

PEACE CORPS



January 21, 1987

MEMORANDUM

TO: Dr. Kanwar Habib Khan, PCD, Sierra Leone

FROM: Peggy Meices, *PM* Nutrition Specialist, OTAPS

SUBJECT: Mixed Gardening Training Final Report, December 1986
by PSCs Winston Carroo and Dorothy Bell

Enclosed is the final report from the Sierra Leone Mixed Gardening Training. In addition to this report consultant Dorothy Bell has prepared a supplement evaluating the lesson plans with specific suggestions for improvement. The copy of the supplement is available on request from the Health Sector.

cc: Jim Ekstrom, Dir., Program Support, OTAPS
Ike Hatchimonji, Agricultural Officer, AID
Agricultural Sector, OTAPS
Anna West, Country Desk Officer, Sierra Leone,
Programming and Training Unit, Africa Region

129

BETTER NUTRITION THROUGH MIXED GARDENING

FINAL TRAINING REPORT

SIERRA LEONE

DECEMBER 1 - 9, 1986

Prepared by

Winston Carroo and Dorothy S. Bell

Consultants in Agriculture and Nutrition

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TABLE OF CONTENTS

Introduction..... 3
Training Design..... 4
Training Site and Logistics..... 7
Curriculum Overview and Modifications: Gardening..... 10
Curriculum Overview and Modifications: Nutrition..... 13
Curriculum Overview and Modifications: Program Planning..... 16
Training Evaluation..... 17
Recommendations..... 21

Appendices:

1. Participant Addresses and Plans..... 25
2. Letter of Certification..... 30
3. Pre-Workshop Survey..... 32
4. Participant Comments in Evaluating the Workshop..... 34

INTRODUCTION

A workshop entitled Better Nutrition through Mixed Gardening, was conducted in the Sierra Leone in the village of Songo from December 1st through December 9th, 1986. The program was organized by Peggy Meites in the Office of Training and Program Support at the request of Peace Corps/Sierra Leone. In Sierra Leone the program was managed by Peace Corps APCD Brian Richmond who also attended the workshop as a participant. The purpose of the workshop was to investigate the nutritional well-being of children under 5 years of age, learn about their proper nutrition, and investigate the strategy of mixed gardening for producing foods appropriate to the nutrition of children and families as a whole. In addition, new materials in project planning and evaluation were introduced for the first time.

Twenty Peace Corps Volunteers, Host Country Nationals, and a Peace Corps APCD/Health attended the workshop as participants. The background of the Host Country Nationals was varied from an instructor of Agricultural Science to the Head Chef of a hostel. Ten of the Peace Corps Volunteers were involved in health programs while an eleventh was an education volunteer.

The training was conducted in English. While all the participants had some level of understanding of this language, it is clear that some of the Host Country Nationals would have been more comfortable and understood more if Krio had also been used. However, since all Host Country Nationals participated with a counterpart, support for any language problem was available all the time.

The workshop was successfully conducted and participants and trainers left feeling positive about the work which had been completed. Many of the participants indicated plans for nutrition oriented work, some through gardening, in their future plans. In addition, new understandings of the effectiveness of the workshop and the development of materials took place which the trainers feel will aid in the development of the workshop series as a whole.

TRAINING DESIGN

The training design employed during the workshop was one which emphasized problem solving. It stressed the methods for problem identification, program planning, implementation, monitoring, and evaluation. Although the workshop addressed topics and problems with reference to the community of Songo, using a problem solving approach allows the participants to use the methods and concepts which were demonstrated to be applicable in their own communities, with some modification. In addition, practical sessions were used to demonstrate and practice standard techniques which can be applied to nutrition and gardening projects throughout Sierra Leone.

The content of the workshop sessions included specific gardening and nutrition topics using an integrated approach. This involved the assessment of the family's food needs and designing gardening activities based on these needs given climatic, cultural, economic, and technical constraints. Meeting nutritional needs using locally grown crops was emphasized as a viable and preferred means, as opposed to the introduction of new crops.

The workshop took place during seven and one half working days, with Sunday off. Each day consisted of eight hours of instruction with a total of sixty hours for the entire workshop. These sixty hours of structured classroom, field, and group assignment work were divided as follows:

Introduction and Closure	4	hours
Gardening	26.5	
Nutrition	15	
Program Planning	<u>14.5</u>	
Total	60	hours

The training design, content, and methodologies allowed flexibility in meeting participants needs with individual sessions and within sessions. Sessions on Fruit Tree Production and Watering were added at the request of participants. The Garden Planning exercise also allowed participants a choice of scenarios to work on, providing an opportunity to work on plans for nutritionally oriented mixed gardens for household or institutional use (schools), according to their interests.

The instructional methods used during the workshop included lectures, demonstrations, role plays, field work, and classroom practicals. Group work was stressed over individual projects and all practical, field, and problem solving exercises were done within this context.

The local community was incorporated into the workshop as a training resource. Residents were invited to assist the participants in the construction of the Food Calendar and children at a local school participated as subjects for an exercise in the Weights and Measures session.

