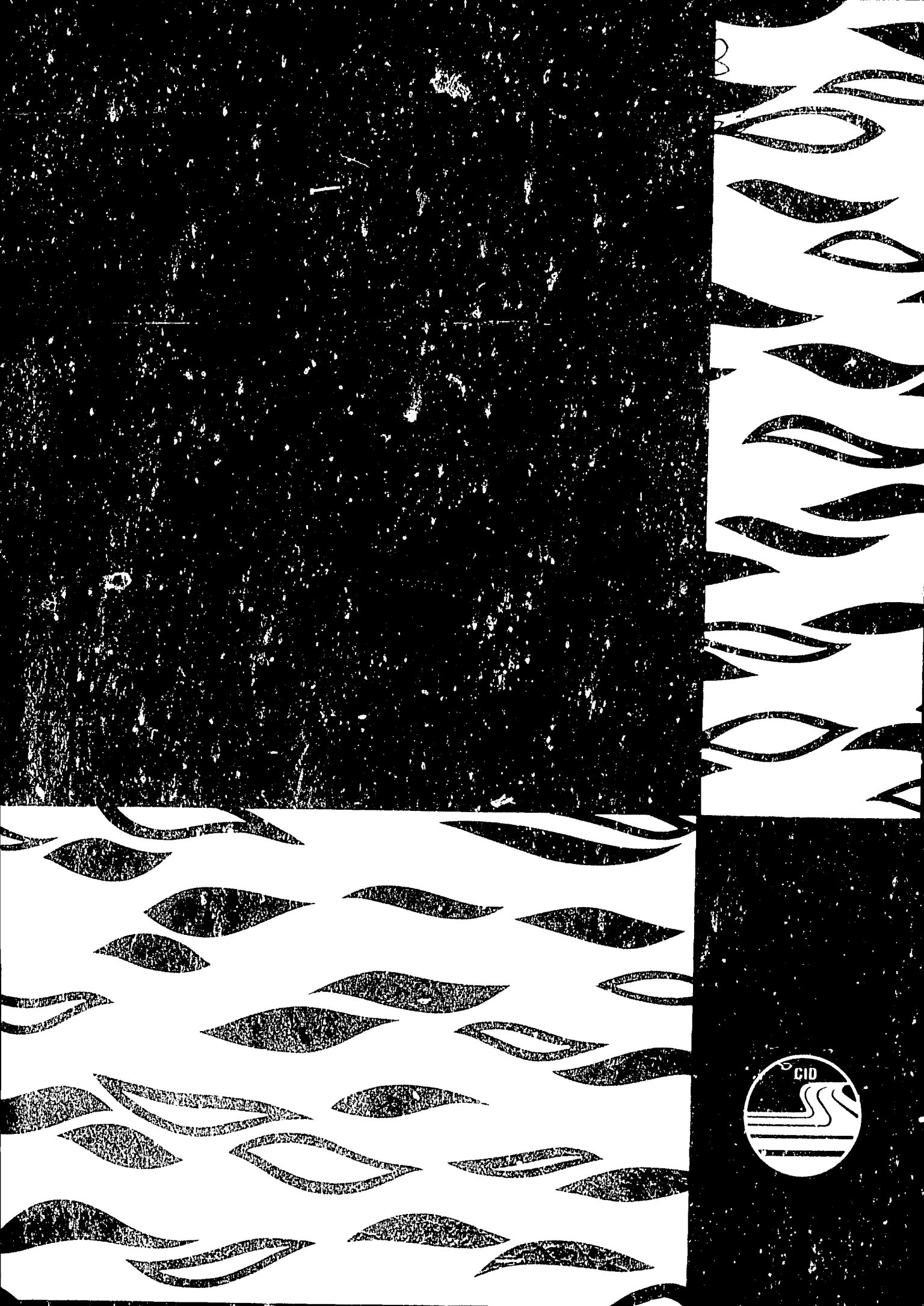

CID

EG-AAC-359

62

2630017

1981 EWUP SUMMER TRAINING PROGRAM

A Report of the Activities

Kafr El Sheikh, Egypt

May 23 - July 1, 1981

Presented to:

Dr. Hassan Wahby, EWUP Director
Dr. Gene Quenemoen, EWUP Technical Director
Dr. E. V. Richardson, EWUP Campus Director for (C.S.U.)
Dr. D. K. Sunada, EWUP Training Coordinator (C.S.U.)

Prepared by:

EWUP Training Staff

TABLE OF CONTENTS

TOPIC	PAGE
Introduction	1
Objectives of the Training Program	1
Preparation for the Training Program	
Personnel	4
Accomodations	4
Material/Equipment	5
Orientation (Training Staff)	5
U.S. Study Tour	6
Operation of the Training Program	6
The Training Format - A Conceptualization	7
The Schedule for the Training Program	8
Discipline Input	9
Training Teams	10
Evaluations/Recommendations	13
Introduction	14
Agronomy Discipline Exams	14
Agronomy Interdisciplinary Exams	14
Economics Examinations	15
Economics Cross Discipline Exams	15
Engineering Evaluations	15
Discipline	15
Interdiscipline	16
Trainee Evaluation of the Training Program	16

TOPIC		PAGE
Training Staff Recommendations		20
Appendix		
1A	Procedures for the Preparation of the Training Program	22
1B	List of Trainers and Trainees	36
1C	Expenses for the Training Program Personnel	38
1D	Field Sites for the Training Program	41
1E	Equipment List for the 1981 Training Program and a List for Needed Equipment	46
1F	Training Vehicles	52
1G	A Format for Organizing and Conducting Meetings	53
1H	Schedule for the 1981 U.S. Study Tour	55
2A	Training Program Schedule	56
2B	An Example of a Training Team's Series of Reports	63
2C	Agronomy Lectures	86
2D	Economics Lectures	90
2E	Engineering Lectures	93
2F	Sociology Lectures	97
2G	General Lectures	98
3A	Agronomy Evaluations	99
3B	Economics Evaluation Package	103
3C	Engineering Evaluation Package	106
3D	Sociology Evaluation Package	110
3E	Trainees Evaluation of Training Program	112

Introduction

The Egypt Water Use and Management project conducted its annual training program in Kafr El Sheikh from May 23 to July 1, 1981. This year's program continued the thrust of developing a training program for evaluating on-farm water management systems which eventually will be administered and taught by Egyptian personnel totally. What follows is a final report describing how this year's program was conducted. This report will present first the objectives of the training program, then discuss the work performed in preparation for the program and finally, describe how training was conducted and evaluations performed.

Objectives of the Training Program

The goal of the EWUP summer training program is to introduce to selected Egyptian professionals a specific procedure for analyzing on-farm water management practices. This procedure incorporates two major themes: (1) an action-oriented research process, and (2) an interdisciplinary approach for pursuing this research process. Based on the integration of these two themes, this training program is set up to present and to demonstrate how various on-farm water management practices may be studied for the purpose of analyzing the system and determining improvement possibilities.

In examining specific on-farm water management practices, the process used in the training program consists of three phases: (1) a base survey phase, (2) possible solution phase, and (3) an implementation phase. The first phase consists of performing a base survey for the farm system in order to obtain a general understanding of how that farm system operates in terms of water management. From this first phase, certain aspects of the farm system may be seen as being more problematic in terms of establishing a more effective system. These initially identified problems then become the focus of a more detailed study in phase two - the possible solution phase. If the results of the detailed study show that improvements could be made, the third phase begins with the examination of how such changes may be implemented. This phase considers the needs for changes, the possible advantages and costs, and what actions would be required for implementation. The training program is organized to demonstrate how each of these phases may be performed within the context of the on-farm water management study area.

Emerging out of this research process is the demonstration that the on-farm practices must be studied by more than one discipline in order to obtain a complete understanding of the operation of the farm system. Four disciplines are included in the training program: agronomy, economics, engineering, and sociology. Each discipline lends its expertise to each phase in order to establish a more comprehensive picture of what is occurring, what are some specific problems, and the feasibility of the various solutions proposed. The emphasis in the training program is to develop

specific "Hands-on" discipline expertise for working in on-farm water management and at the same time, develop a greater sensitivity to complementary contributions of the other disciplines. The activities in the training program are designed to enhance both the discipline expertise and the ability of the separate disciplines to work together as a team focusing on a particular problem involved in on-farm water management.

Given this brief description of what the training program is designed to teach, the following is a list of objectives for the program.

- To have the trainees understand the action-oriented research process in terms of on-farm water management.
- To have the trainees apply that research process in an actual problem situation under field conditions.
- To improve the discipline expertise of the trainees in terms of on-farm water management.
- To establish an understanding by the trainees of the contributions of the other disciplies.
- To develop the means by which the trainees can work as an interdisciplinary team focusing on the problems and improvement of irrigated farm systems.

In addition to the above training objectives, EWUP also has a procedural objective for this training program. The major goal for the overall training program is to transfer the administration and teaching of the course from an American staff to an Egyptian staff. This year's program is the fourth EWUP summer course and it has served as a unique component of this transfer process. What was done this year was to involve Egyptians as trainers for the first time. The American commitment was cut almost in half from last year; and for this year, the course was administered by an Egyptian and had involved Egyptian trainers who were responsible for many lectures and overseeing the field work. Based on this year's experience, the next training program (1982) is scheduled to consist of an Egyptian training staff with only one or two Americans present to oversee the operation of the program thus completing the transfer process.

Figure 1 presents a schematic diagram of the overall training program. The training program covers the three phase - 1) Base Survey, 2) Possible Solution and 3) Implementation conducted within an interdisciplinary mode of operation. Activities involved in the accomplishing of the results included lectures, workshops, field exercises, and analysis sessions. Such activities are both disciplinary and interdisciplinary in nature. The why, how, what, who, when, and where of these activities were decided by the training staff during their time of preparing for the course and while they conducted the course. All of these activities were designed to achieve the objectives of this course.

