to relate their work to other media through which the same technical messages are being disseminated.

The EAB already has a cadre of staff who are trained and experienced in developing and producing materials in most, if not all, of the media to be used in the anticipated communication interventions. Such expertise will be reinforced through introducing newer techniques made possible by equipment to be procured under the MARE Project, and in areas such as developing technical message content, preparing messages targeted for specific audiences, and formative evaluation (evaluation and action research in EAB parlance). The MARE contract will provide technical assistance for training in production skills, and a small amount of specialized off-shore training will be provided under the MARE Training Component. Technical assistance provided through CTTA will concentrate on training in formative evaluation and written communication, coordinated with the MOA training unit through the MARE contract.

ADD communication unit staff will require more intensive training in production and other communication related skills. Such training will be provided principally by the EAB, with assistance from both MARE and CTTA long and short term advisors.

In general, training of extension workers and other potential diffusion agents in communication skills and technical agriculture will be incorporated into training programs organized and coordinated by the MOA Training Unit. EAB staff and long and short term advisors provided under the MARE and CTTA contracts will serve as co-instructors for communication skills training. In addition, CTTA will provide leadership and assist in communication skills training related to the CTTA process for MZADD extension staff.

13. Training "field trials"

New concepts and materials will be introduced into both staff and farmer training which will need testing in use (analogous to testing of materials as discussed in step no. 5). The CTTA 14-component process includes training "field trials" in which experienced observers will observe training sessions in progress to determine what actually happens, the interaction between the trainer and the participants, and reactions of the participants to the teaching methodology and materials being used. Where possible, an observer team which includes a behaviorist and a communication specialist will be used for this purpose.

14. Institutionalization

Institutionalization of the methods, approaches and procedures developed in the pilot region will be a major CTTA objective toward which virtually all project activities will contribute. By the end of the project, it is anticipated that Malawian staff will be sufficiently competent in the methodology and process to continue to use it effectively in their ongoing technology transfer system and programs, and that the process will have become institutionalized to the point

that it is reflected in policy and/or management statements, plans for future year activities and resource allocations. (See Section VI for a more quantitative statement of expected project outputs regarding institutionalization and expansion.)

C. Pilot site selection

Mzuzu Agricultural Development Division (MZADD) was selected for the pilot project site during development of the IDA Extension and Planning Support Project and the USAID MARE Project. MZADD meets the criteria for CTTA pilot region selection (attached as Appendix A) sufficiently well to make it acceptable also as a CTTA Project pilot region. Therefore, selected portions of MZADD will be used as the site for the MARE/CTTA "lead" or pilot mass communication project.

MZADD, located in the northern region of Malawi, covers three districts: Rumphi, Mzimba and Nkhata Bay. The three districts have a total area of 19,276 sq. km., of which 13,312 are available to smallholder farmers. An estimated nine percent, 1,222 sq. km. was cultivated in 1983/84. The smallholder population was estimated at 471,900 persons in 1984 with a population growth rate of almost 2.9 percent per year. With a mean household size of just over five people, this represented 94,030 households.

Agriculture predominates the smallholder economy in all areas except the Nkhata Bay Lakeshore where fishing is a major occupation. (The Nkhata Bay District will not be included in intensive pilot project activities for at least the initial year of the project). In the other two districts, maize is the predominant crop, occupying nearly three quarters of the cultivated area. Other important crops include groundnuts, pulses and finger millet. Cotton and two types of tobacco--oriental and dark fire cured--are locally important, with oriental tobacco being the most widespread non-edible cash crop. Livestock are important in Rumphi and Mzimba Districts where ox power is of increasing importance.

Most intensive pilot project activity will be concentrated in two donor-assisted Rural Development Projects (RDPs) at the outset in which an estimated 25,400 farm families had already been benefited by 1983/84. Two to three Extension Planning Areas (EPAs) in which the block (modified Training and Visit) system has been installed will be utilized in each of the selected RDPs for most intensive data collection and summative evaluation studies.

D. Technology transfer objectives

As indicated earlier, CTTA will focus on specific farming practices and behavior in developing and testing its 14-component process for planning and implementing integrated multimedia communication strategies in support of extension. The case study evaluation described in Section VE below will be based on change with respect to selected new and/or underutilized agricultural technologies used in the pilot region communication interventions.

The agricultural technologies to be included in pilot region communication interventions will be selected through the process outlined in Section VBI. An illustrative list of such technologies, obtained through interviews with MZADD Subject Matter Specialists and the Chief and Deputy Chief Agricultural Research Officers, and which must be verified before inclusion in the program, is given below.

Maize production

Proper and early seedbed preparation and spacing. It has been reported that yield increases of about 15 percent may be obtained through use of proper between-ridge spacings as compared to the most common ridge spacing presently used by farmers.

Early planting (with the first rains). Where fertilizer is used, plantings made before mid-December have been reported to yield up to 50 percent more than plantings made after mid-January. (The possibility of forecasting production prospects and, consequently, risk associated with use of inputs based on onset of the rains may also be worthy of investigation.)

Weed control. Although increases obtained are variable depending upon rainfall, proper weeding reportedly has the potential for yield increases of up to 20-30 percent.

Farmyard manure. Based on limited trials, yield increases of up to 40 percent can be obtained from the application of 10-20 tons/ha. of farmyard manure where no chemical fertilizer is applied.

Finger millet

There is considerable scope for increasing acreages and yields of finger millet (used for brewing) without exceeding demand. Varieties with the potential for producing up to six metric tons/ha. are available for this crop which requires only medium input levels.

Sorghum

Sorghum was earlier a traditional crop that has been replaced by maize. Sorghum is more efficient to produce than maize, and one of the earlier problems--undesirable flour color--can now be overcome by dehulling.

Alley cropping

Work done on alley cropping, using leucena, was highly promising. The results were published, but there has apparently been no extension or research followup.

Liming

Data on liming acid soils have shown excellent yield responses for maize, groundnuts and legumes (many of the Mzuzu soils are highly acid). Production increases of 100 percent for maize and up to 70 percent for groundnuts (the groundnut increase is due about equally to yield and shelling percentage increases) have been reported. Lime is available in Malawi, but the economics of lime application have not yet been firmly established.

