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Proposal for Information Transfer Component in the Small Farm Production Systems Project (Central America)

by

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CONTENTS

		Page
Phase I.	Assessment of institutional capabilities to transfer systems-based technological packages to small farmers.	3
	A. Preliminary contacts	4
	B. Design and pretest	5
	C. Data collection	6
	D. Analysis, interpretation and reporting	6
Phase II.	Test demonstrations of appropriate information transfer systems for selected tech packs (Outreach testing).	7
	A. Site selection	8
	B. Collaborating information transfer institutions	8
	C. Planning and organization	9
	D. Training and staff development	9
	E. Implementation	10
	F. Evaluation	12
Resource requirements		12
APPENDIX		12

Proposal for
Information Transfer Component
in the
Small Farm Production Systems Project

Site-specific technological packages (tech packs) for small farmer cropping systems are, or soon will be, available for use by small farmers in several areas of the region. The present project is expected to yield additional tech packs which will include crop-oriented, livestock-oriented and mixed-farming systems. It will also develop and test methodology for extrapolating from areas for which tech packs are designed into untested areas. All will presumably be based on the whole farm enterprise as a unit rather than on an individual crop or class of livestock.

Tech packs (and extrapolation methodology) will be carefully field-tested by the project before they are released for adoption by the farmers. Nevertheless, the ultimate test of a tech pack's viability, and the basis on which the project will finally be judged, will be the degree of success achieved by farmers in increasing their incomes through its application on their farms.

Three basic conditions will determine, in large part, the small farmer's success with a given tech pack:

1. The technical soundness, economic viability, practicality, and consistence in performance of the package under farmer management;

2. The completeness, accuracy and clarity of tech pack information received, and as understood, by the farmer;

3. The availability of goods and services needed by the farmer to enable him to use the package.

Assuming that the last-cited condition can be satisfied with reasonable adequacy, the manner in which information is transmitted to the farmer (condition No. 2), will become critically important to the validity of that ultimate test.

If the farmer receives distorted or incomplete information about the tech pack, or if he fails to understand it, his attempts at adoption are likely to fail. In such an event, the tech pack does not receive a fair trial; and both the tech pack and those who developed it will lose credibility in the eyes of the farmer -- as will, also, the information transfer institution involved.

In order to fully and accurately evaluate the viability of its tech packs and extrapolation methodology, the project has no alternative but to concern itself with the information transfer systems through which those tech packs are carried to the farmer.

A new and more complex dimension will be added to the information transfer task with the release of the new tech packs. They will require a "systems" or "whole farm enterprise" approach -- with which the farmer will need help in examining alternatives, and the potential effects of action taken for one enterprise on other enterprises. This will be in sharp contrast to the "single crop" package with which change agents in the region are now familiar.

Innovative approaches to information transfer will be required, including re-training of present change agents to handle this new dimension. The need at this point is to link area-specific technological packages into low-cost delivery (transfer) systems in a manner that results in the prompt, accurate and effective flow of techpack information to the farmer. That linkage must also assure the constant reverse flow of reliable information from the farmer to the information transfer agency and the researchers.

The PIADIC project is helping to design systems for more effective management of information needed to help plan and develop programs for the rural poor, and to develop norms for upgrading the research and information management capability in Central America. Its input into the information transfer process is at the level of intermediate users, rather than at the change agent-to-farmer level. Information concerning effective information transfer gained through the present project will be fed into the PIADIC-assisted information bank. It is not anticipated, however, that the PIADIC project will be directly relevant to, or become actively involved in, the information transfer component described below.

A significant body of relevant experience concerning the transfer of information already exists that can be utilized in adapting present programs to the new needs. For example, the Basic Village Education Project in Guatemala (BVE) specifically studied the effectiveness and relative costs of various delivery systems for transmitting agricultural information to farmers. Of particular relevance for tech pack transfer, BVE used a rudimentary whole farm enterprise approach to programming, and developed effective systems for message development, packaging and delivery, and for feedback. Other innovative programs are in various stages of development in several countries. Within the region, all countries are, of course, engaged in extension activities -- although coverage is typically limited.

Thus, the basic ingredients needed to link tech packs into low-cost delivery systems as suggested earlier already exist in large part. The forging of those links will require collaboration between the project and the transfer agencies, however.