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUN.	MONDAY	TUESDAY
8:00	INTRODUCTION: OVERVIEW AND EXPECTATIONS	FIELD PREPARA- TION AND PLANTING	PRINCIPLES OF PLANTING	MIXED GARDENING	COMPOSTING AND MANURE TEA	FREE			
9:55				TO A MIXED GARDEN					
10:10	AG. OVERVIEW of Sierra Leone	FOOD CALENDAR	WEIGHTS AND MEASURES	WEANING AND RECOVERY DIETS	SOIL MANAGE- MENT	WATERING	FREE	GARDEN PLAN PRESEN- TATIONS	PROGRAM PLANNING PRESENTATIONS
12:00	NUTRITION OVERVIEW of Sierra Leone				CONTINUED				PLANT NUTRITION
1:00	MALNUTRITION CYCLE	FRUIT TREE PRODUCTION	WEANING AND RECOVERY DIETS	FERTILIZER USE	GARDEN PLAN AND PREPARATION	GARDEN PLAN PREPARATION	FREE	PROGRAM PLANNING, MON- ITORING, AND EVALUATION	
2:55	SEED SAVING AND STORAGE AND GERMINATION TEST								
3:10									
5:00									

135

TRAINING SITE AND LOGISTICS

The training site used for this workshop was the Peace Corps Training Center in the village of Songo, located about one hours drive from Freetown. This site has been used by Peace Corps for the past two years for Pre-Service In-Country Training as well as for In-Service Trainings. Songo was once a major commercial center located along the railway. The rail service was discontinued several years ago which greatly reduced business opportunities and stimulated a decline in population through migration. As a result there are many unoccupied buildings which have been renovated for use by Peace Corps in Sierra Leone. Several buildings are used for training activities, all within five minutes walk of one another. Classroom, dining, and office facilities for the workshop were adequate and well prepared.

The logistical arrangements at the training site were excellent. The workshop started 4 days after the agriculture Pre-Service Training so the site was in an active stage and did not require many of the customary start up activities. Housing for the participants was pre-arranged with families in the community, and all meals were taken together at the Peace Corps dining hall.

The field and garden were already established. With the assistance of two volunteers working in Songo, George Zeller and Peter Walker preparation of fields and assembly of tools and materials were done without any delay or difficulty. Most of the tools and materials required for the workshop were already at the site as well as training materials such as chalk, flip charts, and chalkboards.

The community was very responsive to the workshop, not only housing the participants, but in attending the session on the Food Calendar and providing resources for other sessions as well. The community's political fronts were very active while the workshop was in progress which lead to public rioting all night of the third day of the workshop. However, community members were very attentive to the health and well-being of the workshop participants during this difficulty. The only negative impact that this had on the workshop was that few people got any sleep on that night. This affected the vigor with which we were able to tackle work throughout the rest of the workshop.

There were some problems with the pre-planning logistics which impacted negatively on the workshop:

1. No preparations were made in response to cables sent requesting specific materials for the workshop. Eventually all of the materials needed were located, but this took valuable pre-planning time.

2. Meetings with officials at the Ministry of Agriculture were set, however, the Ministry Officials did not attend. It was also not possible to meet with the APCD for Agriculture or the Country Director as they were both busy with other business at the time. Thus it was not possible to establish the Government and/or Peace Corps goals and policies regarding food production. This lack of information is in part responsible for the lack of incorporation of agricultural practices of Sierra Leone as noted by some participants in their evaluation of the workshop.
3. Circulation of information to potential participants was difficult. Lack of response to a letter (October 10) requesting names of persons interested in attending a workshop in Better Nutrition through Mixed Gardening resulted in an attempt to contact people by individual letter and in face to face meetings on the part of APCD Brian Richmond. This delay precluded circulating any additional information about the workshop including a more detailed description of the workshop, and the pre-workshop survey. This delay also precluded developing a profile of the participant skills and expectations.
4. APCD Richmond's concept of the content of the workshop was different from that established in Washington between OTAPS and the trainers. Richmond was working from the ICE Manual T-19, Nutrition Improvement through Mixed Gardening, while the trainers were working from the L.I.F.E up-dated manual and other resources. In addition, the logistics list provided to Richmond indicated necessary resource for subjects not covered in the workshop as defined in Washington such as small animal husbandry and food storage.
5. A schedule for workshop preparation of five days in Freetown and a day trip to Songo was presetned to the trainers. In reality we were only able to spend three hours at the training site due to APCD Richmond's other responsibilities. In retrospect, preparation for the workshop could have been more productive if the week had been spent at the training site and one day spent in Freetown (immediately preceding the workshop). The time spent at the training site during the planning phase (3 hours) was inadequate to assess community resources in terms of existing family gardens and other relevant information.

Miss Silvetta Scott, Head Nutritionist for the Sierra Leone Ministry of Health, was initially responsible for stimulating interest in this workshop through a request for funding to conduct a workshop in nutrition. The content of her proposed workshop followed the concepts of the workshop in Better Nutrition through mixed gardening but the participants were to be officials and professionals. She was invited to participate as a trainer in this workshop

which, however, her contract had not been settled by the time we had arrived. A failure to conclude this negotiation resulted in her withdrawal three days before the workshop began.

Peace Corps Volunteer, Liz Robinson relinquished her role as a participant to help develop and train the nutrition portion of the workshop. The lecture on Weights and Measures was completely handled by Robinson and was well received. Her aid in developing the other sessions and provision of an in-country perspective were invaluable to the running of a successful workshop.

CURRICULUM OVERVIEW AND MODIFICATIONS: GARDENING

There were significant modifications to the curriculum for the gardening component of the workshop. In terms of content, two sessions were added based on requests by the participants. These sessions were Fruit Tree Production and Watering Vegetables. In terms of actual presentation of concepts and techniques, all sessions had to be reworked with considerations for local cultural and environmental factors, and resources available. A brief overview of each of the gardening sessions follows.