Soil analysis

Rapidly rising fertilizer prices make the economics of applying the full recommended amounts of fertilizer to all crops questionable. Farmers could obtain guidance as to the most appropriate amount of fertilizer to use under such circumstances through a soil analysis which can be obtained free of charge. However, soil samples must be submitted before September to assure that results will be obtained by the time of planting. Though the need is evident, the number of samples submitted by farmers has tended to decrease in the recent past.

Although all of the above technologies appear promising, they will require analysis and verification as outlined in Section VB1 before being accepted for use in pilot region communication interventions. That analysis must include not only the viability and adaptation of the technology itself and potential farmer acceptance, but also non-technological factors such as availability of needed inputs, profitability, access to markets, price, demand, and risk. In addition to the national sources of technological information, technologies developed by the International Agricultural Research Centers (IARCs), Collaborative Research Support Projects (CRSPs), and other international and regional programs will also be considered.

E. Summative evaluation

A case study summative evaluation of MZADD pilot mass communication project results will be made by Applied Communication Technology, Inc. (ACT) under subcontract to the Academy for Educational Development, the CTTA Project prime contractor. Personnel and operating expenses for this evaluation will be provided by CTTA, although it is anticipated that Malawian expertise will be involved to the extent possible.

The evaluation design will be developed by ACT, based on the implementation and integrated action plans. In general terms, the evaluation plan will be developed in late 1986, the first survey will be conducted in late 1987 and the second in late 1988. If the CTTA component is extended, the third and final survey will be conducted in late 1989. Reports of each study will be reported two to three months after completion of data collection.

F. MARE/CTTA/MOA responsibilities and relationships

CTTA services and personnel in-country will be coordinated and supervised by the MARE contract in collaboration with the EAB with respect to administrative matters within the MOA. These will include such activities as scheduling in-service training events, submissions of official reports to the MOA, obtaining clearances for short term technical assistance, and integration of CTTA workplans into the total extension component workplan.

The CTTA Contractor will provide technical supervision through its headquarters and collaborating universities and firms in the United States. This will include supervision of: the methodology used in adapting and testing the 14-component communication process (described in Section VB) through the Mzuzu pilot project; design, conduct and analysis of the case study summative evaluation; and technical content of reports and other documents generated by the CTTA-provided short and long term technical assistance. It will also include nomination and orientation of candidates for CTTA-provided technical assistance positions.

Assistance provided by the CTTA Contractor through the MARE Project, for which authorization will be granted through a MARE Project Implementation Letter approved by the GOM and USAID, will be directed toward the integration of improved mass communication support into MOA agricultural extension programs dedicated to the transfer of new, improved, and/or underutilized agricultural technologies to smallholder farmers in Malawi by;

- o Developing and testing methodologies to provide improved integrated multimedia support to said extension programs, using Mzuzu Agricultural Development Division (MZADD) as the lead site for such development and testing.
- o Extending the tested methodologies into other ADDs in stages to improve communication support to agricultural extension programs throughout Malawi.

The specific objectives toward which CTTA-provided assistance will contribute include:

- o To adapt and test in a lead region (MZADD) an iterative process for developing, applying and sustaining the use of improved communication strategies (integrated into extension programs) in support of technology transfer.
- o To evaluate the impact of the communication interventions in MZADD.
- o To institutionalize the communication support methodologies developed and tested in MZADD, and to introduce them by stages into the other seven ADDs.
- o To disseminate findings about program methodologies and impact to the professional agricultural community. The MOA will have responsibility for such dissemination within Malawi, and the CTTA Project will disseminate findings outside Malawi following prepublication review by the MOA.

An important aspect of the CTTA-provided assistance will be the integration of long term systematic communication planning, design and management into the MOA training and education system.

The specific services to be provided to the MARE Project by the CTTA Contractor to accomplish all of the above are detailed in Section VII, and funding arrangements are shown in Section IX.

Information copies of CTTA-generated reports will be provided to the MOA and USAID/L; and the CTTA Contractor will welcome the opportunity to meet with the MOA and/or USAID/L on a regularly scheduled basis and/or as requested to respond to questions and to interact concerning current or anticipated activities (and problems).

Government of Malawi responsibilities for support and cooperation related to assistance provided to the MARE Project through the CTTA Project will include:

- o Provision of a fulltime counterpart who will work with the CTTA-provided long term Agricultural Communication Advisor in planning and implementing activities required to accomplish the specific objectives cited above, and in coordinating such activities with other MOA entities as needed for the purposes of the MZADD pilot project, its institutionalization and spread. It is assumed that the Head of the MZADD Extension Aids Unit (EAU) will be assigned this function at the pilot project level, and that the Head of EAB or his designee will, in addition, serve as partime counterpart at the national level.
- o Provision of office space--including utilities, furniture and telephone lines--for the CTTA-provided long term advisor and short term consultants and such national staff as the long term advisor may require to fulfill his responsibilities.
- o Provision of secretarial assistance for preparation of texts, etc., used in the MZADD pilot activities; except for reports and maintenance of records specifically required under the CTTA Project, for which assistance will be provided by CTTA.
- o Provision of materials and supplies utilized for ongoing extension and related activities, other than new types of materials designed and produced for testing in the pilot project.
- o Assistance as required to assure the full cooperation and collaboration of the EAB, MZADD and its EAU, other relevant entities within the MOA, and other relevant institutions and agencies.

CTTA-provided assistance to the MARE Project will be initiated by placing a long term Agricultural Communication Advisor in Malawi (headquartered in Mzuzu) as soon as the following conditions have been satisfied:

1. A Project Implementation Letter defining the nature and extent of responsibilities of the parties concerned has been approved by the GOM and AID.
2. This Project Implementation Plan has been approved by AID.

3. A candidate for the long term Agricultural Communication Advisor position nominated by the CTTA Contractor has been approved by the GOM, USAID/L and the CTTA Project Cognizant Technical Officer.