As an integral part of its program to develop and evaluate technological packages for crop, livestock and mixed farming systems, the project will engage in two types of activities related to the transfer of tech pack information to farmers:

1. An assessment of institutional capabilities to effectively transfer systems-based tech packs to small farmers; and

2. Collaboration with existing institutions in test demonstrations of appropriate information transfer systems for selected tech packs.

These activities, which may be considered as Phase I and Phase II of the project's information transfer component, are described in the sections which follow.

Phase I
Assessment of Institutional Capabilities to Transfer Systems-Based Technological Packages to Small Farmers

Outputs (tech packs) of the small farmer multiple cropping and farming systems projects will have value only as they are put to widespread profitable use. As discussed above, information transfer systems used to transmit tech pack information to small farmers play a crucial role in determining the extent to which that happens.

The project does not propose to become an information transfer agency, nor to enter directly into developing institutional capacity in that field. Due to its dependence on such institutions to carry its product to the ultimate user, however, the project will collaborate with national institutions during its first year of operation in a study of existing information transfer channels to:

1. Identify present constraints to the effective two-way flow of systems-based tech pack information;

2. Determine actions which must be taken to remove such constraints and strengthen capability to transfer such information effectively; and

3. Identify potentially viable linkages that can be developed, and/or ways in which the project may relate effectively to appropriate institutions to carry out Phase II described below.

The study will encompass public, private and volunteer institutions in the participating countries, for which dissemination of information on technical agriculture is a principal or secondary function. These institutions will be assessed with respect to their present and potential capacity to:

- assimilate and translate multiple cropping and farming systems information into ultimate user (small farmer) terms;

- transfer that information effectively, without distortion and at low cost to large numbers of clients;

- regularly obtain, verify, digest, and quickly distribute information from the field to relevant research and service institutions concerning the farmers' experience in the adoption and use of tech packs -- and concerning other needs of small farmers in the area;

- maintain flexibility in programming, and ability to adjust quickly to changing circumstances and needs as revealed by both farmer and institutional feedback.

The study will be carried out in four stages as outlined briefly below.

A. Preliminary contacts
(Estimated time requirement: 1.5 - 2.0 mos., or 1.0 - 1.5 weeks/ country).

Each country participating in the project will be visited prior to development of the final study design. The objective will be two-fold: 1) to enlist the support of national governments and USAID Missions for the study, and for the later establishment of outreach tests; and 2) to obtain basic information needed for designing the study.

Initial contacts in each country will be with the relevant ministries and the USAID Mission to obtain high level authorization. The information transfer institutions identified in the 1973-74 IICA-ROCAP pre-PIADIC study will be used as reference during these contacts to develop an updated and complete list of institutions that would qualify for inclusion in the study. Then, insofar as time and resources permit, all institutions on the list -- public, private, volunteer -- will be contacted. If that is not possible, a representative sample will be selected.

The approach taken during this series of advance contacts will be critically important to the success of both phases of the project's information transfer component. There must be clear understanding that CATIE is interested in collaborating with and assisting national institutions in assessing present capabilities and in outreach testing only as they relate to transfer of systems-based technological packages -- for the purpose of contributing to the chances for successful adoption of such tech packs by large numbers of small farmers.

Two types of information will be sought for use in designing the study, base data and present programming concepts. Base data will include such information as: institutional affiliation; principal

activities/projects; areas in which operating,and target populations; small farmer population densities in relation to personnel distribution; nature and extent of information transfer activities, including types of information disseminated and to which target audience, delivery systems utilized, etc.; recent annual reports and other relevant documentation. Information solicited concerning the institution's concepts of programming will be largely qualitative, for use in formulating questions and likely responses to be included in the questionnaire for the study.

It is proposed that a three-man team -- the project's resident coordinator in the country concerned plus a rural development/ agricultural information specialist and a rural sociologist/anthropologist to be assigned to the project's information transfer component -- have primary responsibility for this stage of the study. In each country they will act in collaboration with one or more national representatives to be requested from the relevant ministries.

B. Design and pretest
(Estimated time requirement: 1 - 2 mos.)

In keeping with its limited objectives of identifying present constraints to effective two-way flow of systems-based tech pack information and actions needed to remove such constraints, the study will focus on four aspects of institutional capability:

1. Information development.
2. Information packaging (for delivery to small farmers).
3. Information delivery.
4. Information feedback.

Present and needed staff capacity, and staff training and development programs will be assessed with respect to each of the foregoing.

