

AGENCY FOR INTERNATIONAL DEVELOPMENT  
WASHINGTON, D. C. 20523  
BIBLIOGRAPHIC INPUT SHEET

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BATCH 61

1. SUBJECT CLASSIFICATION	A. PRIMARY	TEMPORARY
	B. SECONDARY	

2. TITLE AND SUBTITLE  
New approaches, mass media non-formal nutrition education: communication model and demonstration plan

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(100) Munger, S. J.; Gates, J. L.; Petrick, G. K.; (101) Synectics Corp.

4. DOCUMENT DATE 1975	5. NUMBER OF PAGES 61p.	6. ARC NUMBER ARC
--------------------------	----------------------------	----------------------

7. REFERENCE ORGANIZATION NAME AND ADDRESS  
Synectics Corp.

8. SUPPLEMENTARY NOTES (Sponsoring Organization, Publishers, Availability)

9. ABSTRACT  
(EDUCATION R&D)  
(COMMUNICATION R&D)

10. CONTROL NUMBER IN-AID-812	11. PRICE OF DOCUMENT
12. DESCRIPTORS	13. PROJECT NUMBER
	14. CONTRACT NUMBER AID/ta-C-1198 GTS
	15. TYPE OF DOCUMENT

696-C-1

NEW APPROACHES--MASS MEDIA/  
NON-FORMAL NUTRITION EDUCATI

Communication Model and  
Demonstration Plan

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Submitted to:

Agency for International Developme  
Bureau of Technical Assistance  
Office of Nutrition  
Washington, D. C. 20523

Pursuant to:

Contract No. AID/ta-C-1198

Submitted by:

Synectics Corporation  
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Allison Park, Pennsylvania 15101

November 1975

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## INTRODUCTION

The overall purpose of this study is to develop and pilot test a communication model which utilizes mass media approaches and more interpersonal methods in existing nonformal education delivery systems to make available nutrition education to improve the food behavior of large segments of Less Developed Country (LDC) urban and rural populations. The purpose of this document is to prestructure a communications model and implementation plan which can subsequently be detailed and formalized.

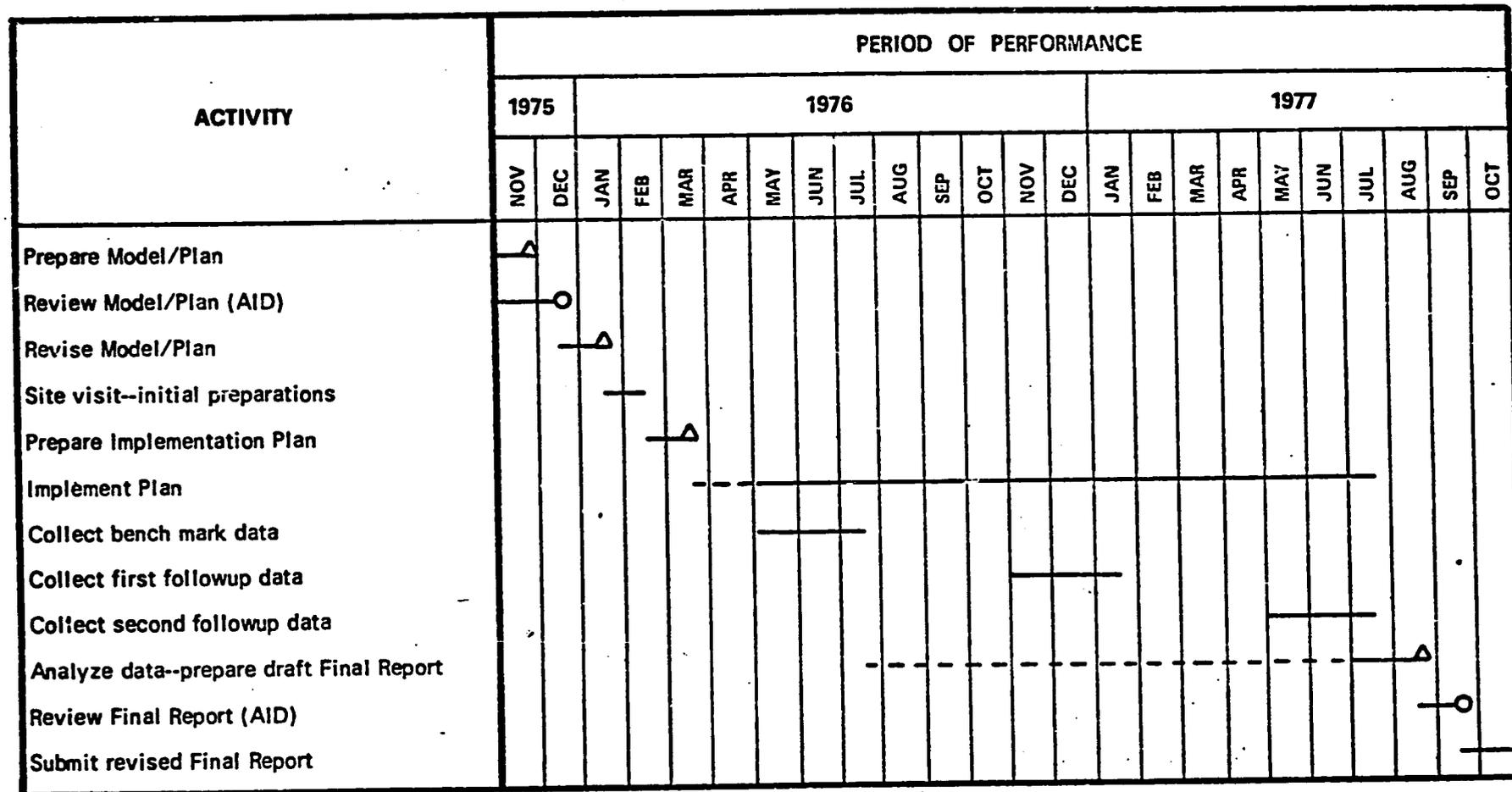
This report is divided into three major sections. The first section presents a preliminary structure of a generalized communication model. The model will serve the purpose of providing the basic conceptual framework for the study from which detailed development for study implementation can be built and by which study results can be reviewed. The second section delineates structures, actions, and events of the demonstration (pilot test) of the model. The third section provides plans and methodology by which the effectiveness of the model can be assessed. Implementation of this aspect of the study will provide data and insights by which the preliminary model can be restructured for most general applicability to LDC conditions.

Publication of this report is but one in a series of key events in development and test of the model. Important events of the study which have already been accomplished include visits to three LDCs for the purpose of investigating each country's potential for the study. Colombia, Honduras, and Tunisia were surveyed and reports prepared describing relevant conditions in each. All of the countries demonstrated potential for the study, but comparison of the countries on the basis of key nonformal nutrition education and mass media capabilities, as provided in a multicountry report, resulted in selection of Tunisia as the study country.

Following review, necessary revision, and acceptance of this report, a visit will be made to Tunisia during which substantive arrangements will be reached with all appropriate entities and officials for conduct of the field demonstration. Information gained during the visit will be compiled into a detailed Implementation Plan. This plan will advise the USAID Mission, the cooperating local agencies, and any other persons or organizations who have a need to know, as to the intended activities in Tunisia. The plan will serve as an ongoing guide for key participants in the study, detailing respective responsibilities and requirements during the full implementation. The Implementation Plan will establish and organize a study team, include the names, roles, and contact places for team members, schedules of events, and other information pertinent to completion of the study. A brief one-page prospectus of the implementation study will be prepared for use by USAID, as well as by team members.

In-place implementation of the model will occur during the period commencing 1 May 1976 and ending 15 July 1977. Field testing of the model will include establishment of bench marks for measuring food related knowledge, attitudes, and behavior at the start of the field implementation and six month intervals thereafter to assess change. Thus, data collection will occur during the period May through mid-July 1976, November 1976 through mid-January 1977, and May through mid-July 1977.

A draft Final Report will be provided by 15 August 1977. Following review by AID and an expert panel, suggested modifications will be incorporated and a revised version of the Final Report will be provided by 31 October 1977. A schedule showing these and other aspects of the study activities in greater detail is provided in Figure 1.



KEY: △ Document Submission  
 ○ Document Review Meeting (AID and Advisory Panel)

Figure 1. Schedule of Activities

## A PRELIMINARY COMMUNICATIONS MODEL

### The Macro Model

Figure 2 presents a macro view of the preliminary communication model currently envisioned by Synectics. The four key domains in the schematic are:

- ✓ Education Domain, referring to the types and characteristics of programs, agencies, and operating groups effecting (or potentially capable of effecting) changes in nutritional status of target populations through educational techniques.
- ✓ Communication Domain, dealing with message and medium characteristics which are controllable by the originators of communications and capable of influencing the impact of communication on definable target populations.
- ✓ Behavioral Domain, which includes those target population psychological and requirement/activity area characteristics amenable to influence by education and communication.
- ✓ Analysis/Evaluation Domain, involving the procedures required for identifying and measuring the effects of education and communications on the target population and feeding this information back to sources of control.

### Model Components

#### Education Domain

The education domain of interest is that of nutrition and nutrition-related subject matter which is provided through a multifaceted and multi-sectoral attack. Invariably, numerous organizations and programs, directly or indirectly, contribute to this attack. Contributors vary considerably in size and complexity of their organization, the extent of outreach, educational objectives and modes. The range of actions may originate at the national Ministerial and international relief organizational level and be implemented through individual programs and voluntary field worker groups at the local level. Within these entities, there may be multiple and varied emphases of nutrition and nutrition-related education. The following descriptions are intended to delineate structurally what are operationally confounded interests.

Nutrition. Agents for the direct intervention in, and improvement of, the target audience's nutritional status are most typically the following:

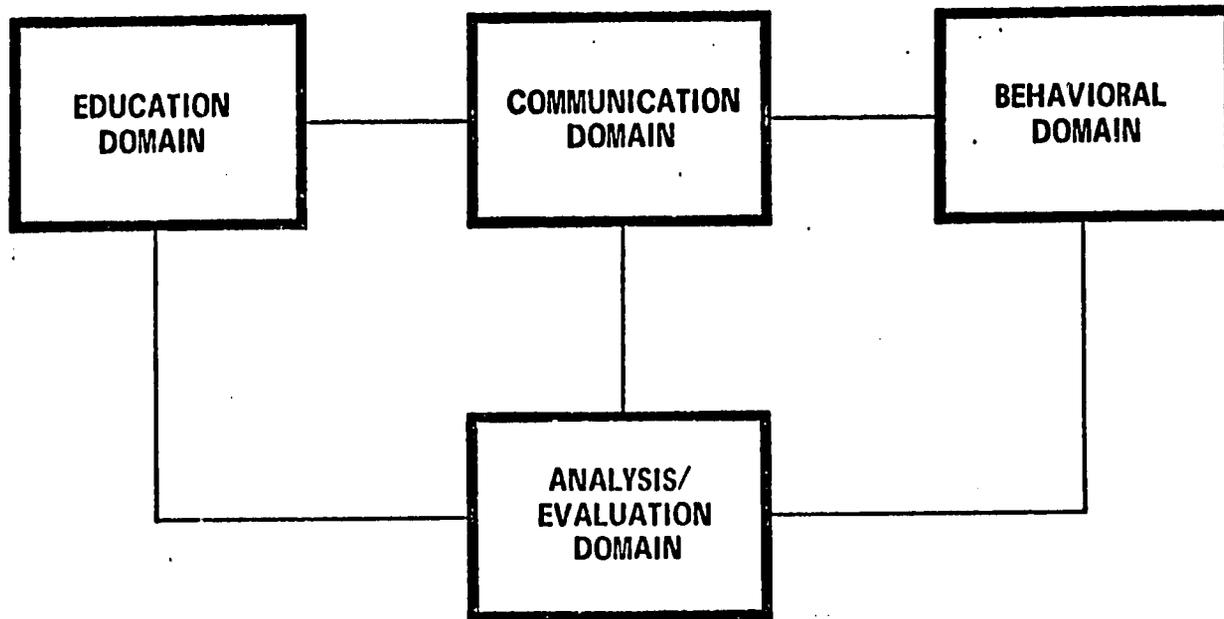


Figure 2. A Communication Model: Macro Level

✓ Food distribution programs or centers.