It is anticipated that initiation of CTTA assistance will precede implementation of the projected MARE Contract. During the interim period prior to MARE contract implementation, CTTA will have dual responsibility for providing assistance to both EAB and the MZADD pilot activity and will relate directly with the MOA. Once the MARE Contractor is in place in Malawi, mechanisms for coordination and supervision as described above will be developed jointly by the MARE and CTTA contractors in collaboration with the EAB and submitted to USAID, MOA and the CTTA Project Cognizant Technical Officer for review and concurrence.

Within six months of arrival at post of the CTTA-provided long term advisor, he/she and MZADD and EAB will jointly develop an integrated annual action plan (workplan) for submission to USAID and the CTTA Project Cognizant Technical Officer. (Subsequent annual plans will be prepared in a similar manner, except they they will be under the coordination of the MARE Project.)

VI. CTTA PROJECT OUTPUTS

Outputs of the CTTA component of the MARE Project will be a part of the Extension Component outputs, which will include:

1. Extension Aids Branch (EAB) and ADD Extension Aids Unit (EAU) activities will assist in increasing smallholder rates of adoption of improved technologies.

- a. Institutional capacity of the EAB and EAUs to plan and implement appropriate communication strategies will be developed.

By the end of project, an overall national communication strategy will be developed annually, based on Division-level strategies in each ADD and national needs identified in collaboration with research and extension. The Division-level strategies will be operative in at least half of the EPAs in Mzuzu ADD, and in one EPA in each of the other seven ADDs.

- b. The EAB/EAU capacity to design and conduct communication-related investigations, to pretest materials in various media, and to interpret and utilize the results of same to improve program effectiveness and impact will be strengthened.

By the end of MARE project, the EAB Evaluation/Action Research Section will be conducting up to 4 major studies and 16 smaller operational evaluation/pretest studies annually (including one or two small studies by each ADD EAU);, at least 15 percent of which are specifically directed toward women with the remainder including women in the sample of respondents.

- c. EAB/EAU capacity and linkages will be developed to collaborate with research, extension and agrosupport institutions in the development, production and dissemination of information to targeted audiences of men and women farmers and rural families, including information that is culturally acceptable, technically accurate and uptodate, that is localized to meet the specific needs and situations of those to whom it is directed, and that is synchronized with Extension's annual plan of work.

By the end of MARE project, the EAB and EAUs will have a combined annual output of about:

- 200 radio programs of 5-45 minutes each
- 20 bulletins
- 25 technical handbook sheets
- 6 bi-monthly issues of the farmer's magazine
- 25 leaflets
- 2 flipchart series
- 10 posters
- 2 slide sets with accompanying scripts
- 6 audio presentations with accompanying visuals
- 6 15-minute instructional videotapes

- d. A viable two-way information network will be developed for col-

lection and distribution of relevant information to, from, between, and among the various MOA entities and smallholder farmers.

By the end of the second year of project implementation, improved monthly feedback reports from EPAs will be collated, summarized and distributed on a national basis, interim reports of problems requiring immediate attention will move promptly to the relevant institution/s, and interchanges of information among the ADDs and other entities of the network will be improved.

- e. The EAB and EAU staff will be trained and competent to provide effective communication support at all levels within the MOA.

By the end of MARE project, the EAB and EAUs will have trained staff in all key positions in all required areas of expertise.

- f. EAB/EAU capacity for providing effective and relevant communication-related training to research, extension and agrosupport sector staff will be strengthened.

By the end of MARE project, EAB staff will be serving as instructors in ten training courses, and EAU staff in five training courses, annually.

- g. Extension institutional capacity to utilize research-extension linkages and communication support effectively to assist increased numbers of smallholders, specifically including women farmers, to increase their agricultural production and incomes will be developed.

By the end of MARE project, the present Extension clientele will have increased by roughly 25 percent, which will in turn lead to increased adoption rates.

- 2. A mass communication pilot project in one ADD will be developed for identifying effective strategies for information dissemination to the the other seven ADDs.

By the end of the third year of the project, a mass communication strategy relevant to Malawi will have been developed, and that strategy will have been introduced into at least one RDP in all ADDs by PACD.

Some of the benefits to be realized by the CTTA Project, within the context of the above MARE Extension Component outputs, will be direct and occur during the life of project; others will be indirect and occur over time. They may be summarized as follows:

Generation of knowledge about the role and effective use of communication to support technology development and transfer in agriculture; and about the process of institutionalization of program assistance and other investments for agricultural technology development and transfer.

2. Development of a process and methods for:
 - a. Integrating the capacities of several disciplines--including agricultural extension, development communication, behavioral analysis, and social marketing--for effective application in agricultural technology transfer.
 - b. Integrating the CTTA 14-component process into Malawi's research-extension-production-input supply-agricultural marketing system.
 - c. Adapting and transferring the methodologies developed and tested in Mzuzu to other regions of the country (and to other developing countries).
 - d. Evaluating the benefits and results of applying the improved communication methodology.
3. Improvement in agricultural production performance resulting from increased rates of adoption by smallholder farmers of improved technologies.
4. Improved and expanded communication networks.
5. Institutionalization and expansion of the methodologies developed and tested in the Mzuzu pilot activity.
6. A case study evaluation of project results to provide guidance in planning future expansion and projects.
7. Extensive project documentation, made available to national and international institutions and programs; and direct interaction with CTTA agricultural communication programs in other countries through Malawian participation in international diffusion meetings organized by CTTA.

VII. CTTA PROJECT INPUTS

CTTA Project inputs will supplement those provided directly by the MARE Contract, and will be directed primarily toward planning and implementation of the Mzuzu pilot activity except for the initial period prior to implementation of the MARE contract and otherwise as noted below.

A. Technical assistance

All technical assistance personnel provided by CTTA will have three major functions in their respective areas of expertise and responsibility: 1) staff training; 2) design, testing and implementation of improved mass communication strategies in the Mzuzu pilot project utilizing the CTTA 14-component process; and 3) extension of the pilot project methodology into all of Mzuzu ADD and into the other ADDs.