Model information transfer systems will be developed for use as "standards" against which institutions will be assessed. Although it would be desirable to carry the study to the farmer level for a more complete assessment of the effectiveness of existing information transfer institutions, this is considered neither feasible nor essential within the context of the present project.

Information obtained from the preliminary contacts will be utilized in developing a detailed design for the study -- including establishment of categories of institutions to be used in stratifying the samples, and formulation of survey questions and likely responses. The survey instrument will be precoded insofar as possible, to facilitate analysis and summarization. It is likely that some open-ended questions

will also be needed, however, and ample space will be provided for explanatory notes.

In formulation of the sample of institutions, only those revealed by the preliminary contacts to be relevant in terms of the study's objectives will be selected. If the number is still too large to handle, a stratified sample will be drawn using standard sampling procedures.

Pretesting the questionnaire and development of a plan for data analysis will complete this stage of the study.

Design and pretesting will be done largely in Turrialba by the rural development/agricultural information and rural sociology/ anthropology specialists. They will require technical inputs from other project staff and, probably, some short term specialized assistance. Interaction with national program representatives at critical points will be essential.

C. Data collection
(Estimated time requirement: 6 mos., or 1 mo./country).

Arrangements will be made in advance (hopefully at the time of the preliminary visit) for the relevant national ministries to assign professional staff to work with the project team in conducting the study. A joint letter from the ministry and CATIE will be sent to each institution to be interviewed prior to the project team's arrival in a country. A copy of the questionnaire will be enclosed with each letter together with the request that the institution begin to assemble the needed information. The questionnaire will actually be filled out during an interview which will be arranged well in advance.

At least one member of the project team and one national professional should be present at each interview session. Where possible, they should also visit the institution's facilities and areas of operation. To the extent that they can be identified, key staff related to each aspect listed earlier -- information development, packaging, delivery, feedback -- will be interviewed informally.

It is proposed that the two-man information transfer team from the project at CATIE be joined by the project's resident coordinator in each country to collect data for the study. If three national representatives are also made available, three interview teams can be formed, and one month should be adequate for collection of data in a country.

D. Analysis, interpretation and reporting
(Estimated time requirement: 2 mos.)

Initial tabulation will be started while data collection is still

in progress. Analysis will proceed according to the plan under the direction of the two-man information transfer team. At this stage, they will require technical consultations with other project staff, some specialized short term assistance, and services of data tabulators, computer, secretary, etc.

The study report will be distributed to all participating institutions in advance of an informal seminar scheduled in each participating country to discuss its results and the conclusions drawn from it.

Phase II
Test Demonstrations of Appropriate Information Transfer Systems for Selected Tech Packs
(Outreach Testing)

The project will collaborate with national institutions in at least three of the participating countries to conduct a total of up to nine "outreach tests". Their objectives will be to: 1) assess the viability of tech packs as they are put to widespread use; and 2) demonstrate how to transfer systems-based tech pack information effectively to small farmers.

Each outreach test will involve either a tech pack developed and tested for the specific ecological system of the area, or the extrapolation of a tech pack into an untested area. It is anticipated that the early outreach tests will be with relatively simple cropping systems tested in the area. For the last two years, however, more complex packages for crop, livestock and mixed farming enterprises will be used.

The establishment of three outreach tests annually is planned (one in each of three countries), beginning in the second year of the project. Except for those initiated during the final project year, each outreach test will be continued through a second year -- one year of intensive programming followed by a year of reinforcement.

Flexibility must be maintained in scheduling the establishment of outreach tests, however. If tech packs are ready, and appropriate information transfer agencies can be identified in time, it may be possible to establish one or more tests, or at least some pre-tests, during the first project year. Furthermore, it may prove desirable to establish outreach tests with the same tech pack simultaneously in two locations within the same country -- a location in which it has been specifically tested, and an untested location where extrapolation methodology can be employed.

As stated earlier, the outreach testing segment of the project does not envision the creation of new institutions to extend the tech

packs to farmers. On the contrary, it is hypothesized that the project can develop collaborative and coordinated action with existing national institutions to achieve the above-stated objectives. The information transfer programs will be those of national institutions. The role of the project will be to motivate, assist and help evaluate.

Although assessment of cost effectiveness will not be a specific objective of the outreach tests, efforts will be made to do the job at the lowest cost consistent with getting it done effectively. Only methods and techniques appropriate for use in a large scale program will be utilized. The focus will be on achieving the most effective information transfer with limited resources, rather than on maximizing impact regardless of cost.