1. AGRICULTURAL OVERVIEW OF SIERRA LEONE (1 hour)

The primary objective of this session was to identify the range and relative quantities of agricultural products by region. Participants broke into groups according to the regions from which they came, discussed the assignment, and made presentations to the entire group.

2. SEED SAVING, STORAGE AND GERMINATION TEST (2 hours)

Discussion of the methods and techniques of collection, processing and storage of vegetable seeds on a gardening or small farm scale. Germination tests were done on various varieties of vegetable seeds.

3. FIELD PREPARATION AND PLANTING (4 hours)

This practical field exercise involved the preparation of a raised bed, a flat bed, and a ridge. Cassava and sweet potatoes were planted on the ridge, corn interplanted with cowpeas on the flat bed, and peanuts on the raised bed. A demonstration of transplanting tomato seedlings was also shown.

4. THE PRINCIPLES OF PLANTING (2 hours)

This session entailed a discussion of appropriate types of soil preparation and planting techniques. Different types of beds, double digging, dribble planting, cluster planting, seed bed preparation, and transplanting were discussed. Calculating the amount of seed required for planting specific areas was also done.

5. FRUIT TREE PRODUCTION (2 hours)

This class discussion concerned fruit tree production including the methods of propagation, environmental requirements and care. A budding and grafting demonstration was done.

6. MIXED GARDENING AND FIELD VISIT (4 hours)

In this session, a 3 hour field visit followed a 1 hour discussion of the definition and structure of a mixed garden, and it's role in the family food system. The field visit involved mapping the Peace Corps garden.

7. COMPOSTING AND MANURE TEA (2 hours)

This was a group exercise in the field, during which participants constructed a compost pile and made a fertilizer solution from poultry manure.

8. SOIL MANAGEMENT (1 hour)

This session was a classroom discussion involving the different textural types of soils, their characteristics, and suitability for plant growth. Methods and practices of good soil management and conservation were discussed.

9. PLANT NUTRITION AND FERTILIZER USE (2.5 hours)

During this session, the nutrients required by plants and their use were discussed. The use of chemical fertilizers was also discussed. Methods of composting were explained as well as their use and application. Sources of manures and other organic fertilizers and methods of storage were discussed with reference to local availability.

10. INSECT AND DISEASE CONTROL (2 hours)

This session presented the major insect and disease pests common to Sierra Leone. Participants examined live specimens collected just prior to the class. The relationship between visual damage and the feeding habits of insects was illustrated. The major agents of disease and the symptoms were discussed and observed. A brief discussion of chemical methods of prevention and control was conducted. Non chemical methods of control were discussed in depth, as pesticides are not widely available (nor used) in Sierra Leone.

11. WATERING (1 hour)

This session dealt with the water needs of plants as affected by soil, environment, and crop characteristics. Watering techniques and symptoms of water stress were also discussed.

12. **FIELD MAINTENANCE** (2 hours)

Watering, weeding, and replanting (where necessary), of plants planted in earlier sessions.

CURRICULUM OVERVIEW AND MODIFICATIONS: NUTRITION

In this section the nutrition specific sessions will be discussed briefly. A longer description of the materials covered has been prepared and presented to Peggy Meites (Health/ OTAPS) as a supplement to this report.

1. INTRODUCTION TO NUTRITION SESSIONS 15 minutes

An overview of the nutrition materials prepared for the workshop were presented in order that participants might be informed as to the nature of this portion of the workshop. This was also done to provide them with an opportunity to respond to the workshop in terms of meeting their needs for information and skills. The target group, children under five years of age, and the concept of household food production were introduced.

2. NUTRITION OVERVIEW OF SIERRA LEONE 1 hour

In promoting a problem solving approach in the workshop the first step was the identification of nutrition related problems of the target group. Presenting material on nutrition problems in Sierra Leone set the stage for all the other sessions with very country specific problems which could be addressed in solution development exercises. The nutritional well-being of children in Sierra Leone was discussed using statistics and examples from recent studies as well as observations made by participants. Protein energy malnutrition and the forms that it takes were also described and illustrated as they relate to local nutrition problems among children under 5 years of age.

3. THE CYCLE OF MALNUTRITION 1 hour

This session illustrated how individual factors which influence malnutrition may work together to hasten a decline in health where a child is malnourished. A cyclical model was used in this discussion which highlighted the function of low food intake. The process was also discussed where a child is fed a healthy diet. This session was very theoretical and, while it provides a good background for the concepts used, it is impractical at the classroom level. A more relevant and extension oriented model, based on this theoretical background, has been suggested in the supplement to this report.

4. THE FOOD CALENDAR 4 hours

The constraints which affect nutritional well-being and food production and consumption were discussed during this session. This was done by creating a calendar that examined the problems communities and families face in achieving food security throughout the year. Periods of food shortage and abundance were identified by examining variables such as foods eaten in each season, cash income and expenses, intensity of labor, and illness. The relationships between these variables was then examined as they affect nutritional well-being throughout the year. This session was very successful in processing a lot of information in a short amount of time with the aid of village informants and with some modifications of the established lesson plan. All the participants enjoyed this session and felt that it was worthwhile. The information generated provided a data base for much of the work that followed.

5. WEIGHTS AND MEASURES 4 hours

This session was conducted to impart skills necessary to monitor nutritional well-being in children using anthropometric measurements. A lecture on anthropometric measurements was developed and delivered by Liz Robinson, P.C.V. which covered a thorough discussion of different types of growth monitoring and their advantages and disadvantages. A practical classroom exercise, using the road to health format, was conducted followed by two field exercises in measuring the height of school children and building appropriate technology scales. Participants were divided into two groups for the field exercises and reported back to one another at the end of the session.