Technical assistance to be provided through CTTA will include:

1. <u>Long term</u>	<u>P. MOS.</u>
Resident advisor in agric. communications	24*
Subtotal - long term	<u>24*</u>
2. Short term (excluding summative evaluation)	
Developmental invest. and formative evaluation	7
Written communications	2
Use of instructional video in training	1
Communication equipment hardware	1.5
Sub-total - short term	<u>11.5</u>
TOTAL Technical assistance	<u>35.5</u>

* This position may be extended an additional year, under CTTA funding, if deemed necessary by MOA, CTTA Contractor and USAID to further the institutionalization process or support expansion into other ADDs.

The long term Advisor will have responsibility for providing, in collaboration with the EAB and MZADD EAU: 1) leadership in the design and implementation of the mass communication pilot project; 2) preparation of job descriptions for all CTTA-provided short term technical assistance assignments; 3) technical supervision of all CTTA-provided short term technical assistance personnel; 4) training related to the CTTA 14-component communication process; 5) assistance in development and management of the EAB/EAU total communication support system during the initial period prior to MARE Contract implementation; 6) preparation of an annual integrated action plan and reports required under the contract. In addition, the advisor will have responsibility for management and accountability of an imprest fund through which in-country expenditures will be made.

The short term Communication Equipment (Hardware) Specialist assignment will be

restricted to analysis of the provisional list of communication equipment needs identified during Project Paper development and attached as Appendix B, revision of the list as required, and preparation of detailed specifications for all communication-related equipment items to be procured under the MARE Extension Component.

All CTTA-provided long and short term personnel will serve in an advisory capacity, and will work in close collaboration with their GOM counterparts. As indicated in Section VF, coordination with MOA of all MARE Extension Component in-country activities, including those of CTTA, will be maintained by the MARE contract. Flexibility will be maintained to adjust timing, length and areas of responsibility of short term personnel to best meet project needs. For planning purposes, CTTA-provided technical assistance is projected as follows, and as indicated in the implementation schedule (see Section VIII).

Area of specialization	Person months				
	TOTAL	FY86	FY87	FY88	FY89
<u>1. Long term</u>					
Agricultural communication	24*	5	12	7**	***
<u>2. Short term</u>					
Developmental invest./formative eval.	7	3	3	1	
Written communications	2	1	1		
Use of instructional video in training	1		1		
Communication equipment (hardware)	1.5	1.5			
Subtotal - short term	11.5	5.5	5	1	0
TOTAL - all technical assistance	35.5	10.5	17	8	0

* May be increased to 36 under CTTA funding.

** Will increase to 12 if position extended.

*** Will increase to 7 if position extended.

Short term technical assistance needs will be reassessed during preparation of the annual integrated action plan, within the limits of total p.mos. indicated above.

As indicated earlier, the long term Agricultural Communication Advisor will collaborate with MZADD EAU and EAB in preparation of job descriptions for CTTA-provided short term consultants. Two such assignments are scheduled either before or shortly after the arrival of the long term Advisor, however. Scopes of Work for the long term Advisor and these two short term consultants--Communication Equipment (Hardware) Specialist and Evaluation Specialist--are given below.

Long Term Agricultural Communication Advisor

The long term Advisor will live and be headquartered in Mzuzu. Due to the necessity for EAB to be substantively involved in the MZADD pilot project and the responsibility of the long term Advisor to assist the EAB prior to MARE contract implementation, however, the Advisor will divide his/her time between Mzuzu and Lilongwe during initial months in the country approximately as follows:

Month One	-	1 week in Mzuzu, 3 weeks in Lilongwe
Month Two	-	2 weeks in Mzuzu, 2 weeks in Lilongwe
Month Three	-	3 weeks in Mzuzu, 1 week in Lilongwe
Thereafter	-	3 weeks/mo. minimum in Mzuzu

The responsibilities of the CTTA-provided long term Agricultural Communication Advisor will include:

1. Coordination of on-site implementation activities with in-country agencies and institutions as specified in this Project Implementation Plan.
2. Organization and direction of the implementation plan for the communication strategy and interventions, in collaboration with Malawian counterparts.
3. Participation in and contribution to the media production aspects of the communication support program.
4. In-service training of collaborating ADD staff and assistance in organization of the MZADD EAU to carry out the pilot project, and to institutionalize that capacity within the ADD and EAB.
5. Collaboration in implementation of feedback and other formative evaluation methods for the pilot project.
6. Oversight of use of the methodology combining behavioral analysis, social marketing, agricultural extension, and developmental investigation, in collaboration with Malawian counterparts.
7. Coordination of site implementation and formative evaluation activities with summative evaluation activities.
8. Participation in the selection and drafting of specific agricultural technology messages, and in the pretesting and product testing of those messages and materials.
9. Regular communication with the CTTA Project Director and Associate Project Directors.
10. Regular review and reporting on pilot project progress to USAID and CTTA Contractor headquarters.
11. Contributions to project reports and documentation, preparation of materials for project diffusion activities, and writing for professional publications under the CTTA Project.

12. Attendance at annual project seminars, together with a Malawian counterpart.

In addition to the above technical and general coordination tasks, the advisor will be responsible for a number of CTTA Project administrative functions such as:

1. Maintenance of project imprest fund for disbursements and accounting of in-country expenditures.
2. Scheduling and support arrangements for short term consultants while in Malawi.
3. Hiring and supervision of CTTA-provided local administrative staff (secretary, driver, coders, interviewers, etc.) as needed to supplement such staff provided by MZADD and EAB.

