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RECOMMENDATIONS

ONLY

NUTRITION IN KENYA  
PROBLEMS, PROGRAMS, POLICIES AND  
RECOMMENDATIONS FOR ACTION

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A USAID Staff Report  
Submitted by  
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PART TWO  
RECOMMENDATIONS

Part Two, Sections I - VII, presents a series of seven comprehensive recommendations which address important health-oriented nutrition issues as well as constraints to effective nutrition planning. Three of the recommendations (Sections I - III) focus on geographical areas in which USAID-sponsored development programs are currently located. In each of these area-specific recommendations, however, the issues addressed are national in scope and hence project approaches developed should have widespread applicability throughout Kenya.

The seven recommendations have been ranked by the consultant in terms of (a) breadth of issues addressed, (b) seriousness of the nutritional problem(s) addressed, (c) cost, and (d) feasibility. In several instances ranking was extremely difficult and somewhat arbitrary. Nonetheless the consultant feels all these recommendations address significant problems and require action. The recommendations are presented in the following sections in order of priority.

Part Two, Section VIII, contains a number of program-specific recommendations which, though important, are narrower in scope and lower in priority than the recommendations contained in the first seven sections of Part Two.

## SECTION I

### NUTRITION STRATEGY FOR KITUI DISTRICT

The USAID/Kenya Mission at the request of the MOH is proposing to expand rural health services in Kitui District as part of USAID's emphasis on development of arid and semi-arid lands. The MOH Rural Health Planning and Implementation Units requests assistance for:

- (a) Expansion and upgrading of nine health centers or dispensaries and construction of two new dispensaries;
- (b) Inauguration of a community-based "village health worker" system within at least two selected rural health units in the district, that can both supplement the existing static based programme, as well as serve as a model of a possible approach to a national system of village health workers." (MOH, Rural Health Project, Kitui, 1979)
- (c) Development of two Nutrition Rehabilitation Centers. These would each be a "small facility where mothers and children are sent upon discharge from a hospital or health centre to learn nutrition techniques as well as basic preventive and hygienic measures. It is also hoped that those centres can function as referral facilities for the community health team and primary health care workers." (MOH, Rural Health Project, Kitui, 1979)

USAID proposes to utilize the CODEL project in Kitui--the Kitui Primary Health Care Project--as the core around which the Rural Health System will develop as USAID feels it provides an excellent basis for developing active local participation in organizing health services at the community level, (b) for bringing about coordination between Government and private sector health service delivery and (c) for the integration of other social development services at the grassroots level" (USAID Rural Health Proposal, draft). USAID's proposal to develop a Rural Health Care System (RHC) for Kitui District provides a unique

opportunity to integrate provision of nutrition services with provision of preventive and promotive health services. This rare opportunity should not be ignored. A growing consensus among nutritional scientists is that nutrition services will be most effective in the long term if they are integrated with preventive and promotive health services. The proposed development of a Rural Health Care System not only provides a setting for such an integrative effort, but it also provides a structure that will allow experimentation to determine the best integrated approach for Kitui. Thus it is the judgment of the consultant that the recommendation to incorporate a nutrition strategy into the proposed Kitui Rural Health Care System, i.e., to develop an integrated nutrition and health strategy for Kitui, receive highest priority.

The integration of a nutrition component into a health strategy requires that a number of crucial issues be addressed with regard to the design, staffing and subject matter content of the rural health system. These should be addressed by the feasibility and/or design team. The following discussion focuses on delineation of the types of nutrition-related issues which must be considered in the process of designing an integrated program. These issues (components) are diagrammed on Figure 3. They include