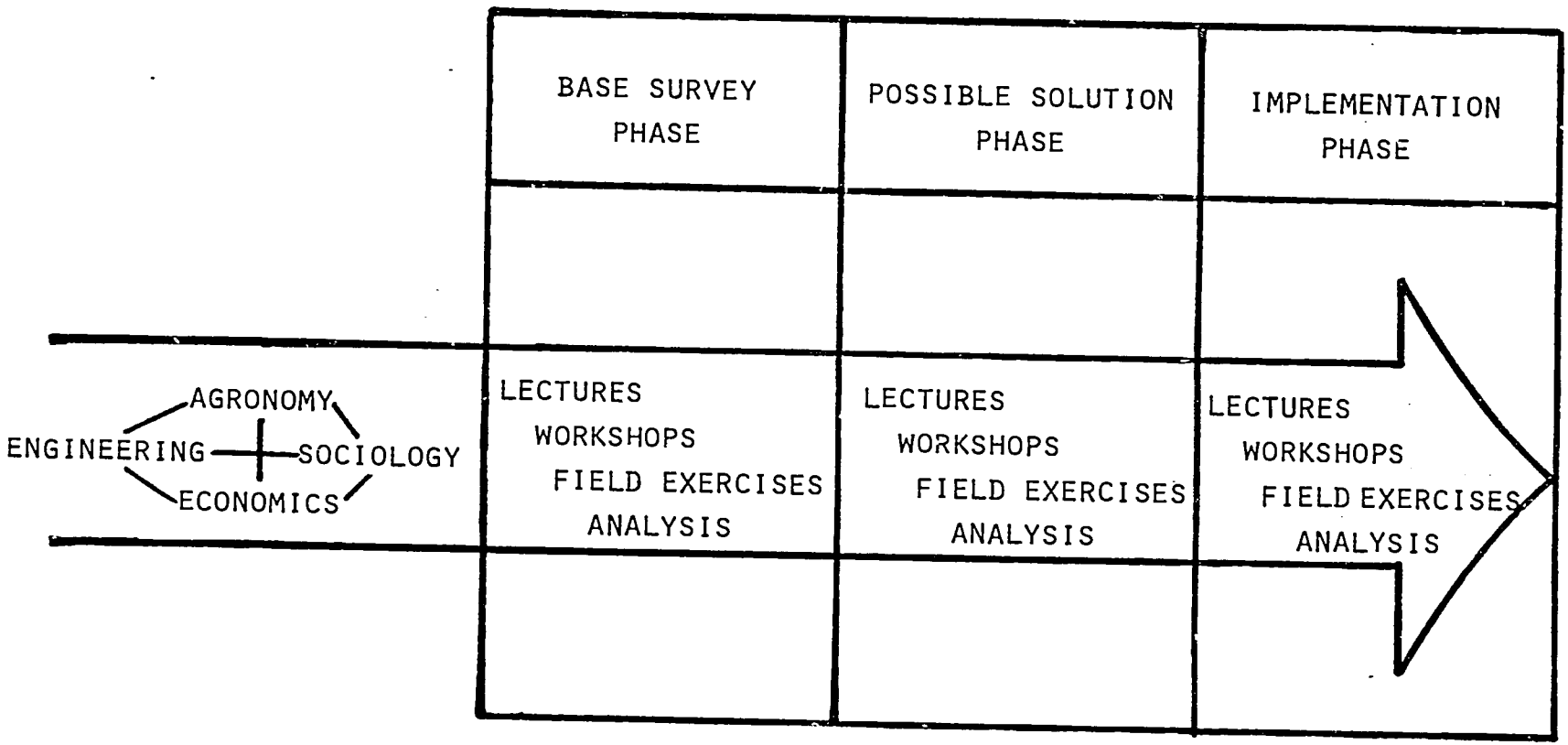


Figure 1: EWUP Summer Training Program Schematic

Preparation for the Training Program

Initial work for this year's training program began on November 20, 1980 between the American and Egyptian administrative leaders. The initial organization work was mainly in the form of written communication between Cairo and Fort Collins, and it was not until January, 1981 when the two leaders met with each other and the Project Directors that preparations began in earnest. Appendix 1A presents the work plan which was established to prepare for this year's program. This work plan include the activities to be accomplished, the responsiblity of various individuals to accomplish each activity, the deadline to complete each activity, and the procedure for communicating what has been accomplished. The work plan covers five major areas of concern: personnel, accomodations, material/equipment, orientation, and the U.S. study tour.

Personnel:

The personnel who needed to be selected included both trainers and trainees. Appendix 1B lists both the trainers and trainees who participated in this year's course. The training staff was a mixture of Egyptian and American staff. They were selected in February, 1981 with 5 being at Colroado State University and 3 working in Cairo. An orientation program was set up (to be discussed later) and a system of communication between the two groups was established.

This year, for the first time, most of the trainees were not working with EWUP. The engineers are Ministry of Irrigation personnel who are working in various parts of the country. While all of the agronomists were EWUP personnel, the economists and sociologists worked for the Ministry of Agriculture. Selection of the trainees was a very slow process with the engineers not being selected and notified until April 30, 1981, and the economists and sociologist not knowing they were to be involved in the training program until three days before the initial training day. The trainees ranged from very senior professionals to recent university graduates.

In addition to the professional people working as trainers and trainees, there was a number of staff personnel selected to support the program. This staff included a secretary, drivers, and maintenance workers who worked around the the training office performing various tasks. The total number of people involved in the training program was 40.

Accommodations

Finding personal accomodations for everyone in Kafr El Sheikh was impossible. During the training period, the school dormitories as well as the government facilities were full. The limited hotel space in Kafr El Sheik was also occupied and there were no private residences which could house the training group. As a result, the trainers obtained two flats in Kafr El Sheikh for their purposes, and the trainees stayed at the Arafa Hotel in Tanta. Appendix 1C details the financial expenses for the trainers and trainees with regard to these accomodations.

The training accomodations include a training office and field sites upon which the field work was centered. EWUP used the Kafr El Sheikh training building which it used in 1980 and the farm sites selected were in the surrounding area (Appendix 1D). The training building is set up to serve the number of trainees attending the course. An area of fourteen field sites were originally chosen from which the trainers later selected three sites to be used (one for each trainee team). This selection of sites was performed by all the disciplines based on an interdisciplinary consensus of criteria.

Material/Equipment:

This category includes laboratory equipment (Appendix 1E), office supplies and equipment, vehicles (Appendix 1F), and materials for trainees and trainers. The training office has attached to it a laboratory stocked with the equipment listed in Appendix 1E (Also attached is another list of equipment which should be purchased for next year's course). Office supplies include an electric typewriter, xerox coper, files, papers, pens, pencils, chalk, fans, a video tape system (including monitor, playback unit, camera, battery pack, and tape), an overhead projector, and slide projector. Vehicles were used to transport trainers and trainees from their respective housing units to the training office and to the field, and back again. Special rules concerning the use of those vehicles were established this year and should be examined for next year's program. Materials for the trainers and trainees include such items as clipboards, notebooks, ring binders, pens, pencils, training manuals, and reference books.

Orientation (Training Staff):

The orientation for the training program focuses on one major purpose: to prepare the trainers to accomplish their assignments. This year, two orientations were proceeding simultaneously; one in Fort Collins and one in Cairo, with weekly correspondence communicating what had been accomplished being sent between the two locations. While this situation existed this year because of various circumstances, it is not a recommended practice. Much was lost in terms of substantive and procedural matters and the development into a well functioning training team was delayed. The next section examines what was accomplished at both locations during the orientation phase.

The orientation session included a series of meetings held once per week for about nine weeks. Each meeting time was a minimum of two hours. Topics which were covered included the scheduling of events, the format for the training program, the discipline activities, the interdiscipline activities, and the evaluation process. Discussion of these substantive and procedural matters not only helped the trainers to be better prepared for the program, but it also allowed the trainers to develop a team-like synergism which only evolves through directed participation in program review and development.

In beginning the orientation, one of the first points of discussion was to define what the training format should be. This training format constitutes the basic guidelines of what is to be taught. (This will be discussed further in the next section). Once that is established, a schedule of activities is constructed. Integrated into this format, and thus the schedule, is what each discipline is planning to do. These discipline activities are discussed and then coalesced into specific interdisciplinary activities. Again, more detailed schedules and work plans are constructed to include lectures, workshops, field exercises, and diagnostics. Each discipline must decide what theoretical and methodological points they wish to emphasize in the program. Materials are assembled, such as equipment and reference books, and the trainers now begin to detail what their lectures are to include and how they will conduct the workshops and field exercises within the design they established.

The work plan for this orientation period emerges from many hours of discussion and individual work. A meeting format was established (Appendix 1G) and followed to facilitate the discussion. From involvement and interaction in the discussions, the trainers developed into a team which allowed them to set a cooperative example for the trainees. Such an orientation period is crucial for the success of the training program. It is the major aspect of the preparatory work which integrates everything into a cohesive program and facilitates the development of an interdisciplinary training team.

U.S. Study Tour:

The final part of this training program is a study tour of the U.S. for the trainees. Appendix 1G describes the route of the tour. What must be considered in preparing for this tour is to establish the minimum set of standards to qualify to attend and the administrative procedures needed to successfully complete the tour. Such work was done before the training program began and after the six week training program conducted in Kafr El Sheikh.

Plans for the tour, such as the schedule, contacting sites to be visited, arranging transportation, and the like, began early in the year at Fort Collins. The trainees were told that in order for them to go, they must cooperate during the Kafr El Sheikh session and must meet minimum standards established by the trainers. Administrative matters which had to be completed for each trainee included the following: obtain a passport, take an English exam, take a medical exam, fill out U.S. AID training forms, obtain visas, arrange for plane tickets, and obtain GOE clearance for the trainees to leave the country.

Operation of the Training Program

The operation of the training program is concerned with how the program was conceptualized and how that conceptualization was put into practice. Planning for this program was initially described in the previous two sections. In this section, the implementation of that plan will be

explained. A detailed discussion of the training format will first be presented after which the schedule of the program will be described. Finally, a brief overall examination of what each discipline contributed will be presented.

The Training Format - A Conceptualization:

A training format is defined here to mean the conceptual underpinnings used to direct the activities of the training program. Figure 1 depicts a general framework governing the content of the training format. Essentially, the format consists of a three part research design process which is performed in an interdisciplinary manner. The process' three phases are the base survey phase, the possible solutions phase, and the implementation phase.

The base survey phase constitutes the beginning of this research process. In this phase, the trainees were to gather information which would construct a general picture of the area being studied. This general picture is what the trainers call baseline data. The trainees were given lectures by all the disciplines as to what their respective disciplines view as baseline data and why they obtained that particular set of data. After the interdisciplinary lectures, each discipline conducted a set of lectures/workshops which gave more detail as to what data was being collected, the meaning behind collecting that data, how that data should be collected, and methods of compiling and sharing the data. The trainees then participated in a field exercise to gather the baseline data and wrote a report describing the specific sites; i.e. giving an interdisciplinary picture of the study areas. (The trainees were divided into three interdisciplinary teams. Each team was assigned one field site on which to work).