Short Term Communication Equipment (Hardware) Specialist

The Hardware Specialist, headquartered with the EAB, will be responsible for reviewing, refining and developing specifications for all communication-related equipment specified for the MARE Extension Component (list attached as Appendix B), in collaboration with the EAB, and with review and concurrence of USAID/L. More specifically, the Specialist will:

1. In collaboration with EAB, refine and modify the list of equipment items in Appendix B designated for EAB.
2. Visit each ADD EAU (8 in all) to survey existing equipment and prepare, in collaboration with EAU staff and an EAB representative, a detailed list of equipment items required for each to bring all EAUs to the level indicated for the EAUs in Appendix B.
3. Develop specifications for all equipment items to be procured for the EAB and EAUs, taking into consideration source and origin requirements, maintenance and repair needs and facilities, and local availability of materials and supplies required for equipment operation. Such specifications will be of sufficient detail and presented in such a form that they can be used by a procurement agent to initiate procurement in accordance with AID and relevant Host Country regulations. In no case is the total estimated cost of equipment to exceed the total indicated for each category in Appendix B (EAB, EAUs) without the express approval of USAID/L.
4. Review existing communication equipment at Bunda College, in collaboration with Bunda College staff and EAB representative, and prepare a list of high priority equipment needs, the total cost of which does not exceed the amount indicated for Bunda College in Appendix B; and develop specifications for same as in "3" above.
5. Review existing communication equipment at the Natural Resources College (NRC), in collaboration with NRC staff and EAB representa-

tive, and prepare a list of high priority equipment needs, the total cost of which does not exceed the amount indicated for NRC in Appendix B; and develop specifications for same as in 'B' above.

In discharging the above-cited responsibilities, the Specialist will adhere closely to the items identified in Appendix B (with the exception of Bunda College and NRC for which individual equipment items are not specified), making only such modifications in equipment type, specifications, and numbers of units as may be needed to take into consideration the various factors indicated above, substitutions of newer models that are more efficient, and circumstances which have changed since preparation of the list given in Appendix B (e.g., equipment received through GOM purchase or from other donors).

Short Term Developmental Investigation and Formative Evaluation Specialist

The Evaluation Specialist will be associated most directly with the EAB Evaluation and Action Research Section (EARU) which will have principal responsibility for the design, conduct and analysis of results from these activities for the MZADD pilot project. Responsibilities of the Specialist, under the technical supervision of the long term Advisor and in collaboration with the EAB and MZADD, will include:

1. Training of EARU staff in developmental investigation and formative evaluation methods and procedures, including behavioral analysis, social marketing and related concepts and techniques relevant for application in the MZADD pilot project.
2. Design of target audience analysis and developmental investigation studies to be conducted in MZADD under the pilot project, training of local staff to be utilized in the studies, and supervision of data collection and analysis.
3. Development of comprehensive pretesting and formative evaluation plan for first year of MZADD pilot project operation, including identification of relationships with other pilot project components; and instruct EARU and EAU staff in its implementation and use to be made of results obtained.
4. Preparation of draft developmental investigation and formative evaluation manual incorporating critical elements of items 1-3 above.
5. Participation in development of the first annual OTTA integrated action plan (IAP), particularly the integration of developmental investigation, product/concept testing and formative evaluation into the IAP.
6. Prepare End-of-Tour Report and submit to long term Advisor prior to departure from country.

B. Operational expenses

Although host country resources and assistance provided directly through MARE will provide the major source of operational funds for the communication program, some supplementary support will be provided by CTTA for implementation of the CTTA component. This support will be used for:

- o Local hire staff--including local support staff such as secretary and driver--as required in addition to such staff provided by MZADD and EAB.
- o Project vehicle operating expenses, and other travel-related expenses of long and short term technical assistance personnel.
- o Production services and media products required by the experimental nature of CTTA.
- o Evaluation-related services, including local hire interviewers.
- o In-service training materials and training "field trials".

C. Vehicle and equipment

One field vehicle with four-wheel drive will be procured to provide mobility to the CTTA-provided long term advisor and short term technical assistance staff. In addition, a limited quantity of communication-related equipment may be provided, if fully justified on the basis of need for achievement of CTTA objectives.

D. Case study summative evaluation

CTTA will fully fund the case study summative evaluation described in Section VE.

E. Diffusion activities

Participation of two key CTTA project staff (the CTTA-provided long term Advisor and one senior Malawian counterpart) in the international diffusion meeting organized annually by CTTA will be funded by CTTA. Also, the EAB will be included in the communication network to be established by CTTA for sharing and exchanging information and experience gained through the worldwide CTTA Project.

VIII. IMPLEMENTATION SCHEDULE

The preliminary implementation schedule shown below takes into consideration the need to: initiate MZADD pilot project activity by mid-CY1986 to synchronize with initiation of the IDA Extension and Planning Support Project; complete all pre-communication intervention activities in time to begin communication support programming at least one month in advance of the onset of the 1986-87 cropping season; and develop specifications for communication-related equipment to be procured under MARE to permit early procurement. This preliminary implementation schedule will be revised and fine-tuned in the annual integrated action plans.

A. Preliminary implementation schedule

- | | |
|--|------------------------|
| 1. Preparation of Project Implementation Plan (PIP) and Project Implementation Letter (PIL) | 12/85 - 2/86 |
| 2. Submission of candidates for Short Term (ST) Hardware Specialist assignment | 2/86 |
| 3. PIP and PIL approved | 3/86 |
| 4. Submission of candidates for Long Term (LT) Agricultural Communication Advisor | 3/86 |
| 5. ST Hardware Specialist approved | 3/86 |
| 6. Submission of candidates for ST Evaluation Specialist assignment | 4/86 |
| 7. Hardware Specialist in-country | 4/86 |
| 8. Preparation of specifications for communication-related equipment to be procured | 4/86 |
| 9. LT Agricultural Communication Advisor approved | 4/86 |
| 10. LT Agricultural Communication Advisor in-country | 5/86 - 4/88
or 4/89 |
| 11. ST Evaluation Specialist approved | 5/86 |
| 12. Submission of candidates for ST Written Communication Specialist assignment | 6/86 |
| 13. Developmental investigation and other preparatory activity in MZADD pilot region | 5-9/86 |
| 14. Identification of agricultural technologies to be included in first year pilot communication interventions | 5-9/86 |
| 15. ST Evaluation Specialist in-country | 7-9/86 |