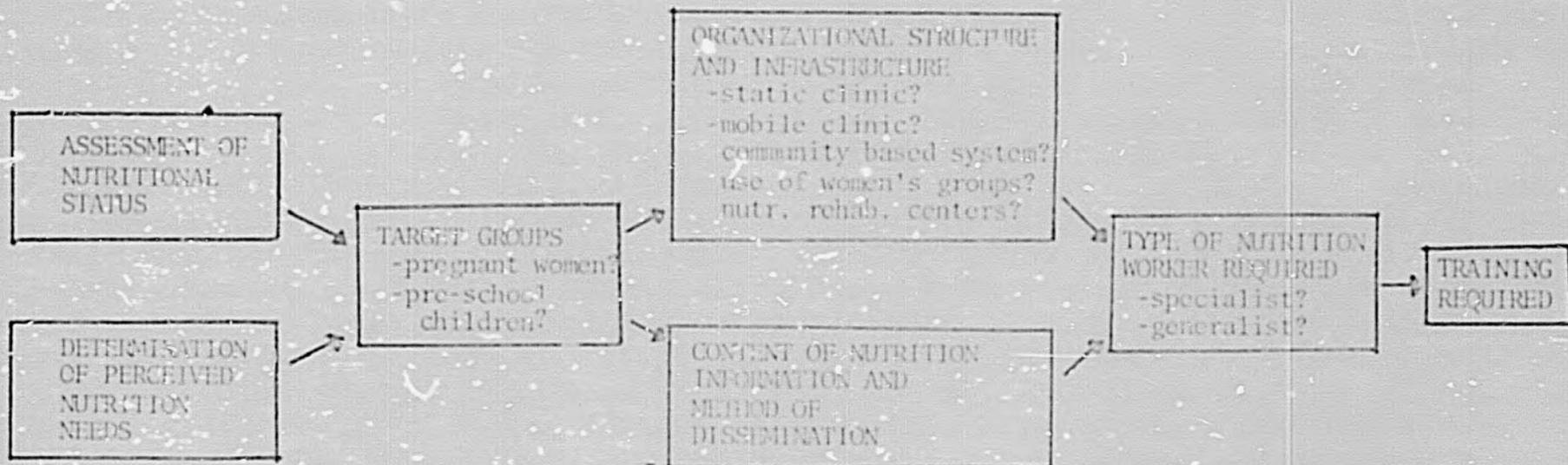


Figure 3. Simplified Diagram of Nutrition-related issues to be Addressed in the Design of an Integrated Rural Health System for Kitui District.

- A. Initial assessment of nutritional status and perceived nutrition needs of the community
- B. Selection of target groups
- C. Organizational structure and infrastructure
- D. Content and method of dissemination of nutrition information
- E. Type of nutrition/health worker required
- F. Type of training required for nutrition/health worker

A. INITIAL ASSESSMENT OF NUTRITIONAL STATUS AND PERCEIVED NUTRITION NEEDS OF A POPULATION GROUP

A baseline survey should assess the nutritional status of a community [several such surveys have been carried out (Malone and Noel, 1978; Muryao and Mboloi, 1977)]. The perceived nutritional needs of the community should also be determined. This, too, can be part of an initial baseline survey. The information obtained from the population survey will not only help in determination of specific target populations, but also is necessary for planning the content of nutrition information to be disseminated.

B. TARGET GROUPS

Specific target groups will be identified from baseline survey information. Data currently available clearly indicate that preschool children ought to be one target group. Pregnant and lactating women should be another target group. Pregnant women are often identified as a nutritionally vulnerable group but are often ignored in nutrition planning. This must not happen in the Kitui project, especially since

field experience confirms high prevalences of anemia among pregnant women in Kitui.

C. ORGANIZATIONAL STRUCTURE AND INFRASTRUCTURE

1. GENERAL COMMENTS

The AID Rural Health proposal calls for examination of the best combination of mobile, static and/or community-based clinics for Kitui. Nutrition considerations should be one of the criteria used in choosing the type and combination of facilities required. This aspect of the project design should consider possible inter-ministerial (inter-disciplinary) links with agricultural programs (e.g., USAID's ASAL project). The role of women's groups in the dissemination of nutrition information should also be examined.

2. ADDITIONAL NUTRITION REHABILITATION CENTERS ?

The expected nutrition impact of nutrition rehabilitation centers in Kitui should also be investigated in order to ascertain the wisdom of constructing new centers. This will be done by evaluating the existing Nutrition Rehabilitation Center in Mutito (part of the CODEL project). A discussion of constraints and impacts of the similarly structured FLTC's found elsewhere in Kenya is presented on pages 96-100. This discussion should provide information on types of problems likely to be encountered in nutrition rehabilitation centers. In addition, the nutrition impact of the Nutrition Rehabilitation Center (NRC) in Mutito should also be determined. There are three reasons why evaluation of this center is necessary:

- (a) The Mutito NRC appears to be a model center. Therefore analysis of its impact and the problems it encounters will provide information invaluable for planning additional centers.
- (b) Follow-up of discharged patients is reputedly quite good at Mutito. This will facilitate collection of data and allow examination of the effect of a center which does not have the primary constraint of poor follow-up as do the FLTC's.
- (c) Mutito is the only center of its kind functioning in Kitui District and as such is a more relevant model for the development of additional centers than the FLTC's

The evaluation should either be built into the ongoing program of the center or should be contracted out to, for example, AMREF or another local contractor. In any event, the evaluation should include assessment of changes in nutritional status of ex-participants as well as an investigation of reasons why children don't respond, i.e., what are SES, educational, occupational, ethnic differences between a group of children who showed continued improvement in growth (weight/height) after leaving the center versus a group whose growth plateaued versus those whose nutritional status deteriorated.

#### D. CONTENT AND METHOD OF DISSEMINATION OF NUTRITION INFORMATION

Development of nutrition education materials which stress the adoption of food habit practices which are economically feasible and culturally acceptable is a crucial part of any nutrition education effort. Production of such materials therefore requires that one understand the food habits and food taboos in an area as well as other factors--economic, social, climatic, physiological, etc.--which influence food consumption and hence nutritional status. In addition, an ability

to produce materials that will capture the attention and interest of the target population is essential.

For these reasons--importance of the effort and specialized skills required--I recommend that USAID include in their project proposal the provision of a person with specific training and/or experience in communications and nutrition education, and with international experience. This person will have responsibility for the development and dissemination of nutrition information. Such a person will provide an essential service for the Kitui project and will simultaneously provide a model for development of materials on similar themes in other places in Kenya.

Parenthetically, it can be noted that the selection of the Kitui project as a location in which to try new nutrition education approaches is a wise choice because the clinics in the COMEL project are already experimenting with the psycho-social technique of Friere and thus have demonstrated receptivity to innovative approaches.

Information from baseline surveys and socio-anthropological work should provide a starting point for decisions about subject matter content of the materials. Some additional field work will be necessary, however. Several topics which clearly must receive attention are:

(1) Weaning Practices--Many women in Kitui (in fact, throughout Kenya) breast-feed their children up to a year and a half or until the women become pregnant again. This prolonged breast-feeding is a good practice and should be encouraged. After the first six months, however, the child needs more of some nutrients than can be provided by

breast-milk alone. Unfortunately, frequently supplementary foods are either not started early enough or else they are of low nutrient density and the child becomes malnourished. This is especially nutritionally serious if the mother becomes pregnant again very quickly and therefore stops breast-feeding. (This cessation of breast-feeding at the onset of pregnancy is a common cultural practice.) Development of an effective approach to teach mothers about good weaning practices is essential. [One alternative which should be considered is the chart approach developed by USAID in Bangladesh].

(2) The nutritional care of pregnant women should receive greater emphasis, especially with regard to anemia. Materials should be developed to help women understand the need for proper diet in pregnancy and ways to obtain such a diet. As a first step information will need to be obtained on what current dietary practices are as well as what the specific nutrition problems are.

#### E. TYPE OF NUTRITION/HEALTH WORKER REQUIRED

The organizational structure desired, i.e., static, mobile, community-based, will to a large extent determine the type of nutrition worker required. For example, a system composed of a static clinic around which a number of community-based systems operate would likely require a nutrition specialist at the static clinic with sufficient expertise to supervise the nutrition activities of a cadre of more broadly but less highly trained community health workers. A system composed of several static and mobile clinics would perhaps require a

cadre of health workers all with some training in nutrition, but no specialists.

The type of health worker decided upon will in turn affect the training system and to a lesser degree the content of nutrition education materials developed. Thus it is important that nutritional considerations be one of the criteria used by the feasibility and/or project design team as it determines the type of health worker required.

Decisions made regarding the type of worker required will also provide valuable information to health planners examining the roles of the various cadres of health and nutrition workers vis-a-vis primary health care at the national level.

#### F. TRAINING

Once the scope of the program has been decided upon, consideration must be given to the type of training required both for the short-term and long-term implementation of the project. The USAID nutrition specialist should have responsibility for organization of training. A training system should be set up which can be incorporated into the MCH Rural Health Project training institutions.