Based on the general base survey conducted at the representative sites, each team encountered a number of possible problems which could be studied. The purpose of this section in the program is for each team to examine one particular problem of the farm system and develop possible solutions for that problem. In instructing the trainees on how to focus on one problem, the notion of testing a hypothesis was introduced. Again, the hypothesis was placed in the context of an interdisciplinary team. Once this set of lectures was presented to all the trainees, the disciplines separately met for a series of lectures/workshops to discuss how they approach, study, and test a hypothesis. Next, the training teams met to choose one hypothesis. After the selection, the field work commenced with an intensive study of the hypothesis and the emergence of possible solutons. Again the results of their work was written in report form.

After the hypothesis was studied and solutions presented, the third phase of the course commenced - the implementation phase. Given the complex nature of implementation and the limited time available in the program, the trainees were presented with a limited program for implementation. A series of general lectures were given to describe what implementation entails. After the lectures, the trainees were then to go to the farmers with their solutions, after the teams discussed the pros and cons of each solution by themselves, and obtain the farmers' views on the viability of each solution. The teams' final reports were then to examine each solution and look ahead to what they would do to try to implement a viable solution. This phase included utilization

of existing technology and a delineation of any additional research needs.

The purpose of this training format is to explain, demonstrate and have the trainees practice how an interdisciplinary team proceeds in analyzing an on-farm system (of any level of complexity) and uses such an analysis to bring about improvements in that system. In going through this research process, major concepts, both disciplinary and interdisciplinary, depicting this process are presented to the trainees and specific methodological procedures are taught in order for the trainees to apply such concepts to an irrigation system. In working with this format, the emphasis of the program is to have the trainees fully participate in all aspects in order to obtain a comprehensive understanding of why the process is viable and how to use the process in their work.

The Schedule for the Training Program:

The training program covered a seven-week period in which all three aspects of the training format would be covered (Appendix 2A). During this year the schedule was modified in a couple of places because of external events. Two of the American trainers could not travel to Egypt during the expected time because of the lateness in obtaining a security clearance. For this reason, the organizational week activities were cancelled. President Sadat visited Kafr El Sheikh during the fourth week and so the schedule had to be adjusted in order not to conflict with his visit. What will be presented is the schedule of event as planned.

In the first week, the trainers arrived in Egypt and had a series of meetings to orient themselves to EWUP and the surroundings. The trainers traveled to Kafr El Sheikh to examine the training facilities, select the three field training sites, and prepare for the trainee's arrival. When the trainees arrived, the actual program commenced with time set aside for the trainers and trainees to become acquainted.

After the introductions, diagnostic exams were given and the first training week started with the base survey phase. Interdisciplinary lectures were then presented to sensitize the trainees to the other disciplines, and their respective roles in this research process. After the introductory lectures, the disciplines separated to plan their base survey information needs. Teams were then organized and each team began to prepare for the base survey field exercise. Team planning included data needs, field procedures, data compilation methods and data exchange between disciplines.

The base survey field exercise constituted the second training week. For four days, each discipline would be in charge of the team and proceed with a base data survey. Figure 2 shows what a typical schedule is for. The purpose of using such a schedule is to demonstrate to all the trainees what each discipline does during a base survey. Members of each discipline participated in the techniques of all the other disciplines during this week. After the four days in the field, each team wrote a summary report of the team study site and gave an oral presentation to the trainers.

Phase II, the appropriate solution phase, began on the third training week. After an initial set of lectures on what a hypothesis was and how to develop one compile relevant questions, and determine data needs, the different disciplines separated to work on their own contributions to the team for this phase. After the trainees were prepared by their respective discipline trainers, the teams formed again and each one selected a hypothesis to study. The end of this week began the field work to study hypothesis chosen for each team. Training week 4 and part of week 5 were used to collect the data and compile a report for presentation to the trainers.

After the solutions were proposed, the implementation phase completed the program by using training weeks five and six. Again lectures on the implementation process was given to all the trainees. After these lectures, the teams were assigned to study their solutions and prepare for their interviews with the farmers on their respective sites. The interviews were held and the final reports were prepared. These final reports were comprehensive in nature in that they (1) reviewed the base survey and the problems which emerged from that survey, (2) described the pros and cons of each proposed solution from the trainee's and farmer's point of view, and (3) examined what could be done in implementing a viable solution to solve the identified problem.

Intermingled with the schedule was a number of administrative matters preparing the trainees to go on the U.S. study tour. Each event in the schedule was compressed in time so that the trainees had to work as hard as they could in order to obtain the needed amount of information in the short time available. The results presented were, in parts, superficial, but did now the trainees what could be accomplished by using this research process. The intensity of the data collected was minimized so that the trainees could experience the entire procedure (Appendix 2B).

Discipline Input:

Within the descriptions of the training format and the training schedule, much as been said about the general role of the different disciplines in the program. What will be presented now is the detailed work performed by each discipline. Each discipline trainer was responsible to present the essential theoretical concepts, basic hands-on procedures, and data management that would be needed by the trainees to satisfactorily complete the three phases of the training program.

The detailed outlines for each lecture presented by the different disciplines are in Appendix 2C (Agronomy), Appendix 2D (Economics), Appendix 2E (Engineering), and Appendix 2F (Sociology). For each discipline, there is an outline of all the lectures/workshops given for each phase of the research process in which the disciplines were involved. All lectures were presented in a manner which would integrate each discipline into the research process, and into the interdisciplinary mode of operation. References for the lectures are given in these outlines.

TRAINING TEAMS

DAY	Team 1	Team 2	Team 3
SUN	ENG	ECON	AGRON
MON	SOC	ENG	ECON
TUES	AGRON	SOC	ENG
WED	ECON	AGRON	SOC

Disciplines

ENG: Engineering

SOC: Sociology

AGRON: Agronomy

ECON: Economics

Figure 2: Base Data Survey Schedule

(Note: Team leadership rotated each day with the relevant discipline member leading the team through a base survey exercise)

Summer Training Program, 1981

Team # 1

1. Agr. Ahmed Sayed Ismail
2. Agr. Hanafy Mahmoud Hanafy
3. Econ. Abdel Sattar Shineshan
4. Eng. Ebdel Razek Ismail Hashim
5. Eng. El-Quaqua Mossad Megahed
6. Eng. El-Sayed Mohamed Ahmed Hassan
7. Eng. Mohamed Salama El-Shafee
8. Eng. Wadie Ragy Kelada
9. Soc. Saber El-Sabbagh

Team # 2

1. Agr. Mahmoud Khedr Afifi
2. Econ. Ahmed Mohamed El-Shater
3. Eng. Ahmed Abdel Naiem Abdel Ghany
4. Eng. Esam Menoufy Mohamed El-Sayed
5. Eng. Fathi Aly Solieman
6. Eng. Kadry Ahmed Osman
7. Eng. Mostafa Abdel Ghany Sakr
8. Soc. Ahmed Gamal El-Din

Team # 3

1. Agr. Salah Saleh Abdel Samie
2. Econ. Sobhi Ahmed Elewa
3. Eng. Adel Mohamed El-Kholy
4. Eng. Mohamed Abdel Moniem El-Erefi
5. Eng. Mohamed Shehl Abdel Aal
6. Eng. Saad Shehata
7. Eng. Tarief Fahmy Abdel Rahman
8. Soc. Mohsen Bahgat Mohamed

1981 EWUP Training Program

Daily Schedule for Sunday, 24 May

7:00 - 9:30	:	Introductions and Social Time
9:30 - 11:30	:	Discipline Exams
11:30 - 12:30	:	Lunch
12:30 - 1:30	:	Interdiscipline Exams
1:30 - 2:00	:	Break
2:00 - 4:00	:	Appendix A Items I + II Lectures (Responsibilities + Discription of Training Program)

Daily Schedule for Monday, 25 May

7:00 - 7:30	:	Administration/Coordination
7:30 - 8:30	:	Appendix A Item III Lecture (Expected Output)
8:45 - 9:45	:	Appendix A Item IV Lecture (Base Survey)
10:00 - 11:00	:	Agronomy Lecture
11:00 - 12:00	:	Lunch
12:00 - 1:00	:	Economics Lecture
1:15 - 2:15	:	Engineering Lecture
2:45 - 3:45	:	Sociology Lecture
4:00 - 4:30	:	Calculator Usage

Evaluation/Recommendations

An important aspect to any program is the evaluation of how that program meet its objectives. The EWUP training staff prepared two major evaluation techniques to measure the effectiveness of the program. These evaluation techniques included measuring how well the trainees progressed in terms of course requirements, and measuring how well the program performed its designated tasks.

Evaluating the trainees achieved using written examinations and observations of the trainers. The trainees were given two examinations; a pre-training diagnostic and post-training final examination. For both, there was a discipline oriented section and a cross-disciplinary oriented section. Appendices 3A, 3B, 3C, and 3D gives these exams for the disciplines of Agronomy, Economics, Engineering, and Sociology, respectively. The two examinations are used to measure the improvement of the trainee in the knowledge and application of his own discipline, the increase in basic information about the other disciplines and the ability in interdisciplinary cooperation and understanding. The trainees were also evaluated by their respective discipline trainers in how well they performed the hands-on skills taught during the course. Appendix 3E gives a summary sheet which the trainers filled out to evaluat each trainee.

In addition to trainee evaluation, the training program was evaluated. Both the trainees and the trainers participated in this evlauation . The trainees evaluated the program by filling out an evaluation questionnaire (Appendix 3F) while the trainers evaluated the program during a five day evaluation retreat conducted at the conclusion of the program. Results of the trainee evaluation are in Appendix 3F; while the results of the trainer evaluation are included in the recommendations which follow.

Introduction

A pre-training diagnostic examination was given to each trainee. This examination consisted of four parts. Part one was a specific examination covering the relevant discipline of a trainee. Parts two, three and four were cross disciplinary in nature and were general questions about the other three disciplines. The results of these examinations were used as a guide.

This testing was repeated at the end of the course with the scores being used in a comparative mode to measure both the accomplishments of the trainees and the effectiveness of the training program during the training program to adjust concentrations to cover weak areas.