16.	ST Written Communication Specialist approved	8/86
17.	ST Written Communication Specialist in-country	10/86
18.	Preparation of first annual Integrated Action Plan (IAP) for MZADD pilot project	9-11/86
19.	Preparation of Summative Evaluation Plan and approval of ST expatriate evaluators	9-11/86
20.	Submission of first CTTA semi-annual report	10/86
21.	Submission of first annual IAP for approval	11/86
22.	Initiation of first year MZADD pilot communication interventions	11/86
23.	Development of coordination procedures and integration of CTTA/MARE activities	11/86 - 1/87
24.	Completion of first year MZADD pilot project activity	3/87
25.	Submission of second CTTA semi-annual report	4/87
26.	Second year MZADD pilot communication support program integrating 14-component CTTA communication process	4/87 - 3/88
27.	Submission of candidate (same individual as before) for second ST Evaluation Specialist assignment	5/87
28.	Submission of candidate (same individual as before) for second Written Communication Specialist assignment	5/87
29.	Submission of candidates for ST Instructional Video Specialist assignment	5/87
30.	ST Evaluation Specialist approved for second assignment	6/87
31.	ST Written Communication Specialist approved for second assignment	6/87
32.	ST Instructional Video Specialist approved	6/87
33.	Planning for first summative evaluation study	7-9/87
34.	Extension of MZADD pilot project methodology to additional MZADD RDPs and 3 additional ADDs	7/87 onward
35.	ST Evaluation Specialist in-country on second assignment	7-9/87
36.	ST Written Communication Specialist in-country on second assignment	9/87
37.	ST Instructional Video Specialist in-country	9/87

- 38. Comprehensive review of MZADD pilot project activity and progress and its extension into other ADDs; and decision on possible one-year extension for LT Agricultural Communication Advisor 10/87
- 39. Submission of third CTTA semi-annual report 10/87
- 40. First summative evaluation survey 10-12/87
- 41. Submission of second IAP for approval 11/87
- 42. Submission of candidate (same individual as before) for third ST Evaluation Specialist assignment 12/87
- 43. ST Evaluation Specialist approved for third assignment 1/88
- 44. Submission of interim summative evaluation report 2/88
- 45. ST Evaluation Specialist in-country on third assignment 3/88
- 46. Completion of second year MZADD pilot project activity 3/88
- 47. Submission of fourth CTTA semi-annual report 4/88
- 48. Second summative evaluation survey 10-12/88
- 49. Submission of second interim summative evaluation report (final, if LT Advisor not extended) 2/89

The following activities will be possible only if the CTTA-provided LT Agricultural Communication Advisor is extended through 4/89

- 50. Third year MZADD pilot communication support program integrating 14-component CTTA communication process 4/88 - 3/89
- 51. Extension of MZADD pilot project methodology to two additional ADDs 7/88 onward
- 52. Submission of fifth CTTA semi-annual report 10/88
- 53. Submission of final IAP for approval 11/88
- 54. Submission of final CTTA report on pilot project activity 4/89
- 55. Final summative evaluation survey 10-12/89
- 56. Submission of final summative evaluation report 2/90

B. Preliminary implementation calendar

The preliminary FY implementation calendar below is derived from and consistent with the implementation schedule presented in Section VIIIA above.

	1986		1987		1988		1989	
Pre-implementation								
Prepare PIP and PIL	x	x						
PIP and PIL approved	x							
Technical Assistance								
<u>LT Communication Advisor</u>								
Submit candidates	x							
Candidate approved	x							
Advisor in-country	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx(-----)							
<u>ST Evaluation Specialist</u>								
Submit candidates	x		x	x				
Candidate approved	x		x	x				
Specialist in-country	x	x	x	x	x			
<u>ST Hardware Specialist</u>								
Submit candidates	x							
Candidate approved	x							
Specialist in-country	x							
<u>ST Written Comm. Specialist</u>								
Submit candidates	x		x					
Candidate approved	x		x					
Specialist in-country	x	x	x					

	1986	1987	1988	1989
<u>ST Instructional Video Spec.</u>				
Submit candidates		x		
Candidate approved		x		
Specialist in-country			x	
MZADD Pilot Comm. Project				
<u>First year</u>				
Invest., trng., planning	xxxxx			
Ident. agric. technologies	xxxxx			
Communication interventions		xxxxxxx		
<u>Second year</u>		xxxxxxxxxxxx		
<u>Third year</u>			(xxxxxxxxxxxx)	
Extension of MZADD methodology				
To Additional Mzuzu ROPs			xxxxxxxxxx(xxxxxxxxxxxxxxxxxxxxxxx)	
To 3 additional ADDs			xxxxxxxxxx(xxxxxxxxxxxxxxxxxxxxxxx)	
To 2 more ADDs			(xxxxxxxxxxxxxxxxxxxxxx)	
CTTA Annual Integrated Action Plans				
Preparation	xxx	xxx	(xxx)	
Submission	x	x	(x)	
CTTA/MARE integration				
Dev. coord. procedures and integrate CTTA/MARE activities	xxx			

	1986		1987		1988		1989	
Summative evaluation								
Prepare summative eval. plan		xxx						
Plan/conduct surveys				xxx		xxx		(xxx)
Mzuzu pilot project review				x				
CTTA report submissions								
<u>Implementation</u>								
Semi-annual		x	x	x	x	(x)		
Final								(x)
<u>Summative evaluation</u>								
Interim					x		x	
Final								(x)

NOTE: () indicates that activity will be possible only if LT Agricultural Communication Advisor is extended through 4/89.

IX. FUNDING ARRANGEMENTS

Funding of the CTTA component of the MARE Project will be provided from a combination of funding sources as shown in the illustrative budget below. The GOM contribution will consist of its normal allocation for extension programs plus specific allocations as shown in the illustrative budget table for activities related directly to the MZADD pilot project and expansion of the MZADD pilot project methodology into additional ADDs.

The CTTA Contractor, through its headquarters office, will maintain accountability for all expenditures of USAID/L and AID/S&T funds allocated to the CTTA component of the MARE Project. The CTTA-provided long term Agricultural Communication Advisor will be responsible for management and accounting of an imprest fund through which in-country expenditures will be made. All vouchering will be done by the CTTA Contractor directly to AID/Washington. Separate accounts for the USAID/L and AID/S&T funding inputs will be maintained by the Contractor and reported regularly to both.