#### G. ASSISTANCE REQUIRED FROM USAID

In addition to the inclusion of the services of a nutritionist with rural health experience on the feasibility study team, the following additional staff are required.

- (1) Full-time person for the duration of the project with training in nutrition education and communication techniques and international experience to supervise development of nutrition information materials and devise systems for short and long-term training (as outlined in point D ).

- (2) Short-term consulting of a person with experience in nutrition surveillance to aid in establishing a system for collection of baseline and evaluative information.
- (3) Short-term technical assistance of a person with training in nutrition and experience in rural health planning, especially primary health systems, as a member of the design team to advise from a nutrition perspective on requirements for the type of worker and organizational structure [could be the same as (2)].

Because the nutrition strategy is to be integrated with the USAID Rural Health Strategy for Kitui, costs to USAID for the nutrition-related activities should be marginal. The importance of capitalizing on this opportunity to build a nutrition component into a rural health care strategy at marginal cost should not be underestimated. The substantive short and long-term benefits to be achieved from this project, the feasibility of developing a new strategy upon a solid base (CODEL), and the minimal cost expended for benefit received also strongly support the adoption of the recommendation to integrate a nutrition component into the proposed health strategy for Kitui District.

## SECTION II

### NUTRITION STRATEGY FOR RURAL ACCESS ROADS PROGRAM-- WESTERN AND NYANZA PROVINCES

This strategy will involve two separate projects: one directly concerned with child nutrition, the other with nutrition and productivity of workers.

#### A. NUTRITION INFORMATION DEVELOPMENT

The initial Environmental Impact statements of the Rural Roads Project Paper suggest that the increased access provided by the Rural Roads should not have a deleterious effect on nutritional status. Other evidence suggests that if the increased access results in an over-emphasis on cash crops, then nutritional status, especially of children, will likely deteriorate (CBS, 1977; Nanjohi et al., 1977). Another significant nutrition problem in the areas served by the Rural Roads Program, although not caused by the roads, is poor weaning habits. To counteract these harmful influences I recommend that USAID, working with the Health and Audio-visual Unit of the Ministry of Health and the Information Service of the Ministry of Agriculture, develop, disseminate, and evaluate nutrition information materials, which focus specifically on these two problems:

- (1) poor weaning practices
- (2) over-emphasis on cash crop production to the neglect of food crop production

I recommend that this be a two-year project implemented by a Peace

Corps volunteer trained in nutrition (or home economics education with an emphasis in nutrition). This person will be referred to as the Field Officer in the following discussion.

The project should be divided into five phases:

(1) The first phase will involve six to nine months of USAID-sponsored field work in western Kenya to investigate culturally acceptable and feasible interventions and educational approaches. This should include working in an MCH clinic, FLIC, or with extension agents to become acquainted with procedures, etc. The Field Officer should work closely on this endeavor with the Provincial Nutritionists for Western and Nyanza Provinces, District Home Economics Officers and District Community Development Officers. One of the USAID anthropologists on the staff in Nairobi should also be available to provide guidance during this phase.

(2) The second phase, which will require six to nine months, will consist of development and pilot-testing of materials (likely in the Health and Audio-visual Unit in Nairobi). The nutrition education materials should be designed to teach

- (a) the importance of growing food crops in addition to cash crops;
- (b) viable methods of growing and preparing food crops;
- (c) the importance of the introduction of supplementary foods to children as early as six months (in addition to breast-feeding)
- (d) preparation of calorie-and-protein-rich locally available weaning foods as alternatives or in addition to protein-poor cassava. The child's need for food, not just protein should be stressed.

The materials developed need not be limited to visual media, e.g.,

preparation of radio scripts may be deemed a feasible alternative (as it was in Sri Lanka and as part of the IIF project in Kenya).

(3) The third phase of the project, lasting three months, will involve the dissemination of materials to a sample women's group through Home Economics Extension Agents. This phase should include gathering of baseline nutritional status information. Several in-service training sessions for NFW's and Home Economics Agents in Western and Nyanza Provinces will be required. Again, to ensure continuity, these sessions should be planned and implemented with the close cooperation of Provincial and District-level nutrition and home economics officers. This phase will also include travel to clinic sites and women's groups meetings to supervise and aid teaching.