A. Site selection

Outreach tests will, by definition, be established in areas for which either field-tested area-specific tech packs or extrapolation methodology are available. General guidelines for the selection of specific sites within the areas will include:

- interest of the national government in supporting outreach testing;
- of sufficient size to have a critical mass of at least 250-300 small farmers for whom the tech pack is considered to be appropriate;
- reasonably adequate availability of goods, services, markets, etc. (infrastructure) which the farmers will need in order to adopt the tech pack successfully;
- interest of information transfer agencies with capability to collaborate in the test;
- interest of the local people in the proposed activity.

B. Collaborating information transfer institutions

The institutional capability study will provide a tentative list of potential collaborating institutions. The seminars organized for reporting results of that study will be used, also, for creating interest among such institutions in becoming involved in the outreach tests.

The composition of the information transfer "team" is expected to vary from location to location depending upon what institutions are functioning in a given area. Such variation is desirable in that it will permit comparisons among different types of information transfer systems. In general, however, a test will involve the coordinated action of a group of institutions (e.g., official extension agency, research agency, cooperative, agricultural credit bank, fertilizer and insecticide distributors, national marketing agency).

C. Planning and organization

Once the participating institutions have been identified and are committed to the program, a permanent steering committee will be established to plan, organize and coordinate all activities associated with outreach testing. Steering committee membership will include, at the minimum, representatives from each of the participating institutions, including the project.

The steering committee will develop a plan of action to be submitted to all participating institutions for approval before proceeding with implementation in the field. The committee will serve as a clearinghouse for exchange of information and ideas, as well as the mechanism for liaison, coordination, periodic review, and in-course modification.

The project will provide a senior rural development/agricultural information specialist to backstop the outreach testing program. It is anticipated that he will spend approximately half time working with project and collaborating technicians in organizing tech packs into formats and presentations that can be easily interpreted and correctly used by the information transfer agencies. The other half of his time will be directed toward assisting national institutions in planning, implementing and evaluating the outreach tests. To perform those functions adequately, he will need extensive knowledge of technical agriculture, experience in working with small farmers, the ability to work (and provide training and guidance) in audio, visual and print media, and expertise in evaluation.

Each of the participating countries will be asked to provide a technician (at the Ing. Agron. level) to serve as outreach test coordinator. That technician will be assigned to work with the CATIE project coordinator for the country, but will work exclusively on information transfer activities. He will participate in the institutional capability study during the first year, and then work fulltime on outreach testing through the remainder of the project.

D. Training and staff development

Staff training and development will be a continuing activity

throughout the life of the project. In broad terms, it will consist of initial short, intensive training followed by frequent, regularly scheduled reinforcement.

Content will include technical training on the tech packs, and communicator and skills training on information transfer and feedback systems to be used. Specialized content, such as interviewing procedures or data collection, will be provided as needed. All training will emphasize the "practical".

A similar approach will be used with farmer cooperators in the whole farm demonstrations described below.

E. Implementation

Each outreach test will be implemented in seven stages, which will be common to all locations. The activities within each stage will be specific to the site, however, and will be spelled out in the steering committee's plan of action. To repeat what has been stated earlier, methodology, techniques, etc., will be considered acceptable for use in an outreach test only if they would also be practical for a larger program.

1. Local understanding and support. The first step in implementation will be to meet with local authorities to gain their understanding and support. Additional contacts with local leaders and groups will be made in accordance with the local customs and culture. Leadership at this stage, as well as for the test in general, should come from the national institutions.

2. Message development. Project and collaborating national technicians must, of course, provide the tech packs to be used. Beyond that, they should also be prepared to work with the outreach testing group in adapting that technical information for transmission to farmers via the various media to be used. To be blunt, it is the responsibility of the technician to see that his information is not distorted in the process of packaging it for delivery to the farmer.

3. Preparation of educational materials. Primary responsibility for this stage will rest with the national information transfer agencies, assisted by the national outreach testing coordinator and the project's agricultural information specialist. At this point, the technicians will function as consultants and in checking materials for technical accuracy.

This phase will include scheduling the use of information with respect to time and media, as well as the timely preparation of audio, graphic and other materials required by the delivery systems to be employed. In the case of some materials, it may be more feasible to

contract for production of the finished product. In the case of radio programs, for example, the Basic Village Education Program in Guatemala could perhaps produce and record programs in their studio from scripts written by national staff for their outreach testing program.