It is anticipated that the CTTA-provided long term advisor will be extended in-country for an additional year. The decision concerning such an extension will be dependent, however, on: 1) the review scheduled in late CY1987; and 2) availability of funds. If such an extension is granted, it is anticipated that funding for the long term Advisor, impact evaluation and home office costs will be borne by AID/S&T; and that funding for in-country operational costs and short term technical assistance will be borne by the MARE Project Extension Component. The latter is contingent upon availability of funds from the MARE Project contingency budget item.

Illustrative budget for MZADD pilot communication project
(000 dollars or 000 Kwachas)

	TOTAL ^{a/}		USAID/L ^{b/}		AID/S&T ^{c/}		GOM ^{d/}	
	FY86 ^{e/}	FY87 ^{e/}	FY86 ^{e/}	FY87 ^{e/}	FY86 ^{e/}	FY87 ^{e/}	FY86 ^{f/}	FY87 ^{f/}
	\$	\$	\$	\$	\$	\$	K	K
Planning and assessment ^{g/}	10	10	--	--	10	10	--	--
LT technical assistance	140	140	140	--	--	140	--	--
ST technical assistance	82.5	90	82.5	90	--	--	--	--
Advisor vehicle/support	30	10	--	--	30	10	--	--
MZADD R&D operations ^{h/}	17.5	22.5	--	--	17.5	22.5	--	--
Local transport for EAB staff to Mzuzu ^{i/}	?	?	--	--	--	--	?	?
Materials/supplies for ongoing MZADD extension ^{j/}	?	?	--	--	--	--	?	?
Local transport for MZADD staff ^{k/}	?	?	--	--	--	--	?	?
MZADD support to LT & ST advisors/specialists ^{l/}	?	?	--	--	--	--	?	?
Local transport for EAB staff to add'l ADDs ^{m/}	?	?	--	--	--	--	?	?
Int'l diffusion activities	7.5	7.5	--	--	7.5	7.5	--	--
Impact evaluation	15	25	--	--	15	25	--	--
CTTA Contractor Home Office costs	12.5	17.5	--	--	12.5	17.5	--	--
Subtotal			222.5	90	92.5	232.5		
TOTAL			312.5		325			

a Dollars or dollar equivalents; Kwachas converted to dollars at exchange rate of \$1.00 = K. _____.

- b From MARE Project.
- c From CTTA Project AID/S&T funds.
- d No allocation is shown for MZADD or EAB staff or operating budget other than those items specifically cited, as no increases beyond the counterpart contribution to MARE Project funding are anticipated.
- e 1 October to 30 September.
- f 1 April to 31 March.
- g Pre-implementation planning and 10/87 assessment.
- h R&D = Research and Development.
- i Estimated at 15 person-trips per year of 1 week each to Mzuzu.
- j Includes all training and information costs associated with ongoing extension programs in MZADD pilot region--3 EPAs in each of 2 RDPs (includes already allocated funds plus those required for additional materials and supplies required for increased production for pilot project).
- k Includes only additional MZADD staff travel associated with pilot project activities. Vehicles for subject matter specialists to be provided under IDA Extension and Planning Support Project.
- l One secretary plus office with furniture, utilities and telephone.
- m Estimated at 6 person-trips per year of 1 week each to each of additional ADDs in which the MZADD pilot project methodology is introduced (none the first year and 3 the second).

- NOTES:
1. All U.S. funding is budgeted for FY1986 and FY 1987, although some expenditures will be incurred later.
 2. Possible contributions to some items included above as GOM costs under the MARE Technical Assistance Contract have not yet been determined.

Appendix A

CRITERIA FOR CTTA PILOT REGION SELECTION

1. New or underutilized agricultural technologies presently available that are appropriate, adapted, and acceptable to the farmer; and a continuing source of new/improved technologies.
2. Services, inputs and supplies required for adopting the new or underutilized technologies available to the farmers (seed, fertilizer, insecticides, fungicides, credit, etc.).
3. Markets and favorable prices accessible to farmers.
4. Adequate national and regional institutional base (research, extension) for CTTA.
5. Adequate communication infrastructure.
6. Adequate collaborating institutions.
7. Region and farmers not highly dependent on an export crop.
8. Technologies available that do not require major restructuring of the region's economy or agricultural infrastructure (due to the Project's limited time frame).
9. Absence of other projects that would confound CTTA results (including other external donor projects).
10. Geographic location sufficiently accessible to national headquarters to permit effective interaction at the national level.

APPENDIX B

MARE Extension Component Commodities List

<u>Item description</u>	<u>Agent</u>	<u>S/O</u>	<u>FY</u>	<u>Value</u>
2 Passenger vehicles, @ 12,000	CTR	899	86	24,000
		Subtotal		<u>24,000</u>

MOA Communication Division
(EAB)

Publications Section

1 Offset press, A3 size, single color, with spare parts, @ 19,000	CTR	000	86	19,000
1 Electric Saddle Stitcher, 2 heads, @ 2,000	CTR	000	86	2,000
1 Microcomputer/word processor, with peripherals, software and spare parts, @ 10,000	CTR	000	86	10,000
1 Photocopier, with capability for enlarging, reducing, and making transparencies; with spare parts, @ 10,000	CTR	899	86	10,000
1 Mimeograph and electronic scanner (stencil maker), @ 6,500	CTR	899	86	6,500
Drafting and graphic arts equipment, with some materials and supplies	CTR	000/ Shelf	86- 90	4,500
1 Headliner (mechanical), @ 700	CTR	000	86	700
1 Manual portable typewriter, @ 300	CTR	Shelf	86	300
Silkscreen equipment, silk for screen, Ulano films, squeegees	CTR	000	86	1,000
		Subtotal		<u>54,000</u>

Evaluation/Action Research Section

1 Microcomputer/word processor, with software and spare parts, @ 10,000	CTR	000	86	10,000
2 Programmable calculator, with printer, @ 150?	CTR	000	86	300 ?