(4) The fourth phase of the project, lasting two months, will be evaluative. Although it is recognized that long-term benefits will not yet be evident, the evaluation should examine the acceptability of the materials to the extent possible. This should be done by interviews with NFW's and Home Economics Agents as well as with a sample of the target population (mothers of preschool children).

(5) The final two-month phase will be allocated to modification of the materials based upon recommendations from the assessment phase. (During this phase also plans should be drawn up with the Provincial Officers for long-term assessment of the nutritional impact of the project perhaps through a prospective study using control and experimental groups.

This project should receive high priority for several reasons:

(1) Attempts at nutrition education in the past have often produced mediocre results because economic and cultural constraints have not been taken into account. This project seeks to overcome these constraints because (a) modification of the food practices stressed in this project is not dependent upon prior major economic change, and (b) ascertainment of acceptable cultural practice vis-a-vis child feeding and food crop patterns is built into the project design. This project, by focusing on topics which are not economically or culturally constrained, should have a positive nutrition impact. This small-scale project will also serve as a valuable model and testing ground for larger-scale replication on a national level.

(2) Nutrition education efforts in Kenya usually focus on a range of concepts. I am convinced that such broad emphasis is sufficiently confusing to mothers so that recommended practices are often not fully implemented. This project, by focusing on two topics and using an approach designed for a specific area, has greater potential for success.

(3) Costs to USAID are relatively low. Costs to USAID will include cost for preparation of materials, transport for the field officer between Nairobi and western Kenya and around western Kenya. Estimated total cost for the project is \$20,000.

(4) Development of materials in cooperation with GOK and close cooperation throughout the project should help ensure long-term implementation by GOK. (This will also provide in-service training for provincial and district-level GOK staff involved.

## B. SUPPLEMENTATION OF WORKERS

The extensive studies (in Central, Coast and Nyanza Provinces) by Latham et al. strongly suggest that there is a positive correlation between nutritional status and productivity of rural road workers (e.g. Latham and Brooks, 1977). Although the final report of their research is not yet available, preliminary results in Nyeri and at the coast indicate that a sizeable proportion of male road workers are underweight and/or anemic. This likely affects productivity and (malaria and other parasites) certainly influences quality of life of the workers. (Furthermore, since prevalences of anemia and parasitic infection tend to be similar in the Coast and along the lake, I would expect to find similar levels of nutritional status at the Coast and around Lake Victoria.)

Therefore, I recommend that USAID investigate provision of (a) caloric supplements, (b) iron supplements, (c) anti-helminthic drugs, and (d) anti-malaria drugs to road workers involved in the Rural Roads scheme in Western and Nyanza Provinces. The investigation should be undertaken either by USAID Kenya staff or by a feasibility and design team composed of a nutritionist, parasitologist, and Rural Roads project officer.

The first step in this investigation should be determination of the feasibility of implementing a supplementation program. This will require careful analysis of the productivity (measured by either absenteeism or work output) studies conducted by Latham's group, especially those focusing on Nyanza Province. Information from these investigations should be available by December 1979. This step

also requires site-visits to the Rural Roads projects. If the results provide sufficient evidence to support a supplementation trial, then the second phase in USAID's investigation would be to design and administer the supplementation program. The actual implementation of a supplementation program could be the responsibility of one or two Peace Corps volunteers (depending on number of roads covered). Further recommendations for project design should await publication of Latham's group's findings.

SECTION III  
ANEMIA IN NORTH EASTERN PROVINCE

Anemia is widespread in North Eastern Province (see page 63 ff). The problem is so serious that in addition to its effects on work capacity it is also responsible for increased mortality, especially among children and pregnant women. Clearly measures to reduce the prevalence of anemia in NEP are urgently required.

Therefore, I recommend that USAID investigate with MOH the provision of a technical assistance team (hematologist, nutritionist, anthropologist) which could assist MOH to:

- (a) assess the causes and extent of the high prevalence of anemia found in NEP,
- (b) investigate the feasibility of various interventions including iron and/or folate supplementation, and
- (c) recommend an intervention strategy.

If implemented, this program could be quite costly, but the long-term benefits in terms of improved quality of life, reduced mortality, and improved productivity certainly justify the expenditure, especially in light of AID's ongoing involvement in North Eastern Province.