6. WEANING AND RECOVERY DIETS 5 hours

The purpose of this session was to provide guidelines for preparing diets for children under five with special attention to local feeding habits and food resources. The concept of calorie dense foods was examined as well as the use of the food square in diet composition. Site specific food lists were created, identifying quantities that matched nutrient information in published resources, in order that the information might be used in diet preparation. A recovery diet formula, to be used to make additions to the maintenance diet after an illness, was also discussed.

THE NUTRITION HALL

The Nutrition Hall was established in response to requests for information about vitamins and minerals raised by participants, and to health problems identified in the Nutrition Overview of Sierra Leone. Flip charts on these subjects were prepared and hung in a hallway as well as charts on specific nutrition subjects used in some of the sessions. People could go and study the charts at their leisure, providing an effective way to illustrate some additional information relevant to materials covered in class.

CURRICULUM OVERVIEW AND MODIFICATIONS: PROGRAM PLANNING

Two sessions are covered under the title of Program Planning. These are The Garden Plan and Program Planning, Monitoring, and Evaluation (PPME). Although these two sessions were conceptually separate in the pre-workshop phase, they were conducted as a continuation of one another in practice. They both deal with planning nutritionally oriented projects. The Garden Plan was conducted first and the PPME session built on what had already been established in each group's Garden Plan. Although a garden plan has often been an element of these workshops, the inclusion of monitoring and evaluation in project planning is new. The experiences gained in training this material indicated that it was an important element of the workshop and should be incorporated on a regular basis. Improvements in the lesson plan are outlined in the supplement prepared for Peggy Meites in the Office of Training and Program Support/Health.

1. THE GARDEN PLAN 8 hours

The purpose of this session is to practice designing a nutritionally oriented garden project in order to investigate some of the problems and elements that would be encountered in a real program. This was done by developing scenarios based on culture specific information and criteria for examination in the development of garden plans. The exercise was conducted by breaking into 4 groups of 4 - 6 members. Two groups worked on the school garden scenario while the other two worked on the home garden problem. Each group presented their plans as a panel illustrating their materials on flip charts.

2. Project Planning, Monitoring, and Evaluation 6.5 hours

This session was conducted to offer a structure for project monitoring and evaluation for the planning of future projects in order to increase the likelihood of success in any undertaking. Practical application of monitoring and evaluation techniques was simulated by additional work on the Garden Plans developed in the previous session. Techniques and discussion of a simple project planning format were illustrated followed by an assignment. Results were unsatisfactory due to participant fatigue and unwillingness to take on an additional assignment.

145

EVALUATION

Although the workshop was successful in terms of completing the sessions agreed upon by participants and the training staff more could have been achieved in terms of meeting the needs of the participants within the context of the nutrition and gardening. This conclusion is based on the pre-workshop survey and an evaluation conducted in a post-workshop survey.

The pre-workshop survey provided with the logistics materials (see Appendix 3), was not circulated before the workshop began. The problems in contacting participants and conducting the survey are discussed under the title of Training Site and Logistics in this report. Instead, APCD Richmond conducted the survey at the end of the first day after the sessions were completed. This timing had several effects;

1. Since the morning had been spent discussing the expectations of the participants and an overview of the materials that had been prepared, returning to this subject at this time was redundant.
2. The trainers had little time to review the surveys since the training had begun and other tasks required attention. Due to the time constraint, the surveys were not reviewed until after the workshop ended. A review of these survey forms could have resulted in curriculum changes had the information been available at the beginning of the in-country planning phase of the workshop.
3. Conducting the survey in their seats at the workshop precluded one of the purposes of the survey, which is that the prospective participants have an opportunity to look around their sites and investigate what is going on around them in preparation for the workshop. Upon a cursory examination of the surveys it was clear that the type of information elicited by the survey forms in this setting was inadequate to the purpose of workshop planning. Responses were too simplistic and masked the complexity of food production and consumption. Food lists were short and obvious. That "women" did the gardening masked a complexity of household interaction surrounding gardening activities. It remains unclear as to whether or not more complete responses would have been provided had the survey been conducted before the workshop.

The interest in gardening outside of the household illustrated on the pre-workshop survey is important to future workshops. There was a closely ranked interest in different gardening focuses from 15 for household gardens, 9 for school gardens, and 7 for community gardens. The five responses concerning "other" focused on curriculum

development. If these gardening focuses are important to the workshop additional materials need to be developed for school and community gardens which provide case examples, common problems, and solution development strategies. The interest in curriculum development also points to the importance of incorporating extension techniques in all lesson plans whenever possible.

The post-workshop survey was conducted by writing a series of eight questions on the chalk board and providing scaled response choices. Additional comments were optional. The questions and ranked responses are listed below where the number of responses out of 18 surveys is listed first followed by the percentage in parenthesis.

1. The information that you received about the workshop was:

a) very good	b) good	c) fair	d) poor
6(35)	6(35)	3(17)	2(12)

2. The arrangements for housing and meals at the site were:

a) very good	b) good	c) fair	d) poor
14(78)	4(22)	0(0)	0(0)

3. The daily schedule of classes was:

a) about right	b) too many classes	c) too few classes
15(83)	0(0)	3(17)

4. The mixture of nutrition and gardening sessions was:

a) well balanced	b) too much nutrition	c) too much gardening
10(56)	7(39)	1(5)

5. In terms of your current and future work did you find the workshop to be:

a) very useful	b) useful	c) useless
10(56)	8(44)	0(0)

147

6. Did the workshop meet your expectations:

a) yes	b) no
13(72)	5(28)

7. In general, the workshop was:

a) very good	b) good	c) fair	d) poor
6(33)	10(56)	2(11)	0(0)

8. What future workshops would be useful to you?

Suggestions for further In Service Trainings which were relevant included Food Processing and Storage, First Aid, Nutrition with an Emphasis on Pregnant and Lactating Women, and Extension Methods in Health Education.