- Recuperative programs--designed to provide food to severely malnourished infants on a regular basis until physical improvement is achieved.
- Maintenance programs--designed to treat cases of mild malnutrition and to prevent it in high risk individuals such as infants and pregnant or lactating mothers.
- On-site programs--where the preparation and consumption of distributed foods takes place in the controlled environment of the program center.
- Take-home programs--where program participants receive supplemental foods but prepare and consume them in their own homes.

✓ School lunch programs--designed to supply at least one wholesome meal to the nutritionally vulnerable small child.

✓ Food coupon programs--designed to provide target populations with greater food acquisition power.

Nutrition education projects, designed to instruct target populations on how best to utilize available food resources, may take place in any of the above type settings.

Health Care. Specific health problems may vary from country to country and, within countries, from region to region. However, across LDCs the most recurring health care interventions for the target population are:

- ✓ Prophylactic treatment, such as vaccination against infectious childhood diseases.
- ✓ Prenatal, child delivery, and postnatal care.
- ✓ Treatment of enteric and respiratory diseases which undermine the nutritional status of the populace.

Agents which administer and deliver such services are most typically government health ministries and international voluntary agencies. They operate, usually, through:

- ✓ Hospitals.
- ✓ Clinics.
- ✓ Rural medical outposts.
- ✓ Mother-child health centers.
- ✓ Outreach projects utilizing paraprofessionals and auxiliary field workers.

Population Planning. Common sources of information and services for the control of family size and the spacing of children are:

- ✓ Government ministries and agencies for health and social welfare.
- ✓ Private family planning agencies.
- ✓ Prenatal clinics.
- ✓ Contraception care clinics.
- ✓ Abortion clinics.
- ✓ Mother-child health centers.
- ✓ Women's leagues and clubs.

Sanitation. Since a high incidence of water-borne parasitic and infectious diseases seriously hampers all other LDC efforts to significantly reduce malnutrition, provision of sanitary water and eradication of unsanitary conditions are natural and vital concerns of entities interested in nutritional improvement. Typical agents for sanitary improvements include:

- ✓ Government ministries of health and public works.
- ✓ Rural development programs sponsored by international relief agencies and the health organizations.
- ✓ Well digging projects carried out under a variety of auspices.
- ✓ Health and social welfare auxiliary field workers.
- ✓ Ad hoc sanitation-related programs, e.g., vaccination campaigns and disaster relief organizations.

Agriculture. Agricultural efforts for improvement and expansion of crops for domestic consumption favorably affect the prevailing nutritional status. Typical agents of influence in a country's nutritional status include:

- ✓ Ministries of agriculture and their agencies.
- ✓ International agencies and developed nations that promote development and use of higher yield and nutrient-rich crops.
- ✓ Agricultural extension services.
- ✓ Agencies for the warehousing, transportation and marketing of food stuffs.
- ✓ Agriculture-related technical training programs.

Resource Management. Assistance and instruction for optimal utilization of natural or wild food resources, as well as legislative control over the exploitation of these resources, is typically accomplished by the following agencies:

- ✓ Ministries of agriculture and their agencies.
- ✓ Ministries or agencies of natural resources or environmental protection.
- ✓ Agricultural extension services.
- ✓ Fish commissions.
- ✓ Wildlife commissions.
- ✓ Forestry services.
- ✓ Social welfare field work organizations.

### Communication Domain

Important communications characteristics include: (1) the structural features of messages without regard to specific message content; (2) the arrangement, emphasis, intent, and style of content within the message, and; (3) characteristics of the message "carrier," or medium. Message-related features include:

Credibility/Attractiveness deals with the "valence" of the message as perceived by the audience. Message valence (i.e., the value or worth of the message as viewed by the recipient) is a joint function of several aspects of the message, including credibility, general attractiveness, truthfulness, method of handling dissonant message content, and perceived source power. Some aspects of valence are clearly not intrinsic to the organization and structure of the message itself, but rather result from the concordance of message style and content with recipient knowledge and belief patterns.

Relevance involves the extent to which messages present identifiable objectives, include audience involvement as an essential feature of content, and relate to situations in which objects of potential message-mediated behavior change are likely to be encountered.

Congruence refers to the sensitivity of message elements to existing need, belief, knowledge, and skill attributes within the message recipient population.

Structure deals with the placement of message information elements within some larger, logically derived, conceptually consistent set of assumptions, data, and knowledges. Concepts such as knowledge hierarchies, learning and objective sequences, conceptual boundaries, categorization, subsumption, and generalization are important here.

Distinctiveness involves processes associated with aiding the recipient to conceptually concretize key elements of message content. Key concepts here include use of exemplary material, positivism/negativism of exemplary instances, highlighting, and level of detail.

Order and Tempo refer to positioning and spacing of message elements.

Realism deals with mechanisms for handling the potentially deleterious effects of: (1) lag time between implementation of message-related suggestions and fruition of effort, and (2) failure of suggested behavior to produce desired results.

Mass media types can be classified by examining the combinations of three general media attributes: text, sound, and imagery. Ignoring the null set, this results in eight potential media structures. Four of these seem cogent to mass media applications in the current effort:

Textual Media, such as books, magazines, flyers, and pamphlets. Note that although these media are generally considered to be text-oriented, they often include imagery for illustration and emphasis.

Imagery, in the sense we are using it here, also consists primarily of printed documents such as books and magazines, but might also include photograph sets, slides, and film strips. Books and magazines limited to or emphasizing diagrammatic or pictographic material can also fall into this category. These might be used in communicating to essentially illiterate populations.

Audio Media, such as radio, lectures, and tape recordings.

Audio-Visual media, such as television and sound movies.

## Behavioral Domain

Three general aspects of behavior are of concern:

Attitude. A learned reaction comprised of beliefs and emotions as they relate to an object, concept, or event. Attitudes are determined by the quality and accuracy of information and by the nature of experience with the

object, concept, or event. Attitudes influence motivation and actions, and by extension, skills which are acquired.

Motivation. That which causes a person to behave in a particular fashion, given a set of choices. Motivation helps in understanding not only why a person behaves in a given manner but in postulating what may induce a person to modify behavior.

Knowledge/Skill. Knowledge is a person's retrievable collection of facts and information about an object, concept, or event. Knowledge may derive from abstract information or from sensory perceptions and experiences. Skill is the ability to perform a given task or activity, and the proficiency with which it is performed. Skills are differentiated from knowledge by action.

The behavioral domain of interest is that of knowledge, skill, motivation, and attitudes for nutrition and nutrition-related areas. For convenience, the nutrition-related behavioral domain is divided into the following categories:

Food Consumption. This area attends to what foods get eaten, by whom, in what quantity, and in what form.

Food Procurement/Planning. Acquisition of food by a variety of means, including purchase, production, and gathering. Allocation of resources for food is an underlying concept as are the quantity and quality of the acquisition.

Food Storage/Sanitation/Preservation. This involves the keeping of food through a variety of techniques and through long- and short-term stages to preserve its quantity and quality.

Food Preparation. The cleaning and cooking of food in ways which preserve its quantity and quality and which are conducive to its consumption and its absorption by the consumer.

Ancillary behaviors of interest include those related to health care, population planning, sanitation, agriculture, and resource management.

### Analysis and Evaluation Domain

Components of analysis and evaluation activity are those which, when appropriately and comprehensively attended to, will result in clear and unambiguous explication of the effects of given treatments on criterion behavior. Seven issues are important:

Analytical Objectives. Prior to the initiation of any analysis, it is virtually mandatory to decide upon precisely what is to be analyzed, and upon the context in which analysis is to be performed. This process assures that no valuable information will "slip through the cracks" before specific analytical procedures are executed.

Criterion Measures. Criterion measures are, in essence, measures of the dependent variables in the evaluation process. Explication of criterion measures early on in the analytic process permits assessment of the feasibility of assessing certain forms of behavior; relating criterion variables to independent (controllable) variables sets the stage for detailed design of evaluation procedures and experimental design.

Analytical/Evaluation Design. The essential purpose of analytical/evaluation design is to assure that the analytic process (1) maximizes the amount of useful information derivable from analyses of data collected and/or generated in the analytic process; (2) is responsive to the data--and program objective-related imperatives for analyses, and (3) highlights limitations of the analytic process imposed by the nature of the data, resource limitations, time constraints, etc.

Data Structures. Data structures refer to organized knowledge about varieties, clusters, and interrelationships of dependent and independent variables included in the analytic/evaluation effort. An important issue here is the formulation of examinable hypotheses about relationships between independent and criterion variables.

Data Collection. Data collection consists of the processes, techniques, and materials used to obtain the information necessary for implementation of the evaluation.

Data Reduction and Analysis. Data reduction and analysis includes procedures associated with:

- ✓ Combining, and simplifying information to permit more efficient analyses.
- ✓ Deriving quantitative or quantifiable information from essentially qualitative data using inductive and categorical methods.
- ✓ Mathematically and logically manipulating data to derive objective summaries of characteristics and interactions among data and data clusters.

Interpretation. Raw output from application of data analytic techniques rarely provides explicit, insightful information about processes undergoing evaluation. Interpretation involves:

- ✓ Drawing explicit links between analytical results and program processes.
- ✓ Clustering analytical results to form coherent patterns and trend summaries relating to specific program issues.
- ✓ Identifying implications of analytical results for program objectives and operation.

## Interaction Matrices

The interactive nature of the communications model domains shown in Figure 2 is intrinsically more interesting than the individual domains and contributes greatly to implementation of the total model. Five key interactions are depicted for the model.

Communication and Education Domains. Figure 3 represents the interactions between the communication and education domains. Examination of each of these domains against the other will direct the continuity of the interpersonal education and the media content. Several aspects of these interactions are of note:

- ✓ Message characteristics do not appear to differ by educational content areas.
- ✓ Educational content areas do not impact differently on media type selections.
- ✓ Content specific to an area of the education domain is a frequently identified attribute of message characteristic parameters.

Behavioral and Communication Domains. Figure 4 represents the interactions between the behavioral and communication domains. These interactions depict and govern characteristics of the communication domain which will tend to promote desired behavioral states. Since the communication domain extends the education domain, the behavioral states desired from the education domain are indirectly included. Relationships between aspects of the behavioral domain of interest and message characteristics/media types are intricate but extremely informative and rich in guidance. For example:

- ✓ Some message characteristics, e.g., credibility and attractiveness of messages do not differ by behavioral aspect.
- ✓ For some message characteristics, e.g., relevance and congruence, structure, distinctiveness of the message, the behavioral aspects impose different but non-conflicting message characteristics.
- ✓ Selection of media type is more directly affiliated with aspects of the behavioral domain than are message characteristics, e.g., the relationship of textual material to attitude/motivation versus knowledge/skill aspects of behavior.

Education and Analysis/Evaluation Domains. Figure 5 represents the interactions between the education and the analysis/evaluation domains. Aspects of the education domain contribute to content and methodology of the analysis/evaluation domain. Results and interpretations from the analysis/evaluation domain feed back to the education domain to permit its refinement and more precise targeting. Only for the criterion measures aspects of the analysis/evaluation domain does the education domain demand different structure. However, the criterion measures impact uniquely on successive stages of the analysis/evaluation domain, thus their pervasiveness throughout the remainder of the matrix is present but obscured.

Communication and Analysis/Evaluation Domains. Figure 6 represents the interactions between the communication and the analysis/evaluation domains. Message characteristics and media types contribute to content and methodology of the analysis/evaluation domain. Results and interpretations from the analysis/evaluation domain feed back to the communication domain and indirectly to the education domain for model refinement and improved program performance. Two distinct sets of relationships emerge in this interaction:

- ✓ Those associated with message characteristics.
- ✓ Those associated with media types.

Behavioral and Analysis/Evaluation Domains. Figure 7 represents interactions between the behavioral and the analysis/evaluation domains. Desired behavior states contribute to the structure and content of the analysis/evaluation domain. This is the key transfer matrix in that the status of achievement of desired behavior provides the knowledge and insights through which all model domains and their interactions can be reviewed and enhanced. But, only when the behavioral and analysis/evaluation domains can be tied into specific and detailed objectives do the two domains impose on each other in unique and intricate ways.

		EDUCATION DOMAIN						
		NUTRITION	HEALTH CARE	POPULATION PLANNING	SANITATION	AGRICULTURAL	RESOURCE MANAGEMENT	
COMMUNICATION DOMAIN	MEDIA	CREDIBILITY/ATTRACTIVENESS	<ul style="list-style-type: none"> <li>•Capitalize on inherent source credibility.</li> <li>•Emphasize aspects of program having maximum respect of/attractiveness to target population.</li> </ul>					
		RELEVANCE	<ul style="list-style-type: none"> <li>•Link educational information to specific objectives of the program.</li> <li>•Identify program-specific intermediate objectives/activities/projects relating to more distal educational objectives.</li> </ul>					
		CONGRUENCE	<ul style="list-style-type: none"> <li>•Emphasize education of objectives closely associated with ongoing program activities widely accepted by target population.</li> <li>•Integrate message content among a coherent set of activities across program entities.</li> <li>•Emphasize message content most concordant with existing target population characteristics.</li> </ul>					
		STRUCTURE	<ul style="list-style-type: none"> <li>•Maximize transfer of training and behavior by analogy of program to educational activity/goals.</li> <li>•Utilize existing program-relevant concept structures in discussing content-specific concepts.</li> </ul>					
		DISTINCTIVENESS	<ul style="list-style-type: none"> <li>•Attempt to derive content specific examples from successful program-related education/training efforts.</li> </ul>					
		ORDER/TEMPO	<ul style="list-style-type: none"> <li>•Emphasize program-related aspects of knowledge/performance which involve similar target population activity in comparable educational contexts.</li> <li>•Initially emphasize general, global content-specific concepts which relate to program activity; proceed to specifics only after laying a solid generalizable base.</li> </ul>					
		REALISM	<ul style="list-style-type: none"> <li>•If short-term perceived failure of educative elements is possible (e.g., if implementation/perceived benefit lag is too large for causal linking by target population), link educative elements with examples of deferred benefit in past program education/training efforts.</li> </ul>					
	MESSAGE	TEXTUAL	<ul style="list-style-type: none"> <li>•Maintain continuity of media.</li> </ul>					
		VISUAL	<ul style="list-style-type: none"> <li>•Maintain level of educational aspiration within media types.</li> </ul>					
		AUDIO	<ul style="list-style-type: none"> <li>•Maintain distinctive characteristics within media.</li> </ul>					
AUDIO-VISUAL-TEXTUAL								

Figure 3. Interaction Matrix: Education and Communication Domains

		BEHAVIORAL DOMAIN		
		ATTITUDE	MOTIVATION	KNOWLEDGE/SKILL
COMMUNICATION DOMAIN	MESSAGE CHARACTERISTICS			
	CREDIBILITY/ATTRACTIVENESS	<ul style="list-style-type: none"> <li>For initially negative attitudes, counter opposing attitudes directly, not surreptitiously.</li> <li>Link educative elements with agency power, credibility, and attractiveness indications.</li> </ul>	<ul style="list-style-type: none"> <li>Avoid falsehoods, innuendo, distortion (in initial educative contacts especially).</li> <li>Emphasize advantages and strengths of arguments-do not present both sides of issues to essentially unknowledgeable audiences.</li> </ul>	<ul style="list-style-type: none"> <li>Severe opposition may require use of skilled personnel in face-to-face settings.</li> <li>If target audience is primarily of one sex, use person of that sex as communicator.</li> </ul>
	RELEVANCE	<ul style="list-style-type: none"> <li>Explain carefully what message is intended to achieve.</li> <li>Explaining intermediate (and conceptually proximal) objectives is important for learning.</li> </ul>	<ul style="list-style-type: none"> <li>Positive attitudes do not necessarily imply motivation to change behavior.</li> </ul>	<ul style="list-style-type: none"> <li>Successfully changed attitudes do not necessarily imply ready acceptance of new skills and knowledge.</li> <li>Creation of essentially new skills or knowledges within the target population (even if minor) engenders heightened involvement.</li> </ul>
	CONGRUENCE	<ul style="list-style-type: none"> <li>Depicting consequences can outweigh existing values.</li> <li>Group conformity can facilitate opinion change.</li> <li>Link message content to existing value systems to optimize internal consistency.</li> </ul>	<ul style="list-style-type: none"> <li>Motivation will increase with successful application of message content.</li> <li>Increased motivation accompanies a relationship of subject matter to felt needs.</li> <li>Messages should appeal to strong motives.</li> </ul>	<ul style="list-style-type: none"> <li>Aspirations will increase with successful application of new skills and knowledges.</li> </ul>
	STRUCTURE	<ul style="list-style-type: none"> <li>Consistency with pre-existing target population need, attitudinal, and knowledge structures support attitude change.</li> </ul>		<ul style="list-style-type: none"> <li>Logical sequencing of knowledge/skill prerequisites supports higher-level learning.</li> <li>Mediated learning and utilization of hierarchical learning sets facilitates transfer of training.</li> <li>Perceptual learning involves task hierarchies.</li> </ul>
	DISTINCTIVENESS	<ul style="list-style-type: none"> <li>Positive instances are more easily assimilated than negative ones.</li> <li>Concentrating on that which is inherently "interesting" and "relevant" will help gain and maintain target population attention.</li> <li>Humor is not necessarily an adjunct to attitude change.</li> <li>Periodic evocation of concepts supports attention maintenance.</li> </ul>	<ul style="list-style-type: none"> <li>Surprise, doubt, perplexity, and contradiction can be motivating influences.</li> </ul>	<ul style="list-style-type: none"> <li>Concepts can be sharpened and prepared for integration by examples.</li> <li>Learning and retention of new material depends highly on the perceived stability and clarity of subsumers.</li> <li>Perceptual learning is supportable by emphasis on "distinctive feature" of the object of learning.</li> </ul>
	ORDER & TEMPO	<ul style="list-style-type: none"> <li>Conclusions should precede supporting information.</li> <li>Persuasive arguments of highest salience may come either first or last in a presentation, but should not be temporally or positionally intermediate.</li> </ul>	<ul style="list-style-type: none"> <li>Multicontextual learning can be motivating.</li> </ul>	<ul style="list-style-type: none"> <li>Learning tasks should be progressively differentiated, starting with the general and inclusive.</li> <li>Multicontextual learning can facilitate learning and positively influence eventual behavior.</li> <li>Repetition within and across messages may facilitate learning, but leads to an early asymptote.</li> </ul>
REALISM	<ul style="list-style-type: none"> <li>Preparatory messages can stave off extinction from the effects of early failure.</li> <li>Admired models which show delay in gratification can result in preference for delay.</li> </ul>		<ul style="list-style-type: none"> <li>People with limited resources require quick results, and options in behavior if desired and states are not immediately forthcoming.</li> </ul>	
MEDIUM	TEXTUAL	<ul style="list-style-type: none"> <li>There are often pervasive, systematic differences in audience perception of media credibility.</li> <li>Those who are more familiar with given media are more likely to attend to messages carried by it than those carried by other media.</li> </ul>	<ul style="list-style-type: none"> <li>Textual material may be less effective than spoken material in changing attitudes and opinions.</li> <li>Culturally sophisticated, knowledgeable audiences are likely to be more receptive to written than spoken persuasive efforts.</li> </ul>	<ul style="list-style-type: none"> <li>Textual material may be mandatory for supporting acquisition of complex skills (particularly cognitive skills).</li> <li>Textual material is comprehended better than spoken material, thus engendering more accurate knowledge/skill dispersion.</li> </ul>
	VISUAL		<ul style="list-style-type: none"> <li>Pictorial information may be more persuasive than other types when real-world visual references are available to the audience.</li> </ul>	<ul style="list-style-type: none"> <li>Pictorial or diagrammatic materials may be required for transmission of complex psychomotor skills.</li> </ul>
	AUDIO	<ul style="list-style-type: none"> <li>Mass media effectiveness is increased when the media (and the messages carried on it) are linked to existing social relations.</li> </ul>	<ul style="list-style-type: none"> <li>Spoken words may be more effective than text in changing attitudes and opinions.</li> <li>Culturally unsophisticated, unknowledgeable audiences are likely to be more receptive to spoken than written persuasive efforts.</li> </ul>	<ul style="list-style-type: none"> <li>Audio messages may be most suitable in maintaining knowledge levels, or adding small increments of knowledge/skill to existing behavioral/psychological capabilities and structures.</li> </ul>
	AUDIO-VISUAL-TEXTUAL	<ul style="list-style-type: none"> <li>Face-to-face communication may be required to counter media unattractiveness.</li> </ul>	<ul style="list-style-type: none"> <li>Audio-Visual presentations lend vividity and reality to messages, and may thus be more effective than other media in changing attitudes and opinions.</li> </ul>	<ul style="list-style-type: none"> <li>Audio-Visual presentations can maintain skills and knowledge, particularly where psychomotor behavior is required.</li> </ul>

Figure 4. Interaction Matrix: Behavioral and Communication Domains

		EDUCATION DOMAIN					
		NUTRITION	HEALTH CARE	POPULATION PLANNING	SANITATION	AGRICULTURAL	RESOURCE MANAGEMENT
ANALYSIS/EVALUATION DOMAIN	ANALYTICAL OBJECTIVES	• Objectives should be consistent with program purview, operational characteristics, and operational objectives.					
	CRITERION MEASURES	<ul style="list-style-type: none"> <li>• Food consumption</li> <li>• Food procurement/ planning</li> <li>• Food storage/ sanitation/ preservation</li> <li>• Food preparation.</li> </ul>	<ul style="list-style-type: none"> <li>• Human development</li> <li>• Disease incidence</li> <li>• Disease severity</li> <li>• Health attitudes</li> <li>• Health care acquisition</li> </ul>	<ul style="list-style-type: none"> <li>• Population growth rate data</li> <li>• Birth characteristics</li> <li>• Birth defect rates</li> </ul>	<ul style="list-style-type: none"> <li>• Waste disposal procedures</li> <li>• Food storage, preparation consumption procedures</li> <li>• Incidence of sanitation-related diseases and disorders</li> </ul>	<ul style="list-style-type: none"> <li>• Food planting and harvesting activity</li> <li>• Stock raising activities</li> <li>• Fish/poultry raising</li> </ul>	<ul style="list-style-type: none"> <li>• Hunting/fishing activities</li> <li>• Gathering activities</li> </ul>
	ANALYTICAL/EVALUATION DESIGN	<ul style="list-style-type: none"> <li>• Design feature concordance with agency characteristics.</li> <li>• Criterion variables</li> <li>• Portions of target population</li> <li>• Nutritional area coverage</li> <li>• Population contact modes</li> <li>• Health status and other content area coverage</li> </ul>					
	DATA STRUCTURES	<ul style="list-style-type: none"> <li>• Develop hypothetical relationships among independent and criterion variables.</li> <li>• Specify non-piggybacked program contributions to variations in criterion behavior.</li> </ul>					
	DATA COLLECTION	<ul style="list-style-type: none"> <li>• Maximize use of existing program data.</li> <li>• Utilize existing agency client contact mechanisms for collecting data derived from piggybacked nutrition programs.</li> </ul>					
	DATA REDUCTION AND ANALYSIS	<ul style="list-style-type: none"> <li>• Test for sensitivity of dependent variable to activities of other programs.</li> <li>• Test for sensitivity of dependent variable to activities of external agencies.</li> <li>• Test for sensitivity of dependent variables to various combinations of piggybacked activities.</li> </ul>					
	INTERPRETATION	<ul style="list-style-type: none"> <li>• Review and interpret in light of program relevant goals.</li> <li>• Review and interpret in light of type and extent of piggybacked activities.</li> </ul>					

Figure 5. Interaction Matrix: Education and Analysis/Evaluation Domains

		COMMUNICATION DOMAIN									
		MESSAGE CHARACTERISTICS							MEDIA		
		CREDIBILITY/ ATTRACTIVENESS	RELEVANCE	CONGRUENCE	STRUCTURE	DISTINCTIVENESS	ORDER AND TEMPO	REALISM	TEXTUAL	VISUAL	AUDIO
EDUCATION DOMAIN	<b>ANALYTICAL OBJECTIVES</b>	<ul style="list-style-type: none"> <li>Objectives should attend to message characteristics both separately and jointly.</li> </ul>							<ul style="list-style-type: none"> <li>Objectives should attend to each media type.</li> </ul>		
	<b>CRITERION MEASURES</b>	<ul style="list-style-type: none"> <li>Identify hypothetical relationships of independent variables with criterion variables.</li> </ul>							<ul style="list-style-type: none"> <li>Postulate differential media effects on criterion behaviors.</li> </ul>		
	<b>ANALYTICAL/EVALUATION DESIGN</b>	<ul style="list-style-type: none"> <li>Assure independence of dependent variable measurement.</li> <li>Assure comprehensiveness of coverage of independent variables.</li> </ul>							<ul style="list-style-type: none"> <li>Assure independence of media coverage.</li> <li>Postulate diffusion mechanisms and processes.</li> <li>Distribute.</li> </ul>		
	<b>DATA STRUCTURES</b>	<ul style="list-style-type: none"> <li>Derive independent variables.</li> <li>Define message characteristic measures.</li> <li>Assure unambiguous measures of message characteristics.</li> </ul>							<ul style="list-style-type: none"> <li>Derive independent variables.</li> <li>Define media characteristic messages.</li> <li>Identify extent to which messages are compatible with media characteristics.</li> </ul>		
	<b>DATA COLLECTION</b>	<ul style="list-style-type: none"> <li>Sample messages if required.</li> </ul>							<ul style="list-style-type: none"> <li>Sample media characteristics</li> </ul>		
	<b>DATA REDUCTION AND ANALYSIS</b>	<ul style="list-style-type: none"> <li>Score messages, assuring consistency among scorers (if more than one).</li> <li>Test postulated relationships.</li> <li>Test for interactions among message characteristics.</li> <li>Test for interactions with media; agency/program type.</li> </ul>							<ul style="list-style-type: none"> <li>Test postulated relationships.</li> <li>Test for interactions among media.</li> <li>Test for interactions with message characteristics; program/agency type.</li> </ul>		
	<b>INTERPRETATION</b>	<ul style="list-style-type: none"> <li>Place results in context.</li> <li>Differentiate among message characteristic effects.</li> </ul>				<ul style="list-style-type: none"> <li>Define interrelationships with media.</li> <li>Define interrelationships with agency/program characteristics.</li> </ul>			<ul style="list-style-type: none"> <li>Differentiate among media effects.</li> </ul>		

Figure 6. Interaction Matrix: Communication and Analysis/Evaluation Domains

		BEHAVIORAL DOMAIN		
		ATTITUDE	MOTIVATION	KNOWLEDGE/SKILL
ANALYSIS/EVALUATION DOMAIN	ANALYTICAL OBJECTIVES	•Objectives should be consistent with educational objectives.		
	CRITERION MEASURES	Desired types/levels of: <ul style="list-style-type: none"> <li>• Food consumption</li> <li>• Food procurement/planning</li> <li>• Food storage/sanitation/preservation</li> <li>• Food preparation</li> <li>• Health care</li> <li>• Population planning</li> <li>• Sanitation</li> <li>• Agriculture</li> <li>• Resource Management</li> </ul>		
	ANALYTICAL/EVALUATION DESIGN	•Design feature concordance with education, communication, and population variables.		
	DATA STRUCTURES	•Develop hypothetical relationships among independent and criterion variables. •Specify non-piggybacked program contributions to variations in criterion behavior.		
	DATA COLLECTION	•Maximize use of existing program data. •Implement data categories compatible with existing categories. •Implement data categories with program-intrinsic value.		
	DATA REDUCTION AND ANALYSIS	•Test for sensitivity of dependent variables to program activities. •Test for sensitivity of dependent variables to combinations of piggybacked activities. •Test for sensitivity of dependent variables to activities external to the program.		
	INTERPRETATION	•Review and interpret in light of program goals. •Review and interpret in light of type and content of piggybacked activities.		

Figure 7. Interaction Matrix: Behavioral and Analysis/Evaluation Domains

## THE PRELIMINARY FIELD DEMONSTRATION PLAN

### Nonformal Education Component

#### Criteria

Through examination of the education domain of the model and the relevant interaction matrices, specific conditions of particular relevance to the field demonstration education component can be derived. Thus, the following criteria were established for the education component:

- ✓ Ongoing nonformal nutrition education systems reaching appropriate nutritionally high risk groups, especially young children and their mothers, or programs which lend themselves to the motivation of nutritionally vulnerable groups to improve their food behavior.
- ✓ Evidence of educational objectives relevant to nutrition, whether explicitly or implicitly stated.
- ✓ Possibility for imposing variability in educational treatment, e.g., nonformal education present and absent, mass-media educational approaches present and absent, and combinations thereof.
- ✓ Evidence that at least two types of programs could be available and that at least two centers, comparable with respect to geographic and target audience characteristics, could be identified for each program.
- ✓ Urban and rural penetration.
- ✓ Programs of sufficient size to permit identification of study samples adequate to provide data stability within educational treatment variations.
- ✓ Interest in the study to the extent that resources would be provided for some level of Tunisian involvement in the study.

#### Selection

A variety of contexts within those identified in the education domain described on pages four through eight were explored during the site survey. Two programs in particular met each of the above criteria. These are the Maternal Child Health (MCH) Centers, established within the National

Institute of Child Health under the Ministry of Public Health, and the Social Development Centers, operated under the Ministry of Social Affairs. The two programs work with different audiences and use different approaches to nutrition and nutrition-related education, thereby satisfying the criterion for variability in educational approach.

Specific details of how these two programs meet the criteria for the study have been provided in the *Survey Report-Tunisia* and in the *Multi-Country Survey Report* prepared following the site surveys. Highlights of these conditions are provided below.

Maternal Child Health Centers. There are approximately 120 MCH Centers and 500 Dispensaries operating throughout Tunisia. The primary purpose of the centers is to provide pediatric and gynecological services for the low income population. For infants, there are both routine medical and recuperative services. Staffing of a center usually consists of one doctor, with other doctors available for consultation or special services, and one to three midwives/nurses/technicians. A component for education of the mothers is attached to each of these. Staff over-burden limits the educational activity, particularly for the routine medical aspects of the services. However, the waiting room is an ideal setting for nonformal education, including both interpersonal approaches and the use of selected types of mass media.

Social Development Centers. There are approximately 110 Social Development Centers across Tunisia which employ 560 "animatrices sociales" and 160 "assistants sociaux" to provide a social and educational intervention for the upgrading of the Tunisian population, especially young women and girls. Informal training courses in the centers are especially designed for young women of childbearing age. The objectives are to provide literacy training, to extend education beyond the formal school education, to make better future mothers/homemakers, and to develop skills which will contribute to the family's income and well-being. A substantial part of the training curriculum is in nutrition and nutrition-related subject matter.

### Establishing a Nonformal Education Component for the Study

An initial activity of the preplanning visit to Tunisia will be to establish specific aspects of the educational component. These arrangements will center around:

- ✓ Exploration for appropriate centers. Information gathered during the survey visit indicated that for both types of centers (MCH and Social Development), prospects for finding suitable centers in communities nearby to Tunis are excellent. Such close proximity to Tunis would allow the study the advantage of Tunisian expertise--thereby providing a situation similar to that which would probably occur were Tunisia to later undertake such an intervention on its own.

- ✓ Identification of educational objectives. Efforts are underway within the National Institute of Nutrition and Food Technology to develop a set of national nutrition education objectives and teaching materials. Using these and the established educational objectives for the two types of centers, a set of common nutrition education objectives can be established for the study. Discussions will also be held with center personnel, especially those with responsibility for education, to determine how their educational efforts may vary according to population needs. Thus, the set of nutrition education objectives to be implemented within the study context will be determined with the study staff and Tunisian personnel jointly participating.
- ✓ Identification of curriculum characteristics. Responsibility for teaching, ways in which the teaching is carried out, materials used, etc., will be fully explored and documented. To the extent possible, the study will maintain these aspects of the nonformal education component as found in order to maintain its "in-place" status. If natural modifications in the curriculum occur over the period of the study, these will be documented and explored as a study variable.

### Mass Media Component

#### Criteria

Direct and indirect indications for the communication component for the study which can be determined from examination of the communication domain and the relevant interaction matrices include:

- ✓ Implementation of mass media approaches to nutrition education which have objectives corresponding to or extending those of the ongoing nonformal education programs.
- ✓ Possibility for imposing variability in communication treatment, e.g., mass media approach(es) present and absent, in conjunction with nonformal education present and absent.
- ✓ Realistic use of media.
- ✓ Selection of media type(s) suited to the cultural conditions and educational levels of the target population.
- ✓ Selection of media type(s) suited to the level of media technology within the country.
- ✓ Selection of media type(s) which can support a level of saturation with potential for measurable impact.

## Selection

The Tunisian condition, examined under the above set of criteria, quickly delimits the list of media types identified within the communication domain on page 9. Yet, results of the site survey identified media types which can satisfy the above criteria. Brief descriptions of projected media usage are provided below:

Textual Media. Typical newspapers, books, magazines, flyers, etc., are beyond the literacy level of much of the target population and are thereby excluded from consideration.

Imagery. In the context of visual imagery, there are good potentials for media applications. The use of a newspaper prepared within the Ministry of Social Affairs for semiliterates and illiterates has special promise as one source of mass media nutrition education. Slide sets, film strips, and printed materials of pictorial or diagrammatic nature are appropriate for the audience and would likely meet other criteria established for the communication component.

Audio Media. Radio reaches the vast majority of the Tunisian population, particularly via the GOT-controlled Arabic language station in Tunis. Other radio activity is also GOT-controlled and consists of one French language station in Tunis and one limited range station in Sfax which does not reach the probable study locations near to Tunis. Use of the GOT-controlled Arabic language radio station in Tunis will be further explored to determine whether it could in some way generate messages of interest without damaging the control of information required by the study design.

Existing audio tape facilities, particularly in the MCH Centers, makes use of this media particularly attractive, especially in light of the communication criteria established for the study. In particular, criteria of suitability to the level of media technology, cultural and educational levels of the target population, and adequate saturation levels are most likely to be met through use of audio tapes.

Audio-Visual Media. Television and sound movies would be excluded from consideration because of their cost, the level of technology within the country, and the difficulty of assuring suitability to the cultural and educational levels of the target population. Use of audio-visual tapes will be explored. But, it is very unlikely that the difficulties in meeting the criteria identified for television and sound movies can be overcome for audio-visual tapes.

## Establishing a Mass Media Component for the Study

Two considerations are paramount in the development of the communication component during the early stages of the preplanning visit to Tunisia:

- ✓ Identification of "within reach" media approaches. The results of the site survey with respect to media were of a promising nature. Those entities demonstrating willingness to lend assistance in media usage and message development (e.g., the Ministry of Plans, the National Institute of Nutrition and Food Technology, the National Institute of Child Health) will be asked to indicate specific types and levels of support which could be provided. Based on these informations, more detailed plans will be set for precise definition of the media component.
- ✓ Coordination of educational objectives and content. Consistency between the nonformal education and the communication components cannot be taken for granted. Close coordination will need to be developed between those responsible for nonformal nutrition education and those involved in media/message development activities. Likewise, development of messages suitable to the target population will require considerable attention to socio-cultural characteristics which may be somewhat alien to the message developers.

## Communication Model Revision

The communication model is seen as a working tool during the conduct of the study. Thus, results of the preplanning visit to Tunisia will be consolidated into the model, as appropriate, for presentation within the Implementation Plan. It is intended that the generalizability of the model be retained. Thus, revisions to the model resulting from the preplanning visit are to enhance it in terms of its overall structure, and are not to be uniquely reflective of the characteristics of implementation in Tunisia.

## Project Principles and Roles

### USAID Mission Liaison

Through the activities of the site survey, it is apparent that the requisite coordination with USAID Tunis Mission personnel can be assured. USAID personnel, in general, hold a unique and highly respected position in any LDC. In Tunisia, regard for Dr. Nasib Hemaiden, the Nutrition Advisor, is extremely high. We will endeavor to use this resource as

effectively as possible and to keep the Mission informed of all events and activities throughout the demonstration. We are, however, keenly aware of the many heavy commitments carried by the Nutrition Advisor and other Mission personnel and will keep support requirements to the minimum essential for successful completion of the study.

During the site survey, the Nutrition Advisor was helpful in gaining the study's acceptance by the proper Government of Tunisia (GOT) authorities and in gaining our admittance to appropriate health and nutrition education program situations in which the study could be carried out. In particular, we anticipate further assistance of the Nutrition Advisor and other members of the Mission staff in this same capacity.

### A Designated Study Team

Designation of a study team composed of key nationals for guidance, assistance, and coordination of the effort is of paramount importance in the development and implementation of the model. Based on contacts made during the site survey visit, a skeletal structure of the type of study team which would be formed is demonstrated in Figure 8. Proposed roles and responsibilities for study team components are defined in Table 1. The study team will be organized during the initial planning visit. Roles and responsibilities will be determined and agreed to. These decisions will be incorporated in the Implementation Plan.

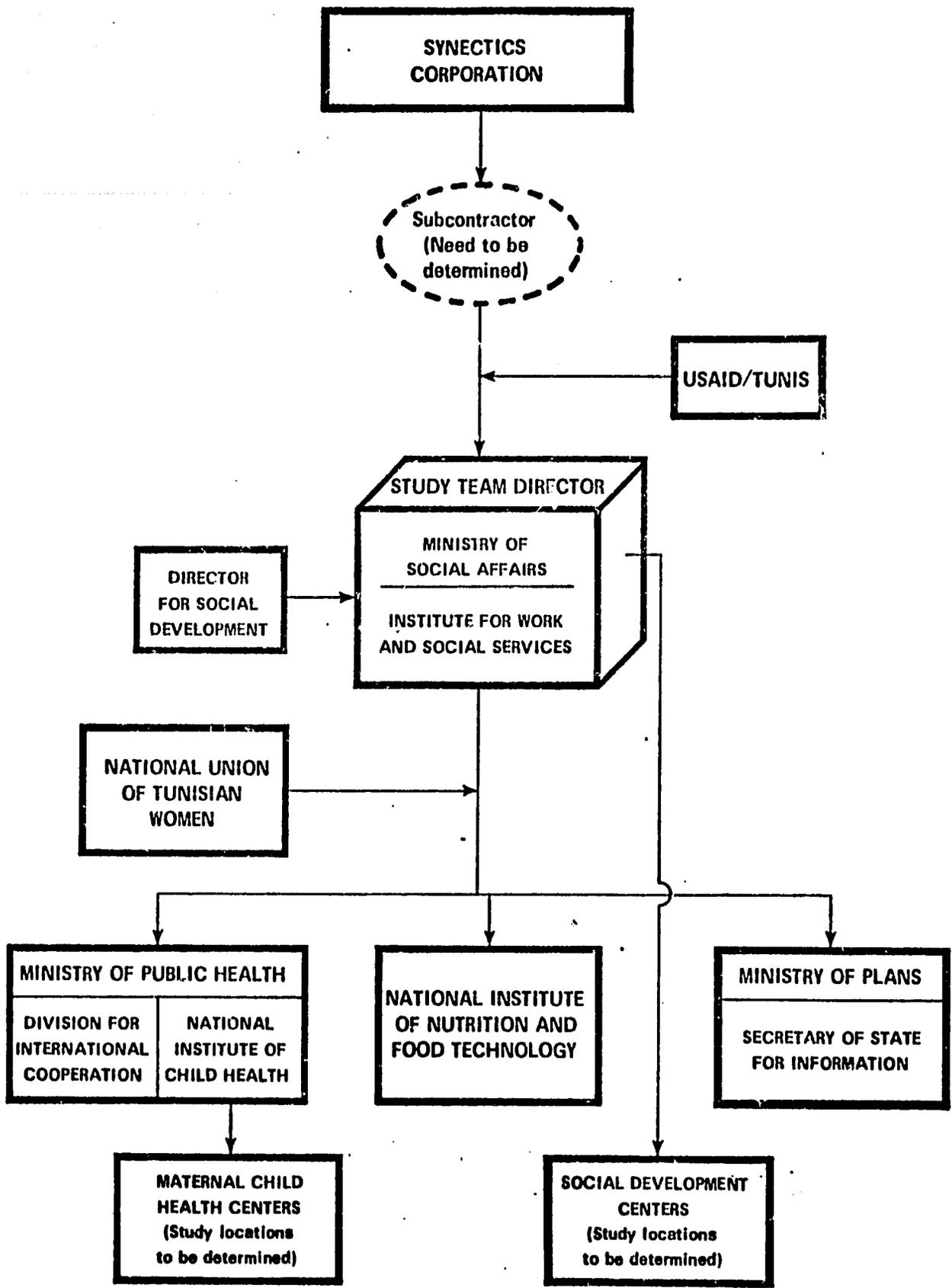


Figure 8. Anticipated Study Team Representation and Structure

Table 1

Anticipated Study Team Members, Roles and Responsibilities

<u>Member Group</u>	<u>Role/Responsibility</u>
Synectics	Synectics will assume overall responsibility for development, direction, and coordination of the study effort. Synectics will work jointly with appropriate Tunisian organizations to coordinate the mass media instructional content with that of the in-place nonformal nutrition education objectives and content of the participating programs. In cooperation with the study team, Synectics will develop the data collection instruments and procedures and will assume responsibility for assuring adequate training of the data collectors.
USAID/Tunis	USAID/Tunis representation on the study team is expected to be provided by Dr. Nasib Hemaiden, the Nutrition Advisor. His role should be primarily that of guidance and advice in steering the coordination between Synectics and Tunisian nationals.
Subcontractor	The need to employ a subcontractor in the role of study coordinator and/or data collector has not been apparent. If events indicate that utilization of a subcontractor is necessary, Synectics will be responsible for identifying and supervising an appropriate organization. In this event, the subcontractor would act as the Tunisian counterpart for Synectics in the absence of a Synectics staff member. The activities and responsibilities of any subcontractor will be specified in a Statement of Work.
Ministry of Social Affairs, Institute for Work and Social Services	It is hoped that Dr. Najib Said, Director of the Institute for Work and Social Services, will act as the study team director or appoint an Institute staff member in the role. The study team director will assume the functions of calling and conducting study team meetings, and assist in working out the coordination of study activities. The study team director would be asked to assume responsibility for study-relevant decisions required in the absence of Synectics staff (and/or a subcontractor representative). The coordination of study activities and interactions with the Social Development Centers cooperating as study locations would be an additional function of this team member.
Ministry of Social Affairs, Director for Social Development	Mme. Souad Chatteur, Director for Social Development within the Ministry of Social Affairs, will also be asked to participate on the study team because of her direct responsibility for supervision and training of the Social Development Center workers.