## SECTION IV

### AREA-SPECIFIC NUTRITION SURVEILLANCE

An advisory panel should be established to facilitate area-specific assessment and monitoring of the magnitude and types of nutrition problems in Kenya. This information is not now available but is required for effective nutrition planning and for development of nutrition policy as called for in the Development Plan.

Currently, several organizations are independently involved in gathering various types of nutrition information:

- (1) Central Bureau of Statistics--overall nutrition surveillance
- (2) Karen College of Nutrition--Eight weeks fieldwork including gathering of nutritional status information required as part of the curriculum for NFW's
- (3) Department of Community Health--Community surveys of health and nutritional status are part of the curriculum for second and fourth year medical students
- (4) Egerton College--A field project is part of the curriculum for a Home Economics and Agriculture diploma
- (5) Ministry of Health--Rural Health Planning Unit, Nutrition Section through NFW reports
- (6) Catholic Relief Services--through their Growth Surveillance System (p.116)
- (7) Medical Research Center--The Nutrition Department plans to set up a food surveillance system.

The problem is that all these agencies function independently. There is no mechanism for coordinating disparate research products.

More importantly, no means exist whereby available talents and resources can be directed to specific areas (both substantive and geographic) where nutrition information is urgently required. For example, if the medical officer in Isiolo would like to know more about the nature of anemia in his district, it would be useful if he could take advantage of one of the programs of the agencies listed above to generate this information.

I recommend that USMD enter into discussion with these agencies with the objective of proposing that an advisory panel be set up which would channel resources and talent into areas where specific surveillance information is requested. The advisory panel should be composed of a representative from each of the participating agencies. Administratively, it should be located in the Nutrition Planning Unit. The panel should serve as a kind of "clearinghouse." That is, it should process requests for area-specific nutrition assessment and allocate projects to participating agencies. It should also monitor analysis and dissemination of results. The panel should have a limited amount of money at its disposal to subsidize travel costs of field teams, publication of reports, etc. USMD should contribute to this fund initially but encourage its rapid takeover by GOK.

Before the advisory panel acts on requests for assistance, it should be aware of what area-specific information exists in Kenya. This report includes an extensive review of available material and should serve as a useful resource document. In addition, the reports from the community health and nutrition status surveys carried out

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recommendation, it is conceivable that this advisory panel could become the first step in the development of an inter-ministerial food and nutrition surveillance system such as that being developed in Indonesia by Cornell University (with USAID funding).

The costs to USAID are also quite low and should not be a constraining factor. The primary constraint, which decreases the feasibility of this project, will be the difficulty of co-ordinating a number of other agencies each with its own independent program.

## SECTION V

### NUTRITIONAL IMPACT OF TITLE II FOOD

#### A. INTRODUCTION

Although the CRS GSS allows monitoring of changes in nutritional status over time, it does not address the issue of whether children enrolled in the program grew any differently than similar children not enrolled in the program. Evidence from studies in other countries is inconclusive (Nutr. Rev., 1978). A recent study of the impact of MCH clinics in Tanzania that dispensed food concluded that the educative impact of the clinic was slight and the surveillance function of the clinic was the most valuable outcome (Rodrigues and Rodrigues, 1977). Such studies, especially the latter, cast doubt on the positive impact of food supplements on nutritional status of preschool children. If this study is correct and the surveillance function of MCH clinics is their most useful outcome, then more emphasis should be placed on development of the GSS system as a nutrition intervention. These issues concerned with the significance and role of the GSS and the food supplement should be addressed as a component of the forthcoming evaluation of Title II programs in Kenya.

To adequately address the issue of the impact of the food supplement is outside the scope of a short-term consultant's evaluation. Therefore, I recommend that USAID fund a separate study to compare growth rates of children in the CRS program versus a group of children outside the program (Food versus Non-food). The following section presents a tentative research design on which implementation of the recommended study could be based.

B. TENTATIVE RESEARCH DESIGN

1. EXPERIMENTAL DESIGN AND STATISTICAL ANALYSIS

The study should be carried out in Kitui District at Mutoro Hospital with static and mobile clinics. This site is suggested because the static clinic participates in the CRS program (on certain days only) while the mobile clinic does not.

Because of the need to provide results to the Title II evaluation team rapidly, the study will be retrospective, although if feasible children will be followed through the duration of the study. A two group paired matched design would be used to ensure that initial age and length of attendance were distributed similarly in both control and experimental groups. Children will be matched on age and length of time in clinics.