The comments of the participants can be reviewed in Appendix 4. Some of those comments are summarized, in light of the training as a whole, in the following text.

A review of the responses to the post-workshop survey indicated that the participants, for the most part, gained information which will be of value in their work. Most of the negative comments concerned the lack of timely information about the workshop. This was especially important to Peace Corps Volunteers who invited counterparts but had no information on which to select their guests or to explain to them what the workshop was about. This affected both the participants and the trainers in the preparation of a workshop tailored to participant needs and expectations.

The responses of the Peace Corps Volunteers (7 out of 10) indicated that most of the nutrition material had been covered in the Pre-Service Training. This was a surprise to the trainers since this was never mentioned by the participants at any time during the workshop. In addition, the Pre-Service Training lesson plans for the Health Volunteers, made available by APCD Richmond, indicated that there was no overlap in the materials presented. This problem is discussed and solutions developed under the discussion of the session on Introduction to Nutrition Session. As repetitive as this material may have been for some of the volunteers several said that it had been a good review. In addition, it is important to note that many of the participants indicated that nutrition would be a component of their future plans (see Appendix 1).

Conducting the survey on the chalk board enhanced several problems. It was clear, in reviewing the responses, that not all of the Host

Country Nationals understood the questions in the format that they were offered. Secondly, the Peace Corps Volunteers had some difficulty in following directions. Instead of ranking their responses they went immediately to comments. These problems could be mediated by providing a form or workshop evaluation sheet in the training packet which could be photocopied before the workshop began (since a photocopy machine and typewriter were not available at the training site). An oral review of each question may also reduce confusion.

The participation of both the Peace Corps Volunteers and their counterparts was very good. All sessions were well attended and group assignments were completed satisfactorily. The presentations of the final assignment in Program Planning, Monitoring and Evaluation were disappointing, however, this was partly due to the timing and structuring of the assignment.

The Sierra Leonian Counterparts made valuable contributions to specific sessions and the interaction with the Volunteers was very positive. However, there were difficulties in language and in the level of comprehension of the materials presented. Adequate pre-workshop information about the participants with enough lead time, could have alleviated this problem. In addition, the nutrition lesson plans need to be reviewed and de-jargonized in order to make information presented in those lessons more readily understandable to all of the participants.

RECOMMENDATIONS

The following recommendations are based on our experiences in conducting the Better Nutrition through Mixed Gardening Workshop in Sierra Leone beginning on December 1 and ending on December 9, 1986. Where these recommendations concern certain sessions or topics they are discussed fully within that section of the report.

- 1) Logistics lists sent to the in-country staff should be limited to only those materials required for the subjects which will be covered in any one workshop.
- 2) A check-off sheet for workshop preparation including participant selection and feedback should be created to facilitate the accomplishment of pre-workshop tasks. The check-off list, when used, is expected to aid in the timely completion of tasks. This would improve the feedback of information to Washington where information collected using the check-off worksheet was sent to Washington in an expediant fashion.
- 3) An example of materials to be sent to the participants should be put together separately from the other logistic materials in order to facilitate their recognition. This may simply mean pulling those participant relevant materials already prepared out of the of the package stapeling and labeling them separately before sending the materials.
- 4) The idea of Volunteer Leaders, as workshop liaisons, should be investigated. Facilitating the workshop, from initial interest to final report, may be an ideal secondary project for a school teacher or other Volunteer. This would help reduce some of the preparation problems and develop skills for the Volunteer.
- 5) Materials on school and community gardens should be developed that include case studies, common problems, and solution development strategies.
- 6) Preparation time needs to be closely examined for site preparation, logistical support, timely and adequate pre-workshop participant information, site specific background on which to base lesson plans, the appropriatness of the site, and the state of the training materials from Washington. Little productive work was achieved in the pre-planning phase due to the lack of preparation in the items listed above and the short time available for preparation. This meant that a lot of time was spent preparing daily for sessions during the workshop. In light of the fact that all responsibilities fell on the two trainers, this work load had a negative affect on the workshop.
- 7) New lesson plans for gardening need to be developed to include local cropping systems. This requires an open framework with

defined rationale and goals, adequate preparation time, and strong informants with long term practical experience in traditional food production. Without incorporating this type of information participants are left with a bag of new gardening techniques without a framework of local understanding in which to use them; technology out of context.

- 8) All lesson plans need to be reworked with strong emphasis on rationale, goals, and trainer background materials. Even the agricultural materials, which at first glance seem to be straight forward, had to be reworked for local context and training resources. This is a constant factor in taking a workshop to new places every time. Solid background information and experienced trainers are the backbone of this type of workshop and materials prepared in this fashion would facilitate the production of site specific lesson plans.
- 9) The development of materials for this workshop may benefit from the complete reporting of lesson plans by trainers. Resource materials are rediscovered and developed each time in the current framework. This is counterproductive where trainers end up reinventing the same faulty wheel each time. This would require adequate time for report preparation and clear instruction on what constitutes a lesson plan report within the trainer's contract.
- 10) Extension techniques need to be incorporated into the training material whenever possible. This is especially true of the nutrition material where extension techniques were requested but time to develop them or train them separately was not available. Incorporating extension techniques in the nutrition material would make it more interesting for those who had had some of the material before and make it more accessible for those who were completely unfamiliar with it. If the information cannot be trained incorporating extension techniques, or with a very limited amount of lecture material, it may be important to ask to what point the material is being presented in a workshop which is limited in time and focuses on project interventions. Everything presented should be useful.
- 11) Nutrition lesson plans need to be reviewed and and rewritten in plain, easy to understand English. This would reduce confusion and make the subjects easier to understand for unskilled participants. In addition, language which is inappropriate to village level work requires conceptual translations which are unnecessary if the materials were stated clearly from the beginning. The lesson plan on the Cycle of Malnutrition is a good example of this problem.
- 12) A series of additional references and lesson plans (rationale for fitting into the workshop) need to be developed. This would provide trainers with the flexibility to provide a workshop