Sociology Examinations

The sociologists were evaluated by a diagnostic examination and a final examination designed to measure their knowledge of basic sociological principles. These principles were centered around fundamental

concepts which the sociologist must understand in order to perform the tasks of the training program. Such concepts involved theoretical parameters of social systems and methodologic l principles of performing sociological studies. In short, the examinations were developed to see if the sociologists were able to go into an irrigation community and delineate the crucial variables which needed to be studied in order to understand that community, and to see if these sociologists were knowledgeable about how to perform such studies. The interdiscipline exams were designed to evaluate the general knowledge of the rest of the trainees as to how sociologists work in an interdisciplinary team regarding irrigation practices.

Agronomy Discipline Exams

The objectives of the agronomy discipine exam are as follows:

1. To test the agronomy trainees understanding of some of the basic ideas in agronomy.

2. To guide the trainers in the designing of the lectures.

3. To evaluate the effectiveness of the lectures.

4. To evaluate the agronomy trainees discipline progress.

The agronomy discipline exam contained five sections. The sections are: soil physical properties, soil chemical properties, water, crops, and problems. The exam had a two hour time limit. The initial and final discipline exams were similar in content. This was done so that the progress of the trainees could be evaluated.

Only general trends for the test scores will be given in this report. The range of the initial discipline exam was 17-81% with a mean of 49%. The range of the final discipline exam was 83-95% with a mean of 89%. The trainees initially showed a lack of cohesiveness in their understanding of agronomy. By the end of the training program, the agronomy trainees were all brought up to satisfactory level. The lectures were effective in transmitting information to the trainees.

Agronomy Interdisciplinary Exam

The objectives of the agronomy interdisciplinary exam are as follows:

1. To test the economic, engineering and sociology trainees knowledge of an agronomist's role in the research process.

2. To evaluate the effectiveness of the interdisciplinary lectures and the agronomic fieldwork in transmitting agronomic ideas to the trainees.

3. To evaluate the progress of the trainees.

The agronomy interdisciplinary exam contained two questions. The first question dealth with the agronomists' role in an interdisciplinary analysis of a farming system. The second question dealth with problem identification. The same exam was given at the beginning and at the end of the training program. The trainees progress could then be evaluated.

All of the other disciplnes showed a good understanding of the agronomy discipline. The trainees showed improvement in their understanding of the agronomy discipline at the end of the training program. The average score for the exam at the beginning of the program was 78%. The average score for the final exam was 93%.

Economics Examinations

The economics trainees were evaluated by pre and post training examinations and by a written evaluationas to their knowledge of economics, skill in the use of economic analytical techniques, and their efforts in expanding their knowledge and skill.

The pre and post training exams were designed to find out the level of knowledge of trainees in economic theories and analytical techniques and to measure the progress they have made as a result of the participation in the training program.

The result of the pre-exams indicated a model knowledge level of economic trainees in economic theory and analytical techniques. The average score of trainees was 53%. The result of the post training exams indicated significant increase in the knowledge of economic trainees in economic theory and analytical techniques had been achieved during the training program. The post training score average was 78%.

Economics Cross Discipline Exam

The other discipline trainees were evluated by pre and post examinationlike the economic trainees. The objective of these cross discipline exams was to discover the other disciplines trainees knowledge of economic and their perception of the role it plays in interdisciplinary on-farm water management research.

The result of the pre-exams indicated a modest level of knowledge in economics and the role of economics in on-farm water management research. The average score was 43%. The post training exams indicated a significant increase in the knowledge of the other disciplines in economics as well as in understanding the role of economics in on-farm water management research. The average score was 74.2%, which means about a 31.8% increase in their knowledge of economics and its role in on-farm water management research.

Engineering Evaluations

Discipline

The engineering trainees were evaluated in two ways. The first was through the trainee's performance on both the pretraining diagnostic and post-training examinations. The important indicator used was the

percentage improvement between the two exams based on the pretraining scores. The diagnostic examination average scores was 49.2%. The post training examination average score was 83.1%. This represents a rise of 33.9 percentage points or a 68.5% improvement.

The second method used to evaluate the engineering trainees was through the use of the standard "Trainee Evaluation" forms. Comments were made under 3 categories dealing with the trainee's knowledge, how they applied that knowledge, and general remarks concerning any aspect of the trainee's performance. These evaluations were based on the trainer's perception of the trainees performance after the program.

Interdiscipline

The agronomists, sociologists, and economists were evluated by the engineering trainers through the trainee's performance on pre and post training examinations. The exam was comprised of two questions. One dealth with the trainees' knowledge of specific activities performed by engineers. The second was an open ended question which tested whether or not the trainee understood how his discipline and engineers could interact. Scores rose from an average of 75% to an average of 93% on the pre and post training examinations.

Trainee Evaluation of the Training Program

The trainees were given the opportunity to evaluate the training program through an instrument which was administered at the end of the training session (see attached). This instrument asked for an assessment of each of the training phases, the introductory week, the examination procedure, and the administrative aspect of the program. Whatis to follow is a summarization of the comments.

THE INTRODUCTORY WEEK:

Regarding the introductory week lectures, the general consensus is that they were good for the most part. They help in understanding the interdisciplinary aspect of the work and some of the trainees specifically commented on their value in showing what other disciplines do. Some of the engineers commented favorably on the team meeting format lectures as being valuable.

Some modifications the trainees would like to see involve the procedure of the lectures and the content. Trainees from all disciplines would like to see more detail presented. In addition, more time is needed for questions. There was a specific concern stated by the engineers about the English spoken. They asked to have an English course before the program began. Also a suggestion was presented in having the lectures at the beginning of the program be short and simple, increasing in length and difficulty as the program progressed. Many disciplines asked that the lecture time be from 0700 to 1400 only. One specific request asked for more lectures in soil texture, drainage, and irrigation problems.

Additional items for this section of the program which were suggested included an explanation of the role of each trainee in the program, more time for the trainees to explain their ideas about the various topics, and more effort by the trainers to use the reference material assigned to the trainees. More examples in the lectures were also requested. In addition, more application of the lectures to the farm setting was asked.

BASE SURVEY PHASE:

Again the trainees generally like the lectures given in this phase. Major points of concern were for more lectures in methodology (Agronomy) and more lectures to clarify the purpose of this phase. Some specific comments on what was appreciated by the trainees focused on the lectures in picking a problem, how to write a report, and the exercise in constructing a base survey questionnaire for the farmers (this comment from the engineers).

Pertaining to the presert lectures, the comment about needing more detail again was raised. Also a comment was made about increasing the number of lectures but decreasing the time of each lecture. A specific comment from the engineers was to have more agronomy and economy lectures.

For the field exercises, the trainees throught that they were good but wanted the following changes. More time was needed for the experiments. In addition, some would like to have more sites onthe meska and on the distributary canal. While many like the farmer interview exercise, some would like it organized better (no specific alternative was given). More field exercises including E.C., soil moisture, field capacity, hydraulic conductivity were requested. Along with the exercises, some individuals wanted to have more equipment to allow each trainee to know more how to do it himself. Organizations working with the farmer should also have been contacted

Some additional aspects to this phase which were requested included some general and specific items. There was a comment about the need to increase the number of visits to the sites. A preface about the farmer's behavior in his environment should be added. More examples and exercises should be provided. One specific request was to make a grid survey for the whole area served by a sakia to test the farmer's irrigation engineering sense and to see the extent the marwa positions and drain positions are good.

POSSIBLE SOLUTION PHASE:

What lectures were presented were seen by the trainees as satisfactory. Specific comments were given for identifying a problem and stating a hypothesis. More explanation is needed for these two conditions. Also, more lectures were asked for concerning the methods of applying solutions to problems. Again more lectures were asked for concerning this phase - especially in engineering ane economics. Also, lectures should contain results of past experiments performed.

Pertaining to the field exercises, some trainees still wanted more time and visits to the sites. More time with the trainers was requested to discuss the various findings. This time includes more explanations by the trainers for the field exercises before they begin, at the sites, and after the data has been collected. More and different sites should be included in the work. Many trainers liked using the different equipment and taking the different measurements.

Additional comments include such items as the need to study more than one hypothesis. This is in connection with the familiar statement of needing more time. There also was a comment about using a computer to calculate the engineering data.

IMPLEMENTATION PHASE:

The most common comment in this phase is that it was a very short phase. While the lectures which were presented received favorable comments, the necessity for having more lectures was also repeated. More explanation of the process was needed especially in terms of economic feasibility.

Most of the trainees in all disciplines liked the final meeting with the farmer. Yet, some of the trainees wanted to spend more time in trying to actually implement their solutions and see if the farmer is convinced of these solutions. More time was needed to make field trials and studying the farmer's ability to implement the solutions. Some additional thoughts included having field trips for the farmers to areas carrying out the solutions and having EWUP follow up in this area on the respective solutions.

EXAMINATIONS:

Questions were asked to the trainees concerning the examination procedure. Most of the trainees did see the purpose of the discipline exams in testing the basic knowledge. Also, many did understand the pre and post test were used to measure the amount of improvement. Additional reasons given for these exams include knowing the job of each trainer and trainee, knowing the ability of trainers to give information to the trainees, and to find the ability of each discipline. There were some trainees who throught that the exams were not important and not necessary. Again for the interdisciplinary exams the trainees saw that they were given to determine how well each trainee understands the other disciplines and how they interact with each other. Still, some of the trainees do not believe that these measures show exactly what the trainees know.

Suggestions by the trainees concerning this procedure cover a wide range of conditions. Some would rather have oral exams than written ones. Field exercises may be used in place of exams as an evaluation procedure. For those who accept the idea of exams, a few want the "American" type of exam (multiple choice). Also one comment states that the exam should be open book. Periodical exams was an idea brought forth as well as having exams covering the team reports. Again, some trainees question the value of having exams at all.

ADMINISTRATION:

There are a few central concerns expressed by the trainees pertaining to the administration of the program. One major concern is the time factor. Many trainees would like to have the training program extended (2-3 months) with the work days reduced. One time period which was suggested was from 0700-1400 while another was from 0700-1200, 1700-2000. Another major concern was the housing facilities. Many people want the trainees and trainers to stay together close to the training center to be able to read, study, and converse about the aspects of the program.

Additional comments include different aspects of the program. An English course should be given prior to the program and the training manual should be given to the trainees also before the program commences. Phases II and III should be lengthened and more time on the farm should be allowed in all phases. Outside profesionals from the differnt departments could be asked to give lectures on the study areas. Problems studied should be of national importance. Visits to the EWUP Project sites would be helpful. There was some concern expressed about being paid weekly and that the lecture room in the training center was uncomfortable. For the reports, each trainee should be allowed to have a copy of the respective team reports. These are some of the comments expressed by the trainees.