1	High fidelity cassette tape recorder, @ 700	CTR	899	86	700
				Subtotal	<u>11,000</u>

Editorial Section

1	Standard manual typewriter and other equipment	CTR	Shelf	86	1,000
				Subtotal	<u>1,000</u>

Radio Section

2	Stereo speakers, @ 200	CTR	Shelf	86	400
2	Professional turntable @ 200	CTR	899	86	400
2	4-band radio, cassette player, amplifier, @ 500	CTR	899	86	1,000
10	Portable transistor radios, @ 50	CTR	Shelf	86	500
4	Microphone, with stands and cables, @ 200	CTR	000	86	800
2	Portable cassette tape recorder, @ 100	CTR	Shelf	86	200
2	High speed cassette to cassette copier, with slave unit, @ 600	CTR	899	86	1,200
2	Studio monitors (speakers), @ 200	CTR	000	86	400
1	Bulk tape eraser, @ 500	CTR	000	86	500
	Reel to reel and cassette tapes, editall bars, splicing tape, etc.	CTR	000	86	2,600
				Subtotal	<u>8,000</u>

Cine Section (All equipment is for video)

2	Automatic video editing control unit, @ 1,650	CTR	899	86	3,300
2	High band U-matic video editing recorder, @ 1,800	CTR	899	86	3,600
1	Edit bay, @ 2,200	CTR	899	86	2,200
1	Professional color video monitor set, @ 2,000	CTR	899	86	2,000
1	Color video camera, @ 2,500	CTR	899	86	2,500

1	Portable color video camera, @ 1,500	CTR	899	86	1,500
1	Carrying case for above, @130	CTR	899	86	130
3	Battery pack, @ 50	CTR	899	86	150
1	A/C adapter, @ 170	CTR	899	86	170
1	Video tape recorder, @ 1,800	CTR	899	86	1,800
1	Studio monitor (video), @ 850	CTR	899	86	850
1	Portable VTR (recorder/playback), @1,100	CTR	899	86	<u>1,100</u>
				Subtotal	19,300

Maintenance Section

1	Oscilloscope @800	CTR	000	86	800
2	Line voltage protectors (against extreme voltage fluctuations), @ 100	CTR	000	86	200
1	E.H.T. meter probe, 40 KV DC, @ 300	CTR	000	86	300
1	Color bar cross-hatch generator, @ 700	CTR	000	86	700
1	C.R.T. tester, complete with tube base adapter, @ 600	CTR	000	86	600
	Assorted tools and small equipment	CTR	000	86	300
1	Rechargeable soldering iron, @ 50	CTR	000	86	50
1	Charging unit for above, @ 50	CTR	000	86	50

Spare parts and equipment

	Spare parts	CTR	000/ 899	86	3,700
	Spare equipment	CTR	000/ 899	86	
				Subtotal	<u>3,700</u>

Subtotal EAB 100,000

ADD Communication Sections
(8 EAUs)

8	Mimeograph, @ 2,000	CTR	899	87	16,000
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8	Electronic scanner (stencil makers), @ 2,250	CTR	899	87	18,000
8	Electronic typewriter, @ 1,000	CTR	899	87	8,000
8	Photocopier, with enlargement and reduction capacity, @ 4,000	CTR	899	87	32,000
8	Sets, graphic arts, drafting equipment, @ 500	CTR	000	87	4,000
8	Small electronic saddle stitcher, @ 500	CTR	000	87	5,000
8	Paper trimmer (30x36), @ 62.50	CTR	Shelf	87	500
8	Manual typewriter, @ 300	CTR	Shelf	87	2,400
8	Programmable calculator @ 100	CTR	000	87	200 ?
8	4-band radio, cassette player, amplifier @ 500	CTR	899	87	4,000
8	Reel to reel tape deck @ 400	CTR	899	87	3,200
8	Monaural speaker, @ 50	CTR	000	87	400
16	Microphone, with stand and cables, @ 200	CTR	000	87	3,200
16	High fidelity portable tape recorder, @ 200	CTR	899	87	3,200
25	Portable cassette recorders, @ 100	CTR	Shelf	87	2,500
	Misc. audio items and supplies	CTR	Shelf/ 899	87	10,000
10	Video cassette player, @ 1,200	CTR	899	87	12,000
10	TV color monitor, @ 800	CTR	899	87	8,000
8	Enlarger, @ 400	CTR	899	87	3,200
8	35mm. camera, @ 450	CTR	000	87	3,600
8	Small print dryer, @ 150	CTR	000	87	1,200
8	Zoom lens (35-70 mm.), @ 100	CTR	899	87	800
8	Refrigerator (4 or 5 cu. ft.), @ 250	CTR	UJ9	87	2,000
8	Paper trimmer, @ 62.50	CTR	Shelf	87	500
8	Flash unit, @ 50	CTR	899	87	400
8	Timer, @ 25	CTR	000	87	200

8	35mm. slide projector, @ 600	CTR	000	87	4,800
8	Multi-tester, @ 100	CTR	000	87	800
8	Signal generator, @ 700	CTR	000	87	5,600
8	Audio generator, @ 800	CTR	000	87	6,400
8	AVO transistor tester, @ 250	CTR	000	87	2,000
8	Electric soldering iron, with station and accessories, @ 75	CTR	000	87	600
8	Tool kit, @ 200	CTR	000	87	1,600
10	Bell & Howell servicing kit 1680 or equivalent, @ 700	CTR	000	87	7,000
10	Bell & Howell servicing kit 8399 or equivalent, @ 1,300	CTR	000	87	13,000
8	Silkscreen setups, @ 200	CTR	000	87	1,600
	Miscellaneous small equipment and supplies	CTR	Shelf	86-91	14,100
			Subtotal		<u>202,000</u>

Bunda College

Assorted A/V/print equipment	CTR	000/ 899	87	30,000
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Natural Resources College

Assorted A/V equipment		000/ 899		30,000
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**Extension Component Commodity List Summary
(Excluding Women's Program)**

Vehicles				24,000
Extension Aids Branch (EAB)				100,000
Publications Section				54,000

Eval./Action Research Section	11,000	
Editorial Section	1,000	
Radio Section	8,000	
Cine Section	19,300	
Maintenance Section	3,000	
Spare parts & equipment	3,700	
ADD Communication Units (EAUs)		202,000
Bunda College		30,000
NRC		30,000
		<hr/>
	TOTAL	386,000