appropriate to the needs of the participants and nutrition related problems in the countries in which the workshop is being conducted. Such sessions should include:

- The production of appropriate technology baby scales.
- The nutritional needs of school children.
- The extension techniques of prioritizing needs.
- Food storage research and improvements.
- Household food production strategies, their investigation and interpretation.
- Creative thinking, to reduce the "But they don't do that in my village" block.
- Case studies in food change, to illustrate that it is possible.

13) The training resource materials for nutrition from Washington need to be developed to the point that they may be reproduced and distributed as handouts where appropriate, used by the Peace Corps Staff in future training efforts, and/or as reference materials for participants in their ongoing work. Some of these materials were prepared during this training but it was costly in terms of time. In addition, there were errors in hand written charts that had not yet been cleaned up which caused problems in attempting to train the materials.

14) No matter how extensive the pre-workshop information is, or how selective the process is for choosing participants, the group will have different skill backgrounds as long as the group is composed of both Peace Corps Volunteers and Host Country Nationals. Because of this, a decision needs to be made concerning the ends to which the workshop is being offered. Following Peace Corps philosophy it makes sense that Host Country Nationals should be targeted as the primary recipients of information and aid in the development of skills. Peace Corps Volunteers would participant in the workshop as aids to Host Country Nationals, helping in the development of skills and in the development of projects designed based on the workshop. However, in conducting the workshop it was found that these relationships were reversed. The materials are slanted to the capabilities and intellectual needs of Peace Corps Volunteers, often placing sessions beyond the grasp of host country participants. At the end of the workshop it is probable that most of the Peace Corps Volunteers could design a nutrition related project concerning gardening. It is unclear whether or not most of the Host Country Nationals would feel

comfortable doing the same. During this workshop Peace Corps Volunteers were also given the lead in defining expectations from the beginning. They were simply more articulate and comfortable with the format on the first day. By the end of the workshop they were controlling the activities of the group assignments. It is therefore suggested that the focus of the training has been on Peace Corps Volunteers with Host Country Nationals in support roles as information sources. Given Peace Corps philosophy these roles should be reversed.

- 15) The fair and equitable contracting of personnel to conduct this workshop needs to be examined. The given framework of 22 days was not enough time to prepare, deliver, and process this workshop. One trainer spent a week in the Washington, D.C. office preparing materials for the workshop and a week preparing the final report and debriefing with Health/OTAPS. Neither of these periods of work were covered within the 22 day contract. Both trainers put additional days of work in workshop preparation and report preparation during travel days and on holidays and Sundays which fell within the contract period. None of this time or effort was covered by the 22 day contract limit. It is felt that these periods of time spent in preparation and processing were essential to the success of this workshop and the development of a report which will aid in the production of future improved workshops. It is therefore recommended that future contracts more fully specify the nature of the work to be performed, realistic time frames be set, and pre- and post-performance related work be accounted for within the conditions of the contract.

APPENDIX 1

PARTICIPANT ADDRESSES AND PLANS

Helen J. Beck, P.C.V.
Masanga Leprosy Hospital
Masanga
c/o Makeni Peace Corps Office

Plans for a home garden. All of the nutrition information will be helpful in teaching and lectures. I may even try a small chicken farm.

Angella M. Conteh
Meals for Millions, Freedom from Hunger Foundation
Binkolo-Bombali District

Making a garden for myself in a swamp in one of the communities where we work where it has not yet been introduced, and to teach mothers to improve on their vegetable gardens for their children's nutritional needs.

Mr Joseph M. M. Conteh
Agriculture Department
Makeni Teachers College
P.O. Box 32
Makeni
Sierra Leone, West Africa

Residence:
Back of the Molleleh Compound
Off College Campus
Makeni-Magburaka Road, Makeni

I would like to continue and improve my home garden and my small piggery which I manage at the back of my house. I also hope to impart the knowledge I have gained to my students in the training college where I am already working as a Lecturer of Agricultural Science and General Science.

Peggy Digles, P.C.V.
Masongbo, Safucoco Limba

Assist on going plans for school garden December to June. Host mothers doing gardens. Workshop with Traditional Birth Attendants and VHW's and MFM in Binkolo in January.

Anne Feldstein, P.C.V. Health
Mayoso Village, Magburaka - Mile 91 Road
Peace Corps Makeni Office

I'd like to obtain a scale and begin an Under 5's Clinic in the village using weights and heights as indicators about the nutritional standing of local children. With the gathered information, I'd prepare health talks focusing on nutrition. I'd also like to continue working with the women on the concept of weaning foods (which they don't use) and try to use the recipe for basic mix that we were given. I'd also like to improve my own garden for demonstration use.