The above evaluation format does not claim to be a perfect instrument. The questions should have been translated into Arabic and maybe the time of administration should have been different. Yet, the above comments do bring out some of the major concerns of the trainees, and these comments should be taken seriously into consideration when planning for the next year's program.

APPENDIX 1A: Procedures for the Preparation of the Training Program

Training Staff Recommendations

(1) We realize that a training program must respond to the audience to whom it is being presented. In Egypt, we see two different types of audiences which may benefit from this course: (1) project personnel and (2) other government personnel working with agriculture and irrigation who are not affiliated with the project. Therefore, we recommend that a two-level training program be put under advisement. The first program for non-project personnel will follow the same general format as this year's program, while a second program for the project personnel will emphasize implementation. Discussion pertaining to the project personnel training program will be deferred for a future date. The assumption that is now being made when discussing the present training program is that the future trainees will be non-project personnel.

(2) While total equality in numbers of people from each discipline is not a must, we ask that a balance number of trainees in each discipline be a goal when selection of those trainees occurs.

(3) The trainees should be chosen based on some stated criteria; i.e. on English language proficiency, on time in grade, etc. Such criteria should be developed as soon as possible to be used for the selection of next year's trainees. Working professionals on the local level, such as Cooperative managers and extension agents, should also be viewed as possible trainees.

(4) The emphasis of the training program is on-farm, but there should be a section in the course which puts the on-farm situation into perspective regarding the overall delivery/drainage system.

(5) The training program should be organized into three phases: (1) the base survey phase, describing how the system operates; (2) the possible solution phase, delineating and testing hypotheses; and (3) the implementation phase, where possible solutions are examined as to their applicability to the farmer.

(6) The time of the training program should be increased from six to eight weeks with the following breakdown: Phase I - 2 weeks, Phase II - 3 weeks, Phase III - 3 weeks.

(7) We request the following numbers of people to serve as the training staff for next year:

- Administrative Officer-In-Charge: 1 (Egyptian)
- Administrative Assistant : 1 (Egyptian)
- Administrative Liason Officer : 1 (American)
- Program Officer : 1 (American)
- Discipline Trainers : 8 (Egyptian)(2/discipline)
- Lab Professional : 1 (Egyptian)

(8) We recommend that there be a field trip for the trainees next year, and that field trip be in the United States. (Being similar to the one this year).

(9) This year, commitments were made by administrative heads in both Ft. Collins and Cairo which stated that the trainer retreat would be held in Megawish. We as trainers are deeply concerned that such prior commitments were not kept. Such a vascillation in promises has led to a significant decrease in trainer morale. For the future, we suggest that decisions concerning this and other matters affecting the work performance of the trainers and trainees be thoughtfully examined before any commitments are made, and once made - that those promises be kept. The trainers would like to remind those decision makers that in order to successfully accomplish goals of programs, the needs of the personnel working those programs cannot be ignored.

(10) We recommend that the training manual should be revised to reflect the actual work being done in the training program.

(11) There is universal concern that the trainees have not had the opportunity to be housed in Kafr El Sheikh. We recommend that all possible alternatives should be explored to remedy this matter for next year.

(12) We recommend that the trainers participate in an intensive two-week preparation workshop one month prior to the beginning of the training session to organize themselves for the training program.

(13) In addition, the trainers should arrive at the training site at least two days prior to the arrival of the trainees to acquaint themselves with the facilities, etc.

(14) Regarding transportation for the trainers, we recommend that the training staff be provided with a vehicle which may be used for necessary trips which constitute a training need.

(15) Adequate financial support for the training staff must be established.

(16) Air conditioners/heaters should be installed in the training center and in the trainer apartments in order to make the teaching and living conditions more tolerable.

(17) We recommend that the time for next year's training program be from April 1st, 1982 - May 30, 1982.

(18) Concerning the exams, the disciplinary exams for this year can be used as a guide for next year; but the interdisciplinary exam should be made more standardized.

1. TRAINEE SELECTION

Action Plan

	A.	B.	C.
Responsibility			
EWUP/Cairo	Wahby Sallam		Sallam
EWUP/C.S.U.		Dun	
Completion Date	Mar. 1 April 1	Mar. 15	May 1
Communication	to C.S.U.	To Cairo	to C.S.U.
To Send on/about	Mar. 1 April. 1	Mar. 15	As Avail.

Activities

A. Information about the training program will be provided to Minister of Irrigation. Will also request names of non-project people for nomination. Sallam will followup with personal contact and submit names to Dr. Wahby for approval. Names and backgrounds of trainees to be provided to C.S.U. Total numbers of trainees to be estimated by Mar. 1 and finalized by April 1.

B. Pre-training diagnostic exams to be prepared at C.S.U. and sent to Cairo.

C. Tests to be Administered and a copy sent to C.S.U. as trainees are available. Testing should be completed by May 1.

2. TRAINER SELECTION AND ORIENTATION

Action Plan

	A.	B.	C.	D.
Responsibility				
EWUP/Cairo			Sallam	Sallam
EWUP/C.S.U.	Redgrave	Dunn		
Completion Date	Mar. 1	May 15	Mar. 1	Open
Communication	to Cairo	to Cairo	to CSU	--
To send on/about	Mar. 1	as needed	Mar. 1	

Activities

A. Staff at C.S.U. will be given the position offer. Cairo will be informed of acceptance.

B. Staff at C.S.U. will have weekly meetings to discuss specific training activities and methods, to revise schedule as needed and prepare materials. Dunn will lead this activity and send copy of meeting notes to Sallam for information.

C. Sallam will contact training staff in Egypt and inform C.S.U. of their acceptance of the position.

D. Sallam will explain training program and duties and supply reading material both from 1980 program for background and copies of material sent from C.S.U. during spring meetings.

3. ACCOMMODATIONS FOR TRAINEES

Action Plan

	A.	B.	C.	D.
Responsibility				
EWUP/Cairo	Sallam			
EWUP/C.S.U.				
Completion Date	Soonest			
Communication	to C.S.U.			
To send on/about	by May 1			

Activities

A. Accommodations for trainees should be initiated as soon as possible and finalized as trainees become identified. Location of accomodations should be sent to C.S.U. as soon as it is finalized.

B. Study areas should also be provided for the trainees. This can be in the individual rooms or in a group study room.

4. TRAINING STAFF ACCOMMODATIONS & TRAVEL

Action Plan

	A.	B.	C.	D.
Responsibility				
EWUP/Cairo	Sallam		Sallam	Sallam
EWUP/C.S.U.		Dunn	Dunn	
Completion Date	April 1	Mar. 15	April 1 April 15	May 1
Communication	to C.S.U.	to Cairo	to Cairo to CSU	to CSU
To send on/about	April 1	Mar. 15	April 1 April 15	May 1

Activities

A. Accommodations for training staff will be established. Desks for evening work and/or a study room should be obtained. Information to be sent to Dunn at C.S.U.

B. Arrival time of C.S.U. staff will be established and needs for TDY accommodations in Cairo determined.

C. Location and times for post training retreat will be determined at C.S.U. and reservations made. Reservations and transportation should be confirmed.

D. Tickets for staff should be sent from Cairo by May 1. Sallam to make all arrangements for G.O.E. clearances and travel approvals both to Egypt and in training area.

5. STUDY TOUR

Action Plan

	A.	B.	C.	D.
Responsibility				
EWUP/Cairo		Sallam	Sallam	
EWUP/C.S.U.	Redgrave	Dunn		
Completion date	Mar. 1	Apr. 1 Apr. 15	May 15	
Communication	to Cairo	to C.S.U. to Cairo	to CSU	
To send on/about	Mar. 1	Apr. 1 Apr. 15	May 15	

Activities

A. Detailed itinerary and timing to be completed by Mar. 1. Preliminary motel and in-country transportation to be arranged by Mar. 1.

B. List of participants and room requirements to be finalized by April 1. In-country travel and accommodations to be finalized by April 15. Details to Cairo.

C. International travel arrangements to be completed in Cairo. E.T.A. and flight information sent to C.S.U. by May 15.

6. EQUIPMENT AND SUPPLIES FOR LABORATORY TRAILER

Action Plan

	A.	B.	C.	D.
Responsibility				
EWUP/Cairo	Sallam/Kamal	Sallam/ Kamal	Sallam	Sallam
EWUP/C.S.U.			Dunn	Dunn
Completion Date	Mar. 15		April 15	
Communication		to C.S.U.		to CSU to Cairo
on/about		Mar. 15		April 15

Activities

A. An inventory of the equipment and supplies in the laboratory trailer is needed. This should include both the items avilable and any repairs or replacement parts needed. Magdy will have some ideas about additional items needed. These will be added to the list developed during 1980.
The total list of itmes needed should be subdivided into two parts. One - to be obtained in Egypt and two- to be obtained at C.S.U.

B. Inventory list and want lists (one and two) should be sent to C.S.U.

C. Purchases made as needed and items shipped from C.S.U. on packaged to be carried by training staff. Purchases made in Cairo and transfered to laboratory trailer.

D. Status reports exchanged and modifications listed.

7. EQUIPMENT AND SUPPLIES FOR TRAINING OFFICE

Action Plan

	A.	B.	C.	D.
Responsibility				
EWUP/Cairo	Sallam/ Kamal	Sallam/ Helal	Sallam/ Kamal	
EWUP/C.S.U.		Dunn		
Completion Date	Mar. 15	May 18	May 1	
Communication	Status	--	--	
To send on/about	April 30			

Activities

A. An inspection and invetory of the training office should be conducted. Any repairs or replacements should be completed.

B. Television equipment should be available for transfer to the training office during the week of May 16. Equipment will be taken to training office when the training staff goes. Sixty minute tapes are available. Need to bring 10 20-minute tapes from C.S.U.

C. Expendable supplies need to be purchased and typewriter, files, duplicating equipment, and other items obtained.

8. MATERIALS FOR TRAINEES

Action Plan

	A.	B.	C.	D.
Responsibility				
EWUP/Cairo		Sallam		
EWUP/C.S.U.	Dunn			
Completion Date	May 1	May 1		
Communication	--	--		
To send on/about				

Activities

A. Instructional materials will be sent from C.S.U. or carried by the staff. Single copies of handouts may be sent to Cairo for required duplication.