Other factors which must be controlled for statistically are regularity of attendance, influence of nutrition education, distance to hospital, SES factors, and morbidity.

The influence of nutrition education is controlled for since persons at clinics receive the same nutrition information. [A previous study showed that distance to hospital was not a factor affecting nutritional status (and therefore the possible bias between mobile and static populations is eliminated).] Regularity of attendance can be estimated using a formula developed for the CRS Africa Regional Office. This information along with information on SES factors and morbidity will be used in statistical analysis as explanatory variables.

The exact sample size required to reject the hypothesis of no difference between groups at specified alpha and beta levels will be

estimated as described in standard statistical texts using standard errors calculated by the CRS regional office. Differences in mean rate of growth between groups will be analyzed with a t-test. Multiple regression analysis will also be undertaken and will require access to computer facilities or a programmable calculator.

2. TIME FRAME

The study will take six months. One to two months are required for finalizing study design and for selecting groups. Two to three months are required for collection and analysis of data. One month is necessary to write up results.

3. PERSONNEL AND EQUIPMENT

Personnel required will be either (a) one principal investigator (PI) (nutritionist) for six months and one research assistant for four months, or (b) one part-time principal investigator and several local research assistants for six months (PI could be with Kitui project). Equipment required will be one programmable calculator (or access to computer facilities--e.g., a mini-computer linked with CRS). This project receives a high priority ranking on the basis of cost, nutrition impact, and feasibility. It would clearly be a beneficial addition to the Title II evaluation.

SECTION VI  
ASSESSMENT OF NUTRITION IMPACT  
WITHIN AID'S PROGRAM DEVELOPMENT PROCESS

As has been emphasized throughout this report, long-term improvement of nutritional status does not result solely from direct nutrition interventions. Nutritional problems almost always are caused by many interacting factors and must be addressed using a multidisciplinary approach. In the past USAID has often ignored potential nutrition impacts (both negative and positive) in its design of "non-nutritional programs". If USAID is committed to working for improvement in nutritional status in Kenya, however, then consideration must be given to the nutritional impacts of all programs in its development portfolio. Therefore, I recommend that USAID develop and enforce a set of guidelines, specifically tailored to Kenya, similar to those proposed by FAO which provide a framework for assessing the nutritional impacts of development projects.

The development of such guidelines and monitoring of their use should be the responsibility of the HNP office. AID should consider contracting short-term technical services of persons with experience in nutrition planning to formulate these guidelines.

This recommendation could be easily implemented, has high feasibility, is of low cost, and, given the magnitude of AID's inputs in Kenya, should generate many long-term nutritional benefits. Those members of the "rural poor" who suffer the greatest deprivation are often those who are nutritionally worst off. Clearly it is in AID's interest and that of the "rural poor", to ensure that nutrition issues are given due consideration in the design of development projects.

## SECTION VII

### TRAINING

#### A. ADVANCED TRAINING IN PUBLIC HEALTH NUTRITION

A program to provide advanced training in nutrition for district and provincial nutritionists should be established. Provincial and district nutritionists and teachers at Karen College hold B.Sc. degrees in Home Economics (and are trained teachers). This general home economics background at the baccalaureate level provides an excellent base upon which to build specialization in nutrition. Advanced training in nutrition is not obtainable in Kenya, however.

Therefore, I recommend that USAID investigate with MOH the possibility of funding for one year advanced training in public health nutrition or nutrition planning in the US or UK of one to two Provincial and District-level nutritionists. The provision of personnel to fill posts vacated during training periods should also be considered. The USAID sponsored project at Egerton whereby expatriates fill posts vacated by Kenyans on study leave should serve as a model for this project.

This recommendation is more costly than many of the others. However, persons with specialized training in nutrition are essential for long-term implementation of other nutrition-related AID-sponsored projects. Thus these specialized persons provide a crucial link between short-term intervention and long-term impact. The feasibility of this recommendation is dependent upon the willingness of MOH to recommend these junior-level staff for advanced training over senior level medical personnel.

## B. ADVANCED TRAINING IN NUTRITION EDUCATION

Advanced training in nutrition education and communication is recommended for a faculty person at Karen College. Teaching of nutrition concepts by NFW's is presently not effectively executed. This is because NFW's:

- (1) have not received sufficient input on what and how to teach,
- (2) have not had access to relevant audio-visual materials.