4. Initial information campaign. At the outset of the outreach test, all available media will be used in efforts to make every farmer in the test area aware of the program, and to introduce basic concepts related to the tech pack.

Mass media -- radio, posters, flyers -- will be used extensively in this phase. Institutions which can provide technical assistance to farmers (such as extension, cooperatives, agricultural banks) will transmit outreach test information through their regular channels, and will make concerted efforts to utilize meetings with farmers to explain the program. It is expected that the principal contribution at this point of some collaborating institutions, such as input distributors, will be participation in the widespread distribution of graphic and printed posters, flyers, etc., throughout the test area.

5. Demonstration and reinforcement. Following the initial saturation campaign, the test program will continue throughout the year to provide farmers in the test area with a steady stream of the information they need to utilize the tech pack successfully. Radio will be continued, to provide both information and continuity. Posters, flyers, and other general distribution materials will receive less emphasis. Work with farmers in groups will continue to the extent possible.

A new medium, the whole farm demonstration, will become more prominent during this stage. The approach will be to work with farmer cooperators who are willing to collaborate with the outreach testing team in demonstrating the use of the tech pack on their entire farm (or the portion for which adapted). The number of such demonstrations will be limited by the number of participating institution technicians available. It is expected that a strong multiplier effect can be obtained through organizing farmer field days at the sites, informing people about the demonstration through other media; and disseminating the results obtained through the entire test area.

6. Feedback. A series of mechanisms will be utilized to obtain and distribute frequent, regular and reliable feedback throughout the life of the outreach test. This feedback system will be a part of the plan of action prepared by the steering committee. In general terms, it will utilize both local informants and field staff to collect and verify information from people in the test area that will then be assessed, summarized and promptly distributed to research, information transfer, and service agencies for their study and appropriate response.

7. Second year follow-on. The same general techniques will be utilized as in the first year, but at a lower level of effort.

The use of an initial saturation effort followed by reinforcement at a lower level of effort will help to extend the number of farmers and size of area that can be covered adequately with a given level of resources. Varying the pace of programming in this manner should also help to minimize the problem of decreasing interest which often comes with increasing familiarity.

F. Evaluation

The tech pack outreach tests will be under continuous operational evaluation through the feedback systems described above. An evaluation of results obtained will also be needed to provide guidance for future programs. A specific plan for such an evaluation will be developed during the period of pre-program preparation.

It is anticipated that the evaluation plan will include a baseline survey of a stratified sample of farmers before the outreach test starts, followed by a re-survey at the end of the second year (at the end of the first year in the case of tests established during the projects' fourth year). In addition, relevant indicators such as credit extended, input sales and volume of product reaching the market will be used as supplementary evidence of change. The value of the tech pack to the farmer in terms of increasing the return from his farm enterprise, and the cost effectiveness of delivery systems utilized, will be assessed in the evaluation.

Resource Requirements

Major project inputs required for the information transfer component will be personnel, travel and per diem, since both phases will be carried out in large part through and with existing national institutions. Some funding is included for materials and supplies, primarily for the purpose of providing flexibility in obtaining the kinds of materials required for timely production of innovative promotional and educational materials. A significant training item is included to permit both regional and in-country pre-program training and regular in-course reinforcement of staff involved in the outreach testing program. The evaluation item includes interviewers and associated expenses for the evaluation of outreach tests as described in Section F, Phase II, and computer services for both phases.

The estimated resource requirements shown below are based on the following assumptions:

- Support staff and facilities at CATIE -- offices, office equipment and supplies, secretaries, data tabulators, etc. -- will be provided out of general project funds; therefore, they are not included herein;

- All travel and support of both CATIE and country-based project technicians will likewise be provided from general project funds;

- The assessment of capability will include six countries;

- The outreach testing program will be implemented in three countries;

- One vehicle (pickup or similar) will be required for the fulltime use of the technician assigned to the outreach testing program in each of the three countries;

- Other than personnel, functions and activities specifically identified as being otherwise, the outreach testing program will be carried out through existing national institutions and facilities;

- The national governments will provide -- on time -- the resources indicated below required to carry out this portion of the project.

Dollar estimates are included only for the portion of the ROCAP contribution to be specifically identified with the information transfer component. CATIE and national contributions should be quantified in relation to other resources provided to the project. The kinds of such resources required are indicated below.