B. Individual supplies for the trainees will be purchased in Cairo

9. TRAINING AIDS

Action Plan

	A.	B.
Responsibility		
EWUP/Cairo		Sallam/Helal
EWUP/C.S.U.	Dunn	
Completion Date	April 1	Mar. 15
Communication	to Cairo	to C.S.U.
To send on/about	April 1	Mar. 15

Activities

A. Staff at C.S.U. to develop listing of training aids needed. Will send list to Cairo by April 1. Availability of equipment to be confirmed by May 1. Some equipment could be carried by training staff if not available in Cairo.

B. List of available T.V. tapes should be prepared by Helal and sent to C.S.U. Additional tapes can be carried by training staff.

10. VEHICLES FOR TRAINING

Action Plan

	A.
Responsibility	
EWUP/Cairo	Sallam
EWUP/C.S.U.	
Completion Date	May 1
Communication	to C.S.U.
To send on/about	May 1

Activities

A. Three vans for training teams will be needed for the duration of the program and should be available by May 18 for staff travel to training site. Condition of vehicles should be checked, drivers assigned, and other requirements arranged. One to two pickups will also be needed for carrying field equipment. Confirmation of vehicle availability should be sent to C.S.U.

11. MISCELLANEOUS ITEMS

Action Plan

	A.	B.	C.
Responsibilities			
EWUP/Cairo		Sallam	Sallam/Kamal
EWUP/C.S.U.	Dunn		
Completion Date	May 1	May 1	May 1
Communication	--	--	--
To send on/about	--	--	--

Activities

A. Certificates for trainees. These will be prepared at C.S.U. after list of trainees is received. Will be carried by staff to Cairo and signed by Project Directors.

B. Certificates for training staff. These will be prepared at EWUP/Cairo and signed by Project Directors.

C. Training staff final orientation. Meetings with Directors at EWUP/Cairo, final check of arrangements, travel to training site, move into apartments, and tour field training sites. Vehicles and drivers should be available.

12. FIELD STUDY SITES

Action Plan

	A.	B.
Responsibilities		
EWUP/Cairo	Kamal	Kamal
EWUP/C.S.U.		
Completion Date	April 1	May 1
Communication	to C.S.U.	--
To send on/about	April 1	--

Activities

A. Eight to ten field study sites should be chosen. Maps of sites prepared and sent to C.S.U. Information about crops planned and land ownership needed.

B. Training staff to tour study sites and make final selection. Tour should be scheduled for May 20-22 period with farmers fully informed.

A.R.E. U.S. AID CID

EGYPT WATER USE & MANAGEMENT PROJECT

22 EL-GALAA ST. BULAK, CAIRO A.R.E.
TEL. 759674 — CABLE EWUP

COLORADO STATE UNIVERSITY,
FT COLLINS, CO 80523
TEL. (303) 4918656, CABLE ENGRCS

May 3, 1981

TR/003-81

MEMO

TO: Project Directors

FROM: Dr. Mohamed Sallam, Project Training Officer Sallam

SUBJECT: Summer On-farm Water Management Training Program

REF: Dr. Richardson's Memo DTR-4/81

As the date for the training program is rapidly approaching, I have pursued a number of crucial points which needed to be addressed. This memo presents what I have done and what still needs to be accomplished. Given the limited amount of time remaining, I urgently request that you give these matters your utmost attention.

Living accommodations for trainers: during my last visit to Kafr El Sheikh on April 29, I reached an agreement with the owner of the building to rent us the furnished flat,over the Ley's flat,which we had last year. I believe a good deal has been made. We'll pay the rent for two months only instead of four. The rent covers water and electrical consumption. We still need four single beds.

Living accommodation for trainees: it seems to me that we have to consider the "Arafa Hotel" in Tanta City to house all the trainees like last year. I tried to avoid that but it did not work out. Unfortunately, Kafr El Sheikh city has no rooms at all during this time of the year. I even looked for furnished flats but there were none. I paid a visit to "Arafa Hotel" on the afternoon of April 29 to check the possibility of

housing the 28 trainees during the training period. The hotel manager expressed his pleasure to cooperate with the project again. The average cost per person is L.E. 5.19 per night including breakfast which is obligatory. I think this is reasonable in comparison with the individual cost during the second part of the training (U.S. tour). We have to look for AID approval ASAP to confirm the hotel reservations before May 9th.

Financial support for trainees: I recommend that the project pay L.E. 6.50 per person as training expenses per day. According to the hotel price list, lunch costs L.E. 2.65 and dinner costs L.E. 3.00 plus 12% service and 4% tax. That makes a total of L.E. 6.44. We have to look for AID approval.

Financial support for Egyptian training staff: I recommend that the project pay L.E. 7.50 per person as training expenses per day plus the regular incentives. The proposed training expenses for the Egyptian training staff may seem more than the trainees' expenses, but it is actually the same if we add the breakfast cost which is L.E. 1.00 according to the hotel price list and included in the room fee. We have to look for AID approval.

I do believe that the proposed financial support for both the trainees and the Egyptian training staff is the minimum subsistence to be paid in order for them to meet the living costs to which they will be subjected.

If we are looking for having a successful training program, and I do believe that everybody cares about that, then we should be realistic. Therefore, the project has to find a way for such financial arrangements to be made because there is no other way within the GOE regulations.

Trainees selection: already 20 trainees have been identified. They consist of 15 engineers and 5 agronomists. We still need to identify 4 sociologists and 4 economists during the next few days. We may have to consider the Agricultural Extension and Rural Development Research Institute and the Agricultural Economics Research Institute or any other projects as sources for such people as long as we do not have any untrained sociologist nor economist in our project or the Ministry of Irrigation.

I would appreciate your decision as soon as possible.

MS/ea

APPENDIX 1B: List of Trainers and Trainees

EWUP
TRAINING CENTER
KAFR EL-SHEIKH

Summer Training Program, 1981

List of Trainers

Training Director:	Dr. Mohamed Sallam	EWUP/Cairo
Training Coordinator:	Dr. David J. Redgrave	EWUP/CSU
Trainers:		
Agronomy:	Mr. Moheib Semaika	EWUP/Mansouria
	Mr. Jeff Jacbosen	EWUP/CSU
Economics:	Mr. Mohammed Haider	EWUP/CSU
	Mr. Lotfy Nasr	EWUP/Mansouria
Engineering:	Mr. Abdel Fattah Metawie	EWUP/Kafr El Sheikh
	Mr. Forrest Izuno	EWUP/CSU
Sociology:	Mr. Mohamed Naguib	EWUP/Mansouria
	Dr. Jim Layton	EWUP/Cairo
Staff Development Specialist:	Mr. Gale Dunn	EWUP/CSU

EWUP
TRAINING CENTER
KAFR EL-SHEIKH

Summer Training Program, 1981

List of Trainees

1.	Agr. Ahmed Sayed Ismail	EWUP - Kafr El-Sheikh
2.	Agr. Hanafy Mahmoud Hanafy	EWUP - Mansouria
3.	Agr. Mahmoud Khedr Afifi	EWUP - Mansouria
4.	Agr. Salah Saleh Abdel Samie	EWUP - El-Minya
5.	Econ. Abdel Sattar Shineshan	M.O.A. - Agr. Economics Institute
6.	Econ. Ahmed Mohamed El-Shater	M.O.A. - Agr. Economics Institute
7.	Econ. Sobhi Ahmed Elewa	EWUP - Kafr El-Sheikh
8.	Eng. Abdel Razek Ismail Hashim	M.O.I. - Aswan
9.	Eng. Adel Mohamed El-Kholy	M.O.I. - Gharbia
10.	Eng. Ahmed Abdel Naiem Abdel Ghany	EWUP - El-Minya
11.	Eng. El-Quaqua Mossad Megahed	M.O.I. - Gharbia
12.	Eng. El-Sayed Mohamed Ahmed Hassan	M.O.I. - Giza
13.	Eng. Essam Menoufy Mohamed El-Sayed	M.O.I. - Quena
14.	Eng. Fathi Aly Solieman	M.O.I. - El-Minya
15.	Eng. Kadry Ahmed Osman	M.O.I. - Giza
16.	Eng. Mohamed Abdel Moniem El-Etefi	M.O.I. - Quena
17.	Eng. Mohamed Salama El-Shafee	M.O.I. - Kafr El-Sheikh
18.	Eng. Mohamed Shebl Abdel Aziz	M.O.I. - Gharbia
19.	Eng. Mostafa Abdel Ghany Sakr	M.O.I. - Gharbia
20.	Eng. Saad Shehata Abdel Al	M.O.I. - El-Minya
21.	Eng. Tarief Fahmy Abdel Rahman	EWUP - Mansouria
22.	Eng. Wadie Ragy Kelada	EWUP - Institute
23.	Soc. Ahmed Gamal El-Din)	M.O.A. - Agr. Extension and Rural Development Research Institute
24.	Soc. Mohsen Bahgat Mohamed)	
25	Soc. Saber El-Sabbagh)	

APPENDIX 1C: Expenses for the Training Program Personnel

Egypt Water Use & Management Project

22 El-Galaa St. Bulak, Cairo ARE
Phone 973474, 972674, Cable EWUP, EGYPT

Colorado State University Ft. Collins, Co. 8052
Phone (303) 491 8655, Cable ENGRCSU

May 6, 1981
Cairo, Egypt

ACTION MEMORANDUM NO. 84

TO: Mr. Niel Dimick, Project Officer

FROM: Gene Quenemoen, Technical Project Director
Hassan Wahby, Project Director

SUBJECT: Expenses for On-Farm Water Management Training Program

1. Request: Authority to incur expenses for On-farm Water Management Training Program, May 24 to June 30.

Hotel at Tanta 28 x 36 days x LE 5.19 =	LE 5,232
Trainee food allowance 28 x 36 days x LE 6.5 =	6,552
Trainers food allowance 7 x 36 days x LE 7.5 =	1,890
TOTAL	LE 13,764

2. Justification: Egyptian trainers and trainees are allowed less than LE 3.0 per day for "nites out" under GOE regulations. After careful search of facilities in the Kafr El Sheikh-Tanta area we have been unable to secure facilities that will permit training at these low rates. The best rates we have found for satisfactory facilities are reflected in the allowances shown above.

The trainers' food allowance is LE 1.0 more than the trainees' because the trainers will be living in the EWUP guest house at Kafr El Sheikh and will not receive breakfast which is included with the rooms for those staying at the hotel at Tanta.