John Anderson Kamara
c/o Mr. Davidson Kamara H/T
Mayoso
P.O. Box 32
Magburaka
Sierra Leone, West Africa

I would like to continue my agricultural studies and learn more about how to feed young ones.

Mrs. Isatu E. Kpakra, M.C.H.
Tungie
Goroma Mende Chiefdom
Kenema District
c/o Government Hospital
Kenema, Sierra Leone

My plans would be to relay this important message, especially the teaching of nutrition which is part of my work as a nurse, and to continue my home gardening.

Brenda Kuehmel, P.C.V. Health
Rogbessah/Tonkolil District
c/o Makeni Peace Corps Office

In terms of follow-up I simply want to make my own garden in the swamp, first. Depending on what happens and how successful I am, I'd like to consider using foods for the gardento teach school children and women in the village about better nutrition.

John Macauley
11b Old Railway Line
Tengbeh Town, Freetown

The plan I have to follow-up this program is to plant a commercial garden down at Hamilton Village to help broadcast nutritious food at a reasonable price to people, firms, small households, hotels, and children's villages.

Lanasan S. Mara
Koinadugu Town, Sengbe Chiefdom
Koinadugu District
Sierra Leone, West Africa

I would like to continue my home garden work.

Cindy McCallum, P.C.V.
Peace Corps Office, Makeni

I Live in Tungea, Gorama Mende Chiefdom.

I would like to plant a garden for myself. I also plan to investigate the interest that primary schools have in making a school garden. In the interest is high and people seem motivated I will assist in finding resources and organizing the garden.

Mr. Thomas A. Menjor, Dispenser
Tungie
Gorama Mende Chiefdom
Kenema District
c/o Government Hospital
Sierra Leone, West Africa

My plan would be to relay this important message to the people in my community and the continue the gardening as I have been taught.

Cindy Nofzinger, P.C.V.
Masanga Leprosy Hospital

Work on developing lesson plans for implementing a garden/nutrition program in the schools. And then hopefully implement a program.

Jana Potter, P.C.V.
c/o Peace Corps Office, Makeni

I will be implementing an experimental school garden in at least one (possibly more), primary school in order to develop and field test a resource manual for using a school garden as a teaching tool for an integrated core curriculum (i.e., science, maths, social studies, and english language). I will be doing a similar resource manual for fish ponds.

Brian Richmond, A.P.C.D. Health
Peace Corps Office
8, Lamina Snkoh, Freetown

I will be using the information gained to:

Establish my own home garden;
Help out with the establishment of a group garden in the community of Hamilton;
Promote the concept of nutritionally-oriented mixed gardens among P.C.V.'s in-country; and
Include the nutrition/mixed garden concept in future Pre-Service Trainings.

Elizabeth (Liz) Robinson
Taninahun/Maten (Pujehun District)
Bo Peace Corps Office

Investigate the feasibility with my target villages for school, home, or community gardens to increase the nutritional status for children under 5, school age children, women of child bearing age, and other members of the community. I am already scheduled to present the information from this workshop to my project sponsors - Bo Pujehun Nutrition Unit, Bo, to help coordinate future nutrition programs in my area.

Joel Salter, P.C.V.
Hastings
c/o Peace Corps, Freetown

I plan to use what I have learned here in a community gardening effort near my home in Hastings. I will also use the nutrition information and garden practices in my own backyard as a demonstration garden provided things grow.

Rod Streeper, P.C.V.
Makeni

I have my own home garden and am surrounded by other home gardens at my house. By using some of the techniques learned at this workshop, I hope to pass on some of the better gardening practices. I am at my site enough, and know my community well enough, so that I will be able to make helpful suggestions as well.

Mr. Amadu Thullaah
Rogbesses Kolifa Chiefdom
Postal Address: c/o Leprosy Hospital

To Continue home gardening.

158

Appendix 2

OFFICE
8, LAMINA SANKOH STREET
FREETOWN
TELEPHONE 24451/2/3

MAIL
PRIVATE MAIL BAG
FREETOWN, SIERRA LEONE.

LETTER OF CERTIFICATION

This is to certify that

participated in a course on

"NUTRITIONALLY ORIENTED MIXED-GARDENING"

held in the community of Songo from

December 1st through December 9th, 1986.

Dorothy Bell
Training Consultant/Nutrition

Winston Carroo
Training Consultant/Agriculture

Brian Richmond
APCD/Health & Rural Development



160

Appendix 3

Pre-Workshop Survey

Name: _____

Work Location (village): _____

Primary Work Assignment (title) _____

1. What are the current gardening activities in your community?
% of community that has household gardens _____

2. What are typical crops/vegetables grown in the garden?

3. Which of these garden crops are;

marketed _____ consumed _____

Who does the marketing? men _____ women _____ children _____

4. Are small animals raised in the home garden?

No _____

Yes _____ if yes... which animals are raised?

5. Is gardening a womens or a mens acitivity?

6. Are any garden crops or vegetables stored or dried? List
crops and techniques used.

7. Is there a "hunger season", or a time during the year when
household food is in short supply?

No _____

Yes _____ if yes... when is this time? _____

1601

8. Is there a time during the year when people have a greater need for cash?

No _____

Yes _____ if yes...when? _____

9. Are there any garden crops or vegetables which are not feed to young children (under 5 years of age), or pregnant or nursing mothers? List crops.

10. How do you plan to us the gardening and household food asses-
sment skills gained from the training?

Develop....School gardens _____
Community gardens _____
Househodl gardens _____
Other projects _____

11. Who do you expect would benefit most in your community if you promote nutrition-oriented mixed gardening activities after this training?