A. Summary of requirements

1. ROCAP

Personnel		$420,000
Long term	$360,000	
Short term	60,000	
Travel and per diem		50,000
Materials, supplies, & A/V production		15,000
Training		20,000
Evaluation		10,000
Communications		4,000
Other direct costs		10,000
Vehicles (3)		21,000
	TOTAL	$550,000

2. CATIE

Offices, office equipment and supplies, secretarial services, data tabulators, travel and support of all project technicians other than those identified above.

3. Participating country

One national technician (Ing. level) with associated travel and per diem for each country participating in the outreach testing program; availability and use of in-country facilities, staff and materials for production and delivery of information according to the plan to be developed; released time (with pay) and expenses for technicians to participate in training activities organized with the project.

B. Budget details for ROCAP contribution

1. Personnel

Long term

One rural dev./agricultural information specialist for the life of the project (Phase I & II)	48 m. mos. @ $6,000	$288,000
One rural sociologist/anthropologist for Phase I:	12 m. mos. @ $6,000	72,000
	Sub-total for L.T.	$360,000

Short Term

Phase I: 4 m.mos. @ $5,000 media and evaluation specialists	$ 20,000
Phase II: 8 m.mos. @ $5,000 Rural soc/anthro. (repeat from Phase I), media and evaluation specialists	40,000
Sub-total for S.T.	$ 60,000

2. Travel and per diem

Phase I:

per diem: 259 m.days @ $40	$ 10,000
travel: 8 man visits to each country @ $1000/round	8,000
Sub-total Phase I	$ 18,000

Phase II:

per diem: 130 m.days/yr x 3 yrs @ $40	$15,600
travel: 4 man visits/yr x 3 yrs x 3 countries @ $600/round	21,600
1 man visit/yr x 3 yrs x 3 countries @ $600/round	5,400
special conferences, meetings, etc: 4 yrs. @ $1500/yr	6,000
Sub-total	$48,600
or	$50,000

APPENDIX

A. Areas of principal focus for questions to be included in the study of institutional capability (Phase I).

1. Message development

   Sources of information; personnel responsible and their backgrounds; criteria for selection of information to be used; how accuracy of information is checked; how information is organized and presented to make it easily useable by both the institution's personnel, and its audiences; how often revised and on what basis; staff training and development activities for a) those responsible for developing message content, and b) those responsible for transmitting that information to the farmers.

2. Information packaging

   How use of message content is scheduled, by date and by medium; behavioral objectives, and how determined; kinds and volume of materials produced (radio, visual, print), and production methods; how checked for technical accuracy; staff training and development system.

3. Information delivery

   Delivery systems (media) utilized,with estimated coverage for each; how checks are made on effectiveness of each system, and how often; staff training and development activities related to information delivery.

4. Information feedback

   Kinds of feedback obtained, from whom, how, and how frequently; how feedback gets back from the field, who receives it, and how quickly; how reliability is checked; staff training and development program as it relates to feedback gathering, processing and use; how feedback is used by those who receive it.

5. General concepts of agricultural programming

   Global or local; "cookbook" vs. examining alternatives; monoculture or farming system; farmer participation vs. top-down.

The foregoing should help to establish the framework for developing the questionnaire. In phrasing the specific questions, care must be taken to keep the study sharply focused on institutional capability to deal with systems-based tech pack information.

B. Sequence of events in the information utilization portion of the project (Phase II).

The sequence of actions required as suggested in the body of the proposal are summarized below:

1. Contacts with national government and USAID Missions;
2. Site selection;
3. Identification of collaborating information transfer institutions;
4. Organization (establishment of steering committee, getting staff on board, etc.);
5. Planning for implementation;
6. Training and staff development (initial training at at this point in the sequence of actions; but continuing throughout the life of the project);
7. Local contacts;
8. Initial baseline survey;
9. Message development (to be started as soon as tech packs and sites are selected, but will continue through first year of outreach test; all materials then to be reviewed and updated for use in second year);
10. Scheduling of message content (an annual message calendar);
11. Preparation and production of educational materials (continuing);
12. Initial information campaign (first 2 - 3 months of programming);
13. Demonstration and reinforcement (initiated during preceding step, continuing through first year of an outreach test);
14. Feedback (continuing);
15. Follow-on (second year);
16. Re-survey (end of second year).

The details will vary from location to location. All should entail approximately this general sequence, however.