3. Reference to Grant: Page 2 of Annex I, AID Grant No. 263-11-120-01 it is stated that the Project will "Develop (and or) train qualified scientists and technicians for the conduct Project activities." Also on pg. 12, it is stated that the U.S. contribution includes "training, estimated 24-man months."

.../...

4. Resources: A total amount estimated to be LE 13,674 will be required. These funds are available from the local Egyptian Pound account.

5. Signatures:

Approved: Disapproved:

Date: 5/7/81

subject to attached memo.

GQ/sa

UNITED STATES GOVERNMENT

memorandum

DATE: May 7, 1981

REPLY TO ATTN OF: N. A. Dimick

SUBJECT: Action Memo No. 84

TO: Drs. H. Wahby and G. Quenemoen

Attached is approved copy of Action Memo No. 84 subject to the following: That the amount of per diem paid by the GOE be deducted from the total amount paid. The estimated total amount of this authorization would be approximately L.E. 11,250.

Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

OPTIONAL FORM NO. 10
(REV. 7-76)
GSA FPMR (41 CFR) 101-11
5010-112

APPENDIX 1D: Field Sites for the Training Program

TRAINING AREA

El-Mothalath Village

1. Abo Mostafa Canal

Sakia No. 14

Total area		Farmers	Area		Crop	Notes
Fed.	Kerat		Fed.	Kerat		
11	12	Abdel Mohsen El-Feky	2	-	RICE	
		Hassan Ahmed El-Feky	1	-		
		Hassan El-Araby	1	12		
		Salem El-Araby	1	12		
		Abdalla El-Araby	1	12		
		Zana Hassan El-Araby	1	-		
		Trifa El-Araby	2	-		
		Mohamed Yousef El-Yamany	-	12		
		Aly El-Yamany	-	12		

TRAINING AREA

2. Farag El-Shamy Canal (A)

No. of Sakia	T. Area F.	T. Area K.	Farmers	Area F.	Area K.	Cotton F.	Cotton K.	Rice F.	Rice K.	Corn F.	Corn K.	Veget. F.	Veget. K.	Notes
1	5	-	Esmail Ata El-Shamy	2	12	1	-	1	-	-	12			Own
			Kamal Ata El-Shamy	2	12	-	12	1	-	-	8	-	16	Own
2	8	12	Aly Yousef	3	-	1	12	1	12	-	-	-	-	Own
			Abdel Moaty Yousef	2	-	1	-	1	-	-	-	-	-	Own
			Ragab Zakaria	3	12	1	-	2	-	-	12	-	-	Own
3	10	-	Ebrahim El-Rweny	-	12									
			Amena Abood	3	-									
			Abdel Lateef El-Rweny	3	-				R I C E					
			Ezat El-Rweny	1	-									Own
			Atia Abood	1	12				C O R N					
			Ahmed Atia Abood	1	-									
4	8	12	Aly Mekawy	1	12	-	12	1	-	-	-			
			Mahmoud Mekawy	1	12	-	12	1	-	-	-			Own
			Ebrahim Mekawy	1	12	-	18	-	18	-	-			
			Zakria Mekawy	3	-	2	12	1	12	-	-			
			Abdel Aleem Mekawy	1	-	1	-	-	-	-	-			

B

Sakia No.	T. Area F.	T. Area K.	Farmers	Area F.	Area K.	Cotton F.	Cotton K.	Rice F.	Rice K.	Corn F.	Corn K.	Not
5	2	-	Abdel Alem Mekwy	2	-							
6	10	-	Mohamed Hamoda	2	-	1	-	1	-			
			Rokia Helal	3	-	-	8	1	16			
			Bahia Hasan	3	-	1	12	1	12			
			Mostafa Hamoda	2	-	1	-	1	-			
7	9	-	Fatma Amar	1	-							
			Gomaa El-Shamy	2	-							
			El-Saida El-Said	3	-							
			Hanem Ahmed Saad	3	-							
8	8	20	Saber Aly El-Shamy	2	12			1	18	-	18	
			Abdel Naby Saber El-Shamy	1	12			1	-	-	12	
			Aly El-Shamy	2	20	2	-	-	20			
			Fawzy Khafaga	-	12							
			Mohamed Khafaga	-	12							
			Badra Hassan Shallan	1	-							
9	4	-	El-Said El-Sherbeny El-Shamy	-	7							
			Fathia Darwish	-	17							
			El-Said Beltagy	1	-							
			Mohamed Beltagy	1	-							
			El-Sherbeny El-Said	1	-							

RICE

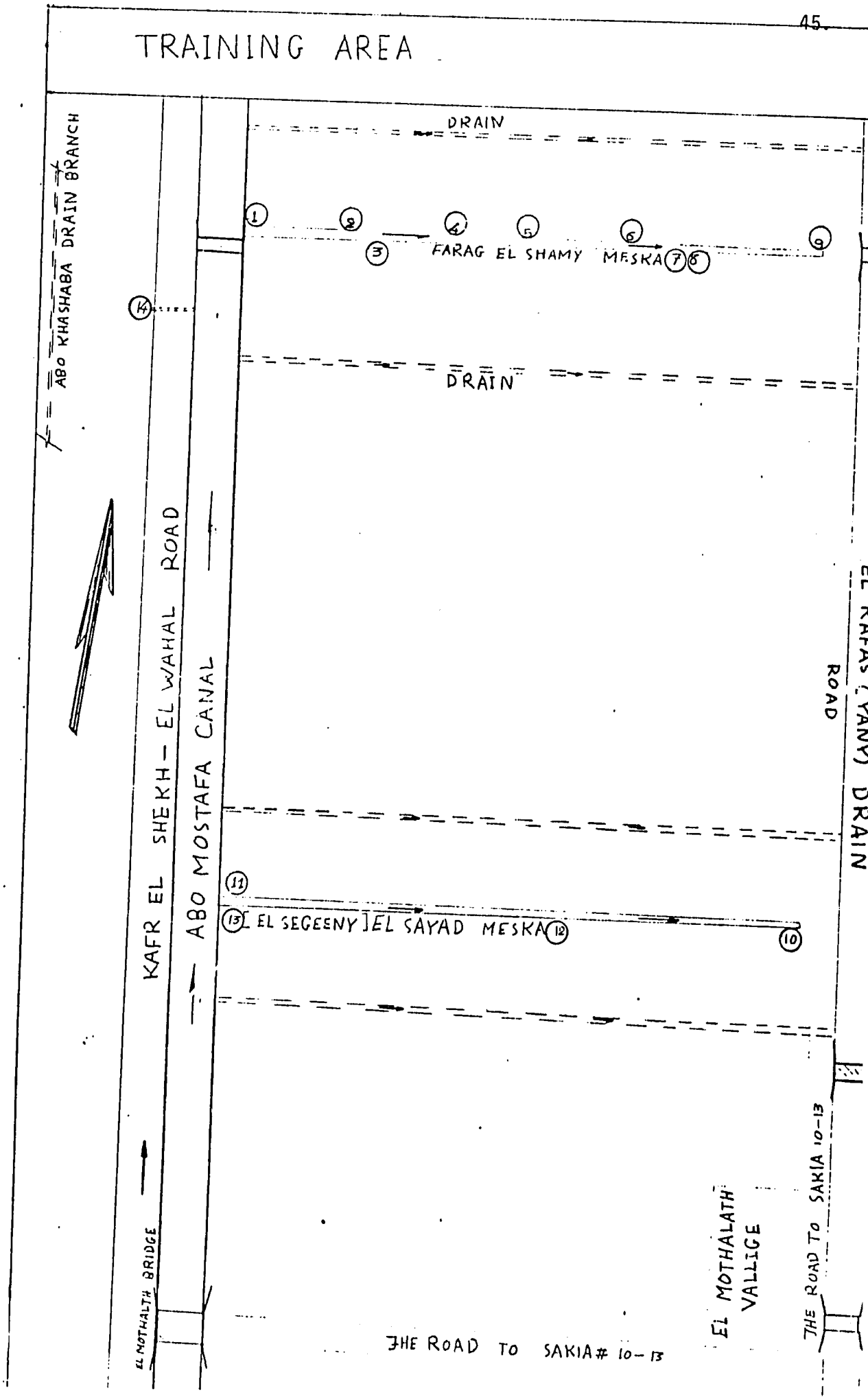
RICE

COTTON

TRAINING AREA

3. El-Satad (El-Segeny) Canal

Sakia	T. Area		Farmers	Area		Cotton		Rice		Corn		Notes
	F.	K.		F.	K.	F.	K.	F.	K.	F.	K.	
10	12	14	Mohamed Ebrahim Mostafa	3	18	Cotton						
			Abdala Ebrahim Mostafa	1	6	"						
			Abdel Azeem Khames	2	4	"						
			Eyd Fatoh Eyd	1	16			RICE				
			Ahmed Aasy	1	12							
			Abdalla El-Kholy	1	6							
			Ebrahim Aasy	-	12							
			Bata Khedre	-	12							
11	17	-	Abdalla El-Kholy	6	-	2	-	4	-			
			Mohamed El-Yamany Abdel Al	3	-	-	-	3	-			
			Saad Hassan Moftah	4	-	1	12	2	12			
			El-Said El-Gamal	4	-	-	-	4	-			
12	4	8	Mabrouk Fatoh Eyd	2	4			2	4			
			Abdel Azeem Khames	2	4			2	4			
13	5	16	Saad El-Said	2	8			1	8	1	-	
			Fatoh El-Said	1	20			-	20	1	-	
			Atalla El-Said	-	14			-	14			
			Hekmat El-Said	-	22			-	14			8 veget.