PARTICIPANT COMMENTS IN EVALUATING THE WORKSHOP**

1. The information that you received about the workshop was: ?
 - * I did not know that nutrition was going to be part of the workshop. The announcement just said mixed gardening, but didn't explain mixed gardening.
 - * The announcement/information received was: variable (unfortunately, many of the participants did not receive the information sent).
 - * GOOD - although much of the info was review
 - * I was intimidated by the statement that only 10 people could attend so I didn't respond because I didn't think I'd get picked. Also, we needed more information to tell our counterparts - logistics (were lanterns, mosquito nets, etc, provided), and what would be covered in the workshop.
 - * Poor - I was unable to explain to my counterpart what the workshop's agenda, objectives or goals were.
 - * Good. We already received much of the nutritional information in our Pre-Service Training. I thought the garden information was very good.

2. The arrangements for housing and meals at the site were: ?
 - * very good, well prepared and managed
 - * Meals Very Good
Housing Poor.
 - * great food, & Pa Brima Kamara's family was very nice.
 - * Very Good. The meals & housing situation were excellent.

3. The daily schedule of classes was: ?
 - * About right. Perhaps there could have been a few more props to keep people awake through some of the longer classes-- perhaps some more class participation. It really gets hard to pay attention w/the heat & humidity.

4. The mixture of nutrition and gardening sessions was: ?
- * too much nutrition - most of the nutrition presented is covered during pre-service training for all health volunteers by health volunteers. Therefore, because of the content, the nutrition section was too much & repetitive. Also felt the two sections could have been mixed more.
 - * As a health volunteer, I already had a lot of the information that was provided.
 - * Too much nutrition. It was nice to spend as much time as we did on gardening, but you could probably shorten it a few days & take out some of the nutrition. Nine days is a long time to be out of our sites.
5. In terms of your current and future work did you find the work to be: ?
- * useful - learned a lot about gardening practices which I'm sure will be beneficial & helpful for future work & personal purposes.
 - * gardening component very useful
nutrition component useful to useless (because much of it was a repeat of material covered in Peace Corps training)
 - * Useful - but a better knowledge of the audience background would help tremendously. I felt much of the information was general knowledge.
 - * I could have used more info about intercropping - I don't think the Sierra Leoneans believe that there is a benefit from this - or that there is a benefit to plant spacing.
 - * I will be able to use what I've learned on a secondary project.
6. Did the workshop meet your expectations?
- * Sort of - Felt that there was a lack of incorporating what the current agriculture/gardening practices are here in Sierra Leone and how they could be improved upon. I think local resources were underutilized i.e. Sierra Leoneans involved in agriculture/gardening programs, also current PCV's, aggies, have had experience & have knowledge of current practices, problems as regards to agriculture/gardening - feel this resource was underutilized.

- * Not completely
I wish there was more information on Sierra Leone specific plants (i.e. companion plants, sun light needs, water needs, which seasons etc. the books we have received are for other countries and don't cover some of the main crops grown here)

There wasn't enough integration between the two program components. re How can we introduce gardening techniques to increase food production during Aug and Sept. or can we change the gardens so that food can be produced during the hungry season.

The calendar exercise w/inviting S. L.ians was good but I feel much more could be said in the conclusion - how does it fit in w/gardening,...

- * Yes. It provided a good integration of health and agriculture and indicated a direction that we can stress for future PCVs
- * I expected a better working knowledge of the nutrition aspect of the workshop.
- * Yes, actually met my personal needs better than I anticipated.
- * Yes. The workshop covered all I expected it to.

7. In general, the workshop was: ?

- * good/fair did help to give a clearer picture of the work, steps necessary for implementing school, community and home gardens. Felt that the assignment given at the end of class on Monday was ill timed. Could have been incorporated into the 1st assignment/presentation. Wish suggestions for food storage/preservation were incorporated as little seems to be done in this area & could possible help to minimize food shortages during hungry season.
- * The workshop was good, I made a lot of friends, gained experiences into both classes etc.
- * Very good. (It would have helped to have integrated the last exercise earlier on.)
- * fair - I felt the nutrition portion could have been better organized and presented. several of the activities were busy work.
- * Very good - except the breaking up of the home/school garden plans (?) The information of problem, goal objectives exercises should have been combined - these presentations separated did

cause an attitude of non participation in the majority of the group for the second exercise.

* Good. I really enjoyed it -- the trainers & general atmosphere were very pleasant. I got what I came here for and enjoyed it. I thought the trainers knew the material well and that it was conveyed in a fairly effective manner. Perhaps it would have been useful to have a standardized schedule to go by -- it might have worked out better. As it was, we received a fair amount of material from various sources that will definitely be of use, and this should also serve us well in the future as we can get more of the same type of information from ICE.

8. What future workshops would be useful to you?

* Methods of appropriately, culturally introducing these practices, Food Storage preservation/storage "getting the message across"

* More on food processing, storage, drying and how these affect the nutritional content of food.

* I would like to follow-up workshop in both Agriculture and Health education.

* Food preservation and storage.

* A good question calling for some imagination - um

- The causes of poverty in "Stalone".

- General first-Aid I believe would be useful especially with regards to cut's and broken homes.

* Sierra Leone specific funding sources - Workshop designe to assist health workers who are in villages without project support. It's hard to know where to start and what to do.

* I will be investigating monies availability on my own, at this time, I have no suggestion for a follow up workshop.

* Workshops should be individualized & not necessarily tie in with this one. We could have gotten a list of applicable ICE manuals.

** These texts are not edited.