Table 1 (Continued)

<u>Member Group</u>	<u>Role/Responsibility</u>
National Union of Tunisian Women	The Union will be asked to appoint a staff member to the team to provide guidance particularly with respect to Synectics' interaction with Tunisians and with programs providing education for Tunisian women. The Union's sanction of the study is deemed critical to its implementation and success.
Ministry of Public Health, National Institute of Child Health	It is hoped that Dr. Bechir Hamza, Director of the National Institute of Child Health, or his designated appointee will act as a study team member to coordinate study activities and interactions with the Maternal Child Health Centers cooperating as study locations.
Ministry of Public Health, Division for International Cooperation	Mme. Jelila Daghfous, Director of the Ministry's Division for International Cooperation, will be asked to participate on or appoint a representative to the study team. This participation will continue the excellent assistance afforded during the site survey for interaction with appropriate entities and officials.
National Institute of Nutrition and Food Technology	It is expected that Dr. Zouhair Kallal, Director of the National Institute of Nutrition and Food Technology and/or the Director of the Institute's Division of Nutrition Education will participate as a member of the study team. This participation will be particularly beneficial in providing overall assistance in the coordination of educational materials for both nonformal and mass media educational presentations which are in accord with Tunisian goals and concepts for upgrading the nutritional and health status of the Tunisian population.
Ministry of Plans, Secretary of State for Information	It is expected that Dr. Hamadi Riza, Director of Planning and Research under the Secretary of State for Information will participate on the study team. Because of other commitments to the use of mass media for nutrition education objectives, his special role will be that of assisting in the development of strategies, procedures, and content for use of available mass media preparation and dissemination resources.
Maternal Child Health Centers	Each center selected for implementation of the study will have representation on the study team. The overall function these members will provide is that of keeping plans and aspirations realistic. Their active participation on the study team will permit understanding of the target audience and the centers' operations, particularly those relevant to nutrition education. These members will be a continuing and major source of information about study activities and progress, identifying anticipated and encountered problems and recommending solutions.
and	
Social Development Centers	

## THE PRELIMINARY EVALUATION PLAN

The interaction matrices relating the analysis/evaluation domain to the education, communication, and behavioral domains (Figures 5, 6, and 7) guide the planning for and implementation of the evaluation phase of the study. Examination of these matrices indicates that since evaluation objectives are closely tied to operational and educational objectives, detailed planning for evaluation cannot be completed at this time. Thus, this section of the report is limited to definition of evaluation procedures and activities at a structural level, achieving a detailed level only for considerations very obviously tied to any nutrition education effort. Information gained through the preplanning visit activities and fitted into the model structure will provide evaluation planning to the level of detail necessary for implementation.

### Objectives and Criteria

As indicated in the objectives aspect of the analysis/evaluation domain in the interaction matrices, evaluation objectives will attend to objectives established for the education/communication domains for the study. Evaluation objectives are expected to be reviewed against criterion variables set up within the behavioral domain, attending to attitudinal, motivational, and knowledge/skill aspects of the behavior domain. As indicated in the education domain, objectives will address primarily nutrition and nutrition-related behaviors. Within this structure, evaluation objectives and criteria will be established within the following major classes:

- ✓ Cognitive change. Increased awareness of nutrition and nutrition-related concepts.
- ✓ Behavioral change. Increased nutritional and nutrition-related status, as demonstrated through food consumption, food handling practices, health status, etc.
- ✓ Motivational and attitudinal change. Increased interest in and inclination toward acceptance and utilization of proper nutrition and nutrition-related information; increased rejection of cultural preconditions and taboos which operate against implementation of proper nutrition and nutrition-related practices.
- ✓ Cost-effectiveness. Maximum program effectiveness at minimal program cost.

## Study Design and Study Samples

There is no apparent need to modify the intended study design prior to the preplanning visit. The intended design has the following characteristics:

- ✓ Use of two centers in each of two ongoing programs in nutrition education meeting program objectives through different educational approaches, and preferably reaching both urban and rural populations.
- ✓ Implementation of mass media approaches to nutrition education which have objectives corresponding to or extending those of the ongoing programs.
- ✓ Conditions which provide presence and absence of both the nonformal and mass media communications components, and combinations thereof.
- ✓ A series of three data collections for a sample of about 800 persons. Data collections will include:
  - A bench mark, including personal and family history and status; measures of nutrition and nutrition-related knowledge, attitude, and behavior. The nutrition and nutrition-related measures will serve as the criterion measures.
  - A six-month data collection, including information about the nature of exposure the individual has had to the nonformal and mass media components; a second application of the criterion measures.
  - A twelve-month data collection which will repeat the six-month collection.

Given the above assumptions, a schematic of the intended study design and data matrix for one of the two nonformal nutrition education programs is shown in Figure 9.

## Data Classes and Measures

Preliminary formats for the collection of study data are presented in Figures 10 through 16. These formats are intended to indicate general content rather than the actual data content and collection procedures. The preliminary formats will be revised on the basis of review by representatives of AID and by the panel of experts assembled for review of the communication model and implementation plan. Following this revision, the revised formats will be reviewed with appropriate personnel in Tunisia, e.g., the members of the study team. Based on these informations, the formats will be further

**PROGRAM Y**

GROUP	IN TARGET POPULATION FOR:		INDIVIDUAL	INITIAL DATA COLLECTION				SIX MONTH DATA COLLECTION				TWELVE MONTH DATA COLLECTION			
	Personal Contact?	Media Contact?		Personal Data			Criterion Measure	Recorded/Perceived Exposure			Criterion Measure	Recorded/Perceived Exposure			Criterion Measure
				a	...	k		a	...	k		a	...	k	
A	NO	NO	1	X	...	X	X	X	...	X	X	X	...	X	X
			...	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
			100	X	...	X	X	X	...	X	X	X	...	X	X
B	YES	NO	1	X	...	X	X	X	...	X	X	X	...	X	X
			...	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
			100	X	...	X	X	X	...	X	X	X	...	X	X
C	NO	YES	1	X	...	X	X	X	...	X	X	X	...	X	X
			...	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
			100	X	...	X	X	X	...	X	X	X	...	X	X
D	YES	YES	1	X	...	X	X	X	...	X	X	X	...	X	X
			...	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
			100	X	...	X	X	X	...	X	X	X	...	X	X

Programs (2) X Groups (4) X Individuals per group (100) = 800 Individuals  
 Individuals (800) X Interviews per individual (3) = 2400 Interviews

**Figure 9. Schematic of a Basic Data Matrix for One of Two Non-Formal Nutrition Education Programs**

revised and more fully detailed. Final formats will provide for classifying and coding data and will be accompanied, as appropriate, by instructions for use. Brief descriptions of the preliminary formats and their intended application follow.

Center/Program and Community Description. Figure 10 presents a preliminary format for collection of information about programs and centers of interest. These data are intended for reference throughout the study. The information is to serve three primary functions:

- ✓ To enumerate characteristics of candidate programs/centers for optimal selection, including the identification of experimental and control groups for the study.
- ✓ To identify program personnel with whom interactions would occur.
- ✓ To monitor in-program and within-community changes which might affect the ongoing program operation and study results.

Family/Household Description. Figure 11 presents a preliminary format for collection of information about families included in the study population, either as control or experimental group members. This information will be collected as part of the baseline data. A second application, or partial application, of the format at the twelve-month data collection will be considered and determined on the extent of change which might be expected within certain parameters, based on the educational content of the program. The family/household description incorporates the following types of information:

- ✓ Composition of the family.
- ✓ Conditions of the home environment which have bearing on the program objectives.
- ✓ Resources available to the family, especially as these relate to nutrition and nutrition-related aspects of family life.
- ✓ Allocation of resources by the family, as these relate to nutrition.
- ✓ Present and past family affiliation with the program/center and other similar activities.

Individual's and Young Child's Food Consumption Reports. Figures 12 and 13 present preliminary formats for collecting food consumption data using the twenty-four hour food recall procedure. The food recall information will be collected as baseline, six-month, and twelve-month data.

Record of Individual's Educational Experiences. Figure 14 presents a preliminary format for collecting information about the individual's within-center educational experiences. This record will be a running log of all

educational activities conducted with individuals included in the study. Summaries of this information will be made to correspond to other data collections, i.e., at the six- and twelve-month data collection periods.

Record of Individual's Within-Center Media Exposures. Figure 15 presents a preliminary record for collection information about the individual's within-center media exposures. This record will be a running log of all within-center media usage with individuals included in the study. This record will be revised to more appropriately represent the selected media types and units once this aspect of the study has been designed. Summaries of within-center media exposure will be made to correspond to other data collections, i.e., at the six- and twelve-month data collection periods. The record will also be expanded to collect information concerning exposure to appropriate media outside the center.

Content Categories for Individual's Nutrition and Nutrition-Related Knowledge, Attitudes, and Behavior Record. It is not possible to design this instrument prior to identification of specific educational objectives and unique cultures and practices of the study settings. Thus, a different approach to design of this instrument is planned. Based on the types of information identified in Figure 16, discussions will be held with local program/center personnel and other key nationals. Through content analysis of these discussions, specific items will be developed to reflect types and levels of nutrition and nutrition-related knowledges, attitudes, and behaviors which are of relevance to the study and the study population. To the extent possible, a format appropriate to the various program/center locations will be developed. In the event that emphases are on different aspects of overcoming cultural and attitudinal blocks, for example, separate formats with similar purposes but different details of items will be developed. Close coordination with GOT nationals, particularly study team members, during the preplanning visit in Tunisia will be a requirement in the development of this instrument. The final version of the instrument will be used with study participants to collect baseline, six-month, and twelve-month data.

Cost Data. Data on the costs of both the ongoing nonformal education and the mass media components will be gathered for use in evaluating cost effectiveness once the effects on criterion behavior have been established.

### Data Collection

Indications from the site survey are that the level of study involvement desired on the part of Tunisian nationals is such that data collection would be accomplished by personnel of the participating programs and centers. Whether such resources can be made available to the study, and to what extent these resources can be applied, will need to be determined during the preplanning visit. The burden of such efforts, in addition to an already overburdening of center staffs, may pose potential problems to successful completion of the study. In this event, Synectics is prepared to engage Tunisian private sector entities to carry out data collection activities, particularly the time consuming activity of interviewing study participants. Under any strategy for the data collection effort, Synectics will assume overall responsibility for development of data collection procedures and instructions for training of data collectors.

## Data Reduction and Analysis

The final data collection formats will be designed for direct data classification and coding to facilitate the data analysis process. Where formats cannot handle direct coding and classification of data, this will be a Synectics' responsibility.

Once the results of the preplanning visit have been integrated into the interaction matrices, it will be possible to derive a detailed data analysis plan for incorporation into the Implementation Plan. Preliminary considerations for data analysis indicate the following probable techniques will be used:

- ✓ Narrative descriptive information about programs, centers, and media to provide general background information for the final version of the model.
- ✓ Descriptive statistics relevant to programs/centers and study participant characteristics.
- ✓ Measures to reveal types and levels of association among the model components, i.e., the education, communication, behavioral, and analysis/evaluation domains.

The primary purpose of the analysis phase of the study is to determine if and in what way(s) piggy-backing of nonformal education and mass media communications in nutrition education can result in identifiable and replicable incremental effects in the nutrition and nutrition-related knowledges, behaviors, and attitudes/motivations of nutritionally high-risk populations within LDCs. Repeated application of criterion measures to the same individuals, and the collection of data about educational and mass media interventions with the study population, offer good possibilities for understanding relationships of time, effort, and population characteristics to knowledge, behavior, attitudes, and motivation. The 800 individuals and 2,400 interviews depicted in Figure 9 yield a reliable and representative data base. Some of the more important types of analyses which might be undertaken include:

- ✓ Within each of the four main groups (A-D), correlation of exposure to various elements of nonformal education and mass media with subsequent behaviors, using zero-order or raw correlations.
- ✓ Partial correlations to estimate the relationship of exposure to various elements of nonformal education and mass media to criterion behavior, with baseline behavior held constant.
- ✓ Average differences across the four groups to determine the impact of mass media alone and in conjunction with exposure to nonformal education.

- ✓ Comparison of changing program emphases (which are likely to occur naturally over a year's time) with measured effects at six and twelve month intervals, to determine whether emphases are having the intended impact.
- ✓ Comparison of measured dynamics across programs/centers to verify whether obtained effects on behavior are consistent with expectations, based on differing program/center goals and characteristics.
- ✓ Examination of the effects of repeated application of the criterion measures by making comparisons across repeated measures for Group A. (Note: Individuals in this group will have only incidental exposure to the nonformal education and mass media components.) Such comparisons will, however, yield only an estimate of direct measurement effect, and not an independent estimate of effects from the interaction of measurement and education/communication exposures.

#### Implications for Model Refinement

Since the communication model is a working tool which is to guide the course of the study, as well as to ultimately provide guidance to LDCs in the piggy-backing of mass media and nonformal education approaches to nutrition education, each step of the study will be incorporated into the model as it is taken. Thus, substantial model revisions will result from the preplanning visit, and from analysis of results from initial and subsequent data collection.

## CENTER/PROGRAM AND COMMUNITY DESCRIPTION

1. Name and Location of Center/Program \_\_\_\_\_
2. Sponsorship/Affiliation \_\_\_\_\_
3. Type of Center \_\_\_\_\_
4. Center/Program history \_\_\_\_\_
5. Community/Center relationships (current and historical) \_\_\_\_\_  
\_\_\_\_\_
6. Functions with respect to:
  - a. Maternal health/medical services \_\_\_\_\_
  - b. Child health/medical services:
    - Preventive \_\_\_\_\_
    - Recuperative \_\_\_\_\_
  - c. Day care services \_\_\_\_\_
  - d. Food distribution \_\_\_\_\_
  - e. Nutrition education \_\_\_\_\_
  - f. Family planning \_\_\_\_\_
  - g. Community development:
    - Water \_\_\_\_\_
    - Sanitation \_\_\_\_\_
    - Other \_\_\_\_\_
  - h. Agriculture:
    - For consumption \_\_\_\_\_
    - For profit \_\_\_\_\_
  - i. Resource management (forestry, wildlife, etc.) \_\_\_\_\_
  - j. Literacy education \_\_\_\_\_
  - k. Job training \_\_\_\_\_
  - l. Social activities \_\_\_\_\_
  - m. Other functions/services \_\_\_\_\_  
\_\_\_\_\_

Figure 10. Preliminary Design for Center/Program and Community Description

7. Staffing of the Center:

a. WORKER CATEGORY	b. NUMBER	c. TRAINING	d. DUTIES

8. Staffing at headquarters (or other upper levels of responsibility):

a. CATEGORY	b. LOCATION	c. NUMBER	d. DUTIES

9. Facilities and equipment \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

10. Target audience characteristics (who, where, how many, age distribution, socio-economic status, etc.) \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

11. Outreach (how audience is made aware of center/program services). \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

12. Client registration process (eligibility for service, fee payment, etc.) \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

13 Current client data:

a. TYPE CLIENT	b. TYPE SERVICE	c. NUMBERS SERVED							
		Daily		Weekly		Monthly		Yearly	
		Range	Average	Range	Average	Range	Average	Range	Average

14. Seasonal and other factors which affect the center's outreach/services:  
 \_\_\_\_\_  
 \_\_\_\_\_

15. Historic client data (numbers served annually since center's initiation, reasons for change, variation).  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

16. Nutrition and nutrition-related educational component in terms of:

- a. Objectives \_\_\_\_\_
- b. Audience \_\_\_\_\_
- c. Methods \_\_\_\_\_
- d. Educational content \_\_\_\_\_
- e. Instructors \_\_\_\_\_
- f. Time spent \_\_\_\_\_
- g. Frequency of teaching \_\_\_\_\_



19 Community Facilities:

- a. Other health/nutrition \_\_\_\_\_  
\_\_\_\_\_
- b. Education \_\_\_\_\_
- c. Social welfare \_\_\_\_\_
- d. Social \_\_\_\_\_
- e. Religious \_\_\_\_\_
- f. Other \_\_\_\_\_

20. Specific taboos or cultural conditions of relevance

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Additional information: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



4. Child Birth/Death Rates:

- a. Number of children born to mother \_\_\_\_\_
- b. Number of children deceased under one year \_\_\_\_\_
- c. Number of children deceased between one and five years \_\_\_\_\_
- d. Total number of children deceased \_\_\_\_\_

5. Family Income Data:

a. WAGE EARNER	b. AMOUNT	c. TIME PERIOD
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
<b>TOTAL</b> _____		

6. Residence Characteristics:

- a. Type of structure (walls, floors, roof) \_\_\_\_\_  
\_\_\_\_\_
- b. Type of tenancy/ownership \_\_\_\_\_  
Number of rooms \_\_\_\_\_
- d. Number of windows \_\_\_\_\_
- e. Number of "out" buildings \_\_\_\_\_
- f. Sanitary/plumbing facilities \_\_\_\_\_
- g. Cooking facilities \_\_\_\_\_
- h. Water source/condition \_\_\_\_\_

7. Land and Land Usage:

- a. Amount of land \_\_\_\_\_
- b. Amount of land farmed: commercially \_\_\_\_\_ for own consumption \_\_\_\_\_
- c. Principal commercial crops \_\_\_\_\_
- d. Principal crops for consumption \_\_\_\_\_
- e. Amount of land grazed \_\_\_\_\_

f. Animals raised:

a. TYPE	b. NUMBER	c. USE
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

8. Family's affiliation with the center (number of family members involved, type of affiliation/services used, period of affiliation, etc.) \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

9. Access to the center:  
 Distance \_\_\_\_\_  
 Means of transportation \_\_\_\_\_

10. Family's past and present affiliation with other community organizations/activities:

a. FAMILY MEMBER	b. ORGANIZATION	c. TYPE OF ACTIVITY	d. PERIOD OF AFFILIATION



## YOUNG CHILD'S FOOD CONSUMPTION REPORT

*(Use this report for infants and children up to five years of age. Successive reports must be for the same individual.)*

Identification:

Center \_\_\_\_\_

Group \_\_\_\_\_

Family Number \_\_\_\_\_

1. Name \_\_\_\_\_
2. Age in months \_\_\_\_\_
3. Person providing information (relationship to child) \_\_\_\_\_
4. Person(s) responsible for feeding child yesterday \_\_\_\_\_
5. Breast feeding yesterday:
  - a. Fully \_\_\_\_\_
  - b. Partially \_\_\_\_\_
  - c. Number of feedings \_\_\_\_\_
6. Bottle feeding yesterday:
  - a. Fully \_\_\_\_\_
  - b. Partially \_\_\_\_\_
  - c. Number of feedings \_\_\_\_\_
  - d. Bottle formula \_\_\_\_\_

7. Other foods consumed yesterday:

a. FOOD	b. HOW PREPARED	c. NUMBER OF TIMES EATEN	d. AMOUNT EATEN

8. Yesterday's diet typical for the child \_\_\_\_\_ yes \_\_\_\_\_ no. If no, state reason. \_\_\_\_\_

Figure 13. Preliminary Design for Young Child's Food Consumption Report





**CONTENT CATEGORIES FOR INDIVIDUAL'S NUTRITION AND NUTRITION-RELATED KNOWLEDGE, ATTITUDES, AND BEHAVIOR RECORD**

**Food Acquisition/Planning Practices**

Types  
Amounts  
Sources

**Food Storage/Preservation Practices**

Types  
Amounts  
Methods

**Food Preparation**

Responsibilities  
Types  
Varieties

**Sanitation Practices**

Water  
Food cleansing  
Disposition of waste

**Use of Local Foods**

Variety  
Food value  
Economy

**Food Distribution within the family**

Young children  
Pregnant/lactating women/girls  
Other special needs

**Infant Feeding**

**Breast feeding**

Duration of complete  
Duration of partial  
Method of stopping

**Use of supplemental foods**

Age introduced  
Type  
Quantity  
Method of preparation  
Method of feeding

**Infant Feeding (Continued)**

**Use of other protein foods**

Age introduced  
Type  
Quantity  
Method of feeding

**Use of Health Center Services**

Family member  
Type of service  
Frequency  
Reason

**Use of Center's Other Services**

Family member  
Type of service  
Frequency  
Reason

**Overcoming Taboos and Practices**

Nutrition-specific  
Nutrition-related  
Health practices

**Effects of Education for Family Members**

Nutrition  
Health care  
Population planning  
Sanitation  
Agriculture  
Resource management

**Effects of Education for Other Community Members**

Nutrition  
Health care  
Population planning  
Sanitation  
Agriculture  
Resource management

**Figure 16. Sample Content Areas for Design of Individual's Nutrition and Nutrition-Related Knowledge, Attitude, and Behavior Record**

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BOLIVIA

DAWN OF A NEW ERA AMANECER DE UNA NUEVA ERA	144.12/126.92/111.51
TREASURE OF THE LAND TESORO DE LA PATRIA	54.23/48.08/42.28

COLOMBIA

THE ANSWER LA RESPUESTA	128.05/113.12/99.05
THE GREEN FLAG LA BANDERA VERDE	100.09/88.64/77.86
SOCIAL DRAMAS SOCIO-DRAMAS	94.81/83.90/73.62
RURAL VASECTOMY VASECTOMIA (RURAL)	28.34/25.54/22.78
WELCOME (SLIDE SHOW W/COPY) BIENVENIDOS	15.00/15.00/15.00
CONTRACEPTIVE METHODS (SLIDES W/COPY & CASSETTE TAPE) METODOS ANTICONCEPTIVOS	25.00/25.00/25.00
CANDELARIA: A NEW SYSTEM OF HEALTH (ENG. & SP.) CANDELARIA: UN NUEVO SISTEMA DE SALUD	139.60/123.36/108.08
THE CHILDREN LOS NINOS	25.52/24.68/22.01
THE VASECTOMY LA VASECTOMIA	36.84/32.84/29.08
THINK OF YOUR HOME PIENSA EN SU HOGAR	79.47/70.46/61.98

TECHNIQUES OF VASECTOMY TECNICAS DE VASECTOMIA	78.32/69.51/61.16
LAPAROSCOPY LAPAROSCOPIA	25.19/22.64/20.24
THE NEED TO KNOW LA NECESIDAD DE SABER	116.53/103.03/10.32
<u>COSTA RICA</u>	
CULDOSCOPY (LONG VERSION) CULDOSCOPIA	124.66/110.28/96.74
CULDOSCOPY (SHORT VERSION) CULDOSCOPIA	46.15/40.99/36.15
PELVIC EXAMINATION EXAMEN PELVICO	43.41/38.60/34.07
HYSTERECTOMY HISTERECTOMIA	118.36/104.76/91.96
TOWARD A BETTER FUTURE HACIA UN FUTURO MEJOR	95.84/84.56/74.32
APPOINTMENT WITH PROGRESS CITA CON EL PROGRESSO	60.81/53.84/47.28
HEALTH, THE DEVINE GIFT SALUD, DIVINO TESORO	77.14/68.41/59.21
YOUR PROBLEM IS OURS TU PROBLEMA ES NUESTRO	46.56/41.36/36.41
MOTIVATIONAL SPOTS MENSAJE MOTIVACIONALES	17.62/15.66/13.66
<u>DOMINICAN REPUBLIC</u>	
EDUCATIONAL PROMO EDUCACION	34.37/30.68/27.20
DECLINE OF A TABU EL OCASO DE UN TABU	122.47/108.36/95.08
APPOINTMENT IN SANTO DOMINGO CITA EN SANTO DONINGO	100.24/88.76/77.96
<u>ECUADOR</u>	
THE SPIRIT OF ESPEJO EL ESPIRITU DE ESPEJO	79.47/70.46/61.98
PUPPET SPOTS TITERES	49.03/43.52/38.34

PUPPET SHOW TITERES EN PLANIFICACION FAMILIAR	112.70/99.67/87.42
MOTIVATIONAL SPOTS (APROFE) MENSAJE MOTIVACIONALES	36.15/32.24/28.56
THE FUTURE IS OURS EL FUTURO ES NUESTRO	95.98/85.03/74.73
A COUNTRY ON THE MOVE UN PAIS EN MARCHA	95.30/84.44/75.22
THE FAMILY BEFORE ALL LA FAMILIA ANTE TODO	80.84/71.56/62.94
FAMILY PLANNING SPOTS MENSAJES DE PLANIFICACION FAMILIAR	38.48/34.28/30.33
FAMILY PLANNING SHOW PLANIFICACION FAMILIAR	44.14/39.39/34.64
<u>EL SALVADOR</u>	
TODAY - TOMORROW HOY MANANA	91.12/80.78/70.82
THE CHALLENGE EL RETO	121.74/107.60/94.74
A SURE SOLUTION UN SOLUCION SEGURA	49.58/44.00/38.76
<u>GUATEMALA</u>	
LAND OF ETERNAL SPRING EL PAIS DE LA ETERNA PRIMAVERA	119.32/105.60/92.68
WE ARE CONCERNED FOR YOUR HEALTH VELAMOS POR TU SALUD	63.14/55.88/49.05
CHILDREN DREAM LOS NINOS SUENAN	47.52/42.19/37.19
A DREAM COME TRUE (ENG. & SP.) SUENO HECHO REALIDAD	114.07/100.88/88.46
MOTIVATIONAL SPOTS MENSAJES MOTIVACIONALES	59.03/52.38/45.93
A DREAM COME TRUE (OPENING W/DR. LONG) SUENO HECHO REALIDAD (ENGLISH)	52.86/46.88/41.33
A DREAM COME TRUE (OPENING W/DR. VIAU) SUENO HECHO REALIDAD (SPANISH)	59.03/52.28/45.93

JAMAICA - ENGLISH ONLY

MOMENT OF TRUTH EL MOMENTO DE LA VERIDAD	63.00/58.07/51.25
A MESSAGE TO THE NATION UN MENSAJE A LA NACION	55.41/48.16/43.22
TIME OF YOUR LIFE TIEMPO DE SU VIDA	63.00/58.07/51.25
FIRST PORT OF CALL PRIMERA ESCALA	121.47/107.36/93.88
FAMILY PLANNING SPOTS (1-12) MENSAJES DE PLANIFICACION FAMILIAR	80.42/71.29/62.67
FAMILY PLANNING SPOTS (13-18) MENSAJES DE PLANIFICACION FAMILIAR	28.34/25.54/22.78
FIRST STOP TO SOMEWHERE PRIMERA PARADA HACIA EL DESTINO	52.45/46.51/41.93
CHOICE, NOT CHANCE SELECCION, NO AZAR	58.76/52.39/45.92

NICARAGUA

FAMILY PLANNING SPOTS MENSAJES DE PLANIFICACION FAMILIAR	48.07/42.68/37.60
---	-------------------

PARAGUAY

ANTI-ABORTION SHOW ANTI-ABORTO ILEGAL	30.13/26.66/23.40
FAMILY AND FUTURE FAMILIA Y FUTURO	100.10/88.64/77.86
OPERATION: POPULATION AND DEVELOPMENT OPERACION: POBLACION Y DESARROLLO	67.14/59.66/52.62
CANCER CANCER	36.84/32.81/29.08
A NEW DAWN UN NUEVO AMANECER	125.62/111.12/96.47

VENEZUELA

MOTIVATIONAL SPOTS MENSAJES MOTIVACIONALES	74.96/66.52/58.56
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WHEN I GROW UP  
CUANDO YO SEA GRANDE 108.59/96.12/84.35

WHEN I GROW UP (PROMOS)  
CUANDO YO SEA GRANDE 26.84/23.46/21.49

AGENCY SPOTS (SOBRE - PATERNIDAD RESPONSABLE)  
MENSAJES PARA T.V. 27.28/24.48/21.84

AGENCY CLIP (SOBRE - PATERNIDAD RESPONSABLE)  
MENSAJE PARA T.V. 21.08/19.04/17.12

IADC FILMS

A QUESTION OF JUSTICE (ENGLISH) UNA CUESTION DE JUSTICIA	141.76/125.28/109.74
SEARCH FOR A POSSIBLE TOMORROW EN BUSCA DE UN POSSIBLE MANANA	154.53/136.44/119.48
THE NEW PROFESSIONALS (ENGLISH)	98.04/86.84/76.30
THE ELECTRONIC ANSWER (ENG. & SP.) LA RESPUESTA ELECTRONICA	129.04/114.12/100.07
CHERISH THE CHILDREN (ENG. & SP.) CUIDA A LOS NINOS	140.03/123.72/108.37
PROFILES IN FAMILY PLANNING (ENG. & SP.) PERFILES EN PLANIFICACION FAMILIAR	124.26/109.92/96.43
FORUM (ENGLISH)	160.96/142.08/124.31
IPPF-21	100.20/88.94/77.96
THE SHIELD OF PEACE ESCUDO DE PAZ	101.06/89.48/78.50
COUNTDOWN TO COLLISION (ENG. & SP.) HACIA LA HORA CERO	125.62/111.12/96.47
RESTORING THE BALANCE (ENG. & SP.) RESTORANDO EL EQUILIBRIO	149.20/131.75/115.35
REACHING OUT (ENG. & SP.) EXTENDIENDO LA AYUDA	156.31/138.00/120.76
SPEAK, THEY ARE LISTENING (ENG. & SP.) HABLA, TE ESCUCHAN	174.40/153.85/134.50
PERU - NUTRITION	54.64/48.43/42.59
AND TOMORROW WHAT? Y MANANA QUE?	140.64/124.30/108.92
WE, THE WOMEN NOSOTRAS	160.00/141.24/123.58
SPEAKING CLEARLY HABLANDO CLARAMENTE	144.75/127.90/112.05
HUMAN RESOURCES RECURSO HUMANO	96.04/85.11/74.82
THE STRUGGLE FOR SHELTER LA LUCHA POR UN TECHO	141.60/125.14/109.65
THE STRUGGLE FOR SHELTER LA LUCHA POR UN TECHO (PROMO)	25.09/22.56/20.18

A QUIET REVOLUTION LA REVOLUCION PACIFICA	56.84/50.36/44.27
BREAST SELF-EXAMINATION AUTO-EXAMEN DEL SEN0	44.82/39.84/35.15
BEWARE ALERTA	92.89/82.35/72.30
DIALOG DIALOGO	77.05/68.36/60.18
JUST COMPENSATION JUSTA RECOMPENSA	83.08/73.64/64.76
A PEOPLE ON THE MOVE UN PUEBLO EN MARCHA	102.76/90.99/79.92
WHAT EVER YOU WANT LO QUE TU QUIERAS	76.50/67.88/59.77
TELEVISION SPOTS (DOMINICAN REPUBLIC) MENSAJES TELEVISION	46.19/41.04/36.19
MINI-LAPAROTOMY (EL SALVADOR) MINI-LAPAROTOMIA	70.61/62.72/55.30
ACROSS THE GENERATIONS A TRAVES DE LAS GENEPCACIONES	80.75/71.60/62.99
THE MOVE TOWARD PROGRESS MARCHA HACIA EL PROGRESSO	110.70/97.95/85.95

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CANDELARIA, UN NUEVO SISTEMA DE SALUD

SUPER 8mm CASSETTE

THE CHILDREN  
LOS NINOS

SUPER 8mm CASSETTE  
35mm COLOR

COSTA RICA

CULDOSCOPY (LONG VERSION)  
CULDOSCOPIA

SUPER 8mm CASSETTE

PELVIC EXAMINATION  
EXAMEN PELVICO

SUPER 8mm CASSETTE

TOWARD A BETTER FUTURE  
HACIA UN FUTURO MEJOR

SUPER 8mm CASSETTE

APPOINTMENT WITH PROGRESS  
CITA CON EL PROGRESSO

SUPER 8mm CASSETTE

HEALTH, THE DIVINE GIFT  
SALUD, DIVINO TESORO

SUPER 8mm CASSETTE

YOUR PROBLEM IS OURS  
TU PROBLEMA ES NUESTRO

SUPER 8mm CASSETTE

ECUADOR

A COUNTRY ON THE MOVE  
UN PAIS EN MARCHA

SUPER 8mm CASSETTE

GUATEMALA

WE ARE CONCERNED FOR YOUR HEALTH  
VELAMOS POR TU SALUD

35mm COLOR

CHILDREN DREAM  
LOS NINOS SUENAN

35mm COLOR

MOTIVATIONAL SPOTS  
MENSAJES MOTIVACIONALES

35mm COLOR

SALVADOR

TODAY-TOMORROW  
HOY MANANA

SUPER 8mm CASSETTE

JAMAICA

FAMILY PLANNING SPOTS  
MENSAJES MOTIVACIONALES

SUPER 8mm CASSETTE

VENEZUELA

WHEN I GROW UP  
CUANDO YO SEA GRANDE

35mm COLOR

WHEN I GROW UP (PROMOS)  
CUANDO YO SEA GRANDE

35mm COLOR