TRAINING AREA
DRAIN
ABO KHASHABA DRAIN BRANCH
FARAG EL SHAMY MESKA
DRAIN
KAFR EL SHEKH - EL WAHAL ROAD
ABO MOSTAFA CANAL
EL SEGEENY
EL SAYAD MESKA
ROAD
DRAIN
EL MOTHALATH BRIDGE
THE ROAD TO SAKIA# 10-13
EL MOTHALATH VALLIGE
THE ROAD TO SAKIA 10-13

APPENDIX 1E: Equipment List for the 1981 Training Program and a List for Needed Equipment

Equipment List (1981)

Qty	Item
1	6 Foot King Tube
2	Engineering Rods (Metric)
3	4 Foot King Tubes (Damaged)
5	Shovels
2	6 Pound Sledgehammers
1	8 Pound Sledgehammer
3	King Tube Hammers
2	Bulk Density Hammers
1	Pick
1	Rope
1	Observation well Auger (with extension)
1	Balloon Bulk Density Sampler
1	Electric Stripper
8	Boots (Pairs)
Many	Assorted Wooden Stakes
2	Lawn chairs
1	Tarp
1	Water Distiller (damaged)
2	Fire Extinguishers
1	Tripod
1	Level with Horizontal Circle
1	Plastic Sheeting (Roll)
1	Soil Sample Carrier Box
1	Hand Sieve Shaker
1	Tackle Box
1	Tool Box
1	Hacksaw
1	Electrical Conductivity Meter
1	Dip Cell
1	Vacuum Filter Stand
2	311 g Balance
2	2610 g Balance

Qty	Item
1	16 kg Balance
1	Pressure Plate (and assorted gear)
1	Automatic Infra-red Oven
1	Vacuum Pump
4	Soil Auger Sets
2	Organic Matter Kits
2	pH Kits
12	Bulk Density Rings (7 cm x 7 cm)
11	Bulk Density Rings (17 cm x 5 cm)
Many	Hose Clamps
4	Ring Clamps
4	Hand Tongs
12	Hydrometers
5	pH Buffers
4	Conductivity Cells (5 ML)
17	250 ML Vacuum Flasks
5	500 ML Beakers
4	250 ML Beakers
4	100 ML Beakers
8	50 ML Beakers
2	1000 ML Flasks
1	250 ML Flask
2	50 ML Flask
2	100 ML Graduated Cylinder
1	50 ML Graduated Cylinder
1	25 ML Graduated Cylinder
1	10 ML Graduated Cylinder
3	Rolls Parafilm
1	1000 ML Volumetric
4	500 ML Volumetric
5	100 ML Volumetric
6	Plastic Pitchers
12	Plastic Mixing Bowls

Qty	Item
1	Plastic Tray
84	Large Soil Sample Cans
120	Small Soil Sample Cans
Many	Pressure Plate Accessories
50	Extract Bottles with Caps
4	Ceramic Bases and Metal Poles
6	Weighing Paper (1000 Each)
1	Whatman #5 Filter Paper (15 cm)
4	Fischer Quant-Medium (12.5 cm)
5	Fischer Quant (7 cm)
2	Metal Spoons
3	Test Tube Brushes
2	Brushes
1	Set of Cork Borers
10	Large Metal Spatulas
1	Small Metal Spatula
4	Small Weighing Spatulas
1	Large Weighing Spoon
7	1000 ML Hydrometer Cylinders
4	1000 ML Plastic Graduated Cylinder
1	500 ML Graduated Cylinder
2	Mortar and Pestal
5	Small Ceramic Vacuum Funnels
10	Large Ceramic Vacuum Funnels
1	Hot Plate
400	Soil Sample Bags
2	Rbber Stoppers (LBS - #6)
11	Large Metal Mixing Containers
12	Small Metal Mixing Containers
3	50 ML Pipettes
3	25 ML Pipettes
4	10 ML Pipettes
3	5 ML Pipettes
3	1 ML Pipettes
12	Thermometers

Qty	Item
2	18" Drafting Machine Scale
2	12" Drafting Machine Scale
2	Triangular Scale, metric
6	Plastic 12" Rulers
4	Bevel edged Triangles
4	Protractors
1	Map Measure
1	Planimeter
3	Stop Watches
2	Hand levels
2	Abuey Levels
2	Metric Scale Targets for Philadelphia Rods
1 roll	Orange Flag Tape
1	Leroy Lettering Set
6	Surveying Field Books
2 tablets	Drafting Paper 8½" x 11"
1 box	10 x 10 to the cm Graph sheets
1 box	3 x 5 Cycles Log-log Paper
22	Chain Pins
1	Furrow Profilometer
4	Carpenter Levels
1	Electric Well Sounder
1	Infiltmeter Hammer
3	rings
6	Blocked Furrow Infiltrometers
5	Furrow Infiltometer Buckets
13	Water Level Indicator Stakes for Furrow Infiltrometer
1 box	Assorted Hock Gauges/Staff Gauges
	Assorted Plastic Tubing (¼" & ½" id)
5	2½ meter range poles
10	20 cm Cutthroat Flume
4	10 cm Cutthroat Flume

Qty	Item
1	#8 U.S. Standard Sieve
3	#10 " " "
1	#16 " " "
1	#20 " " "
1	#30 " " "
1	#40 " " "
1	#60 " " "
1	#80 " " "
1	#100 U.S. Standard Sieve
1	#200 " " "
3	F.H. Sieve Pan
1	Sieve Cover
3	Stirrers
3 (1 lb. boxes)	Paraffin Wax
4	Face Masks
3	6 V Lantern Flashlights
2	Beckman Soil Moisture Bridges (no batterie
1	Infiltration Hammer
6	Infiltration Rings

Needed After 1981 Training Program

Qty	Item
1	Screw driver set (flat head)
1	Phillips screw driver set
2	vise grips
1 set	(6", 9", 12") crescent wrenches
1 kit	First aid kit
6	Plastic scales
2 rolls	1" Nylon strapping tape
3	6V Lantem batteries
3	6V Lantem (Ray-O-Vac) bulbs
2	Eveready 266 (9 volt)
1	Hammer
1	Electrical Conductivity Meter
1	N-P-K Tissue Test kits
2	pH Electrodes
1	Pressure Kicker
5	Hand Lenses (Magnifying glasses)

5/w

APPENDIX 1F: Training Vehicles

Egypt Water Use & Management Project

22 El-Galaa St. Bulak, Cairo ARE
Phone 973474, 972674, Cable EWUP, EGYPT

Colorado State University Ft. Collins, Co. 80523
Phone (303) 491 8655, Cable ENGRCSU

May 17, 1981
Cairo, Egypt

0-50/81

MEMO

TO: Bishara Ishak

FROM: Gene Quenemoen & Hassan Wahby

SUBJECT: Vehicle Assignments

The following vehicles should be made available for the training at Kafr El Sheikh May 23 - June 30.

2 vans
1 carryall
1 crew-cab pickup
1 single-cab pickup
1 Nova

It should be understood that the movements of vehicles during this time period should be Dr. Sallam's control. The vehicles should be used only for official purposes. Transportation for trainers and trainees to Cairo on weekends should be provided only if it is necessary for the vehicles to return for official purposes. Routine servicing and repairs of vehicles should be done at Tanta or Kafr El Sheikh.

Each vehicle will be provided with one EWUP driver.

GQ/HW/sa

cc: Mohamed Sallam

ARE USA AID

APPENDIX 1G: A Format for Organizing and Conducting Meetings

Egypt Water Use & Management Project

22 El-Galaa St Bulak, Cairo ARE
Phone 973474, 972674, Cable EWUP, EGYPT

Colorado State University Ft Collins, Co. 80523
Phone (303) 491 8655, Cable ENGRCSU

March 12, 1980

MEMORANDUM

TO: Training Staff
Dan Sunada

FROM: D. J. Redgrave DJR

SUBJECT: Organization and Operation of Training Meetings

Let us keep in mind two points. (1) The weekly meetings are set up so that we can stay in contact and develop plans on a mutual basis. (2) We will need to demonstrate such activities to the trainees and teach them the process for their own work.

I think it would be useful if we use the meetings themselves as a mechanism to develop a working meeting methodology for interdisciplinary teams.

As a first try, I suggest the following format.

1. Development of agenda (notes on blackboard).

   A. Items suggested and classification.

   B. Estimate time required.

   C. Develop order.

2. Presentation of agenda items.

3. Review of meeting/methods/operation.

4. Preliminary agenda items for next meeting.

Random comments/thoughts.

1. Agenda items by type.

   A. Informational.

      To present information only. Questions, limited to clarification. No discussion. Short time frame. No decision required.

ARE USA CID

B. Discussional.

To present information and elicit comments or discussion. Time frame flexible but set. No decisions required.

C. Decisional.

To present information and reach a decision. Discussion should be limited. If ~~none~~ some required then should be shifted to, B. Discussional, with Decision step after.

2. Agenda management.

Time frames should be adhered to rigidly. If time runs out we stop on the item. Maybe have 2 minutes overtime allowed if needed. The more we stick to the time, the more realistic will be the future estimates.

3. Review of meeting.

A. General comments.

B. Format/methodology change.

C. Suggestions/evaluation of meeting leader.

4. Meeting officers.

A. Leader.

B. Notes taker.

C. Timer.

5. Let us build via experience and criticism. Park egos at the door.

APPENDIX 1H: Schedule for the 1981 U.S. Study Tour

Study Tour 22 Days

Day	Travel	Accom.	Activity
July 28 Tue.	Cairo - D.C.	Washington, D.C.	
29 Wed.		Washington, D.C.	Tour of D.C.
30 Thu.	D.C. - Ft. C	Fort Collins	Free Day
31 Fri.		Fort Collins CO	B.O.R. - Denver - Farms
Aug 1 Sat.		Fort Collins	Big T - Rocky Mountain
2 Sun.	Ft. C-G. Junc	Grand Junction	Stop in Vail
3 Mon.		Grand Jucntion	Grand Junction Area
4 Tue.	G.J.-Page	Page AZ	
5 Wed.	Page-Phoenix	Phoenix	Tour Glen Canyon Dam
6 Thu.		Phoenix	Salt River Project
7 Fri.		Phoenix	U.S.D.A. Water Cons. Lab
8 Sat.		Phoenix	Free Day
9 Sun.	Phoenix-Yuma	Yuma	Afternoon Free
10 Mon.		Yuma	Welton/Mohawk
11 Tue.	Yuma-San Diego	San Diego	Level Basin
12 Wed.		San Diego	Veg. Crops
13 Thu	S.D.-Riverside	Riverside	Steep Lands Irrigation
14 Fri.		Riverside	U.S.D.A. Salinity Lab
15 Sat.		Riverside	Disneyland
16 Sun.		Riverside	Free Day
17 Mon.	Los Angeles	(Paris/Rome/New York)	
18 Tue	Cairo		
19 Wed.			

55a

APPENDIX 2A: Training Program Schedule

WEEK NUMBER (Organizational)

DATE	DAY	TIMES	ACTIVITY
17	Sun	To be determined	Trainers leave Denver
18	Mon	To be determined	Trainers to arrive in Cairo Travel to Maadi TDY house Dinner at Pub 13, or Good Shot or...?