Placement of a person with advanced training in communication and nutrition education at Karen College will improve the quality of teaching through:

- (1) instruction of NFW's in more innovative teaching techniques
- (2) development of one-topic nutrition education modules in conjunction with the Audio-visual Unit of the MHI to be provided to NFW's
- (3) establishment of a mechanism to monitor the effectiveness of nutrition education materials provided.

This recommendation is accorded a low priority. Although development of effective nutrition education materials is essential, the more specific nutrition education projects proposed for western Kenya and Kitui District should receive higher priority, because their area-specific focus increases their feasibility and long-term impact and the structure in which they are proposed is lower cost.

## C. ADVANCED TRAINING IN DIETETICS

A program to provide advanced training in dietetics for two persons is also recommended. There is a severe shortage of trained dietitians--

at the moment only one is employed by GOK. One of these trained persons should fill the post of dietitian at Kenyatta National Hospital. The other, also based at Kenyatta, should provide in-service training, in conjunction with Karen College, to NFW's with special interest in dietetics.

This recommendation I rank low in terms of cost and the scope of its nutrition impact, but high in terms of feasibility.

## SECTION VIII

## PROGRAM-SPECIFIC RECOMMENDATIONS

The recommendations presented in the previous section address broad nutritional issues in the context of specific geographic settings. That is, they focus on a given problem of particular relevance to a specific area or program, but the outcomes from implementation of the recommendations can be generalized (applied) to broader policy and planning contexts. For example, the recommended focus on Kitui is an attempt to improve the nutritional status of the people of Kitui District. The project also addresses a number of issues confronting the MOH health planners who are developing the national rural health system. The focus on the development of nutrition materials for Western and Nyanza Provinces is on the topic of weaning practices. This is a problem throughout Kenya.

In the discussion of ongoing nutrition-directed program initiatives (Part One, Section IV), the consultant made a number of very program-specific recommendations which merit USAID's attention. These recommendations are of lower priority than those set out in the previous sections of Part Two either because of their very specific nature or because their implementation requires information which will be provided through one of the more comprehensive recommendations.

The program-oriented "secondary" recommendations can best be understood within the context of the specific program's descriptions. Thus they were incorporated as part of the section on nutrition programs. For convenient reference, they are summarized in outline form by program in Table 6. The relevant page from Part One, Section IV is also shown.

Table 6. Summary of Program-Specific Recommendations

Agency or Program	Recommendation	Page
MDH	Investigate in-service training in dietetics for Nutrition Field Workers	86
	Examine the role of NFW's re Rural Health Care because of the implications for content, training and placement	87
	Examine the role of NFW's re Rural Health Care in light of planned expansion of NFW program	88
	Examine the role of NFW's re Rural Health Care in light of planned expansion of Karen College	89
MDA	Assist in preparation of teaching modules	94
	Expand nutrition/health emphasis of Home Economics Agents	94
	Build on MDA and MISS cooperation	94
MISS	Assist in preparation of teaching materials and dissemination of nutrition information in FLTC's	100
	Evaluate skills required by staff of FLTC's and methods of teaching those skills	100
	<u>Investigate measures to strengthen preventive component of FLTC's</u>	100
	Large-scale replication of Pre-School Feeding Program is not wise at this time	102
WOMEN'S BUREAU	Examine possibilities for incorporation of nutrition activities in Women's Bureau program	103
NATIONAL SCHOOL FEEDING COUNCIL	Determine benefit of program in terms of target group, educational benefit, expansion throughout Kenya	111

Table 6. Summary of Program-Specific Recommendations  
(continued)

Agency or Program	Recommendation	Page
CRS	Strengthen nutrition education component of program	119
	Increase staff in pre-school section	119
	Develop mechanism to feed usable information from GSS back to Clinics	120
	Investigate nutrition effects of shift from GSI to non-fat dry milk in pre-school program	120
ANREF	Include nutritionist on Kilwezi project team (perhaps short-term)	125
NCCF	Provide technical assistance (Peace Corps Volunteer) to Nalumu Nutrition Project	130
IEP	Provide technical assistance for detailed analysis of nutrition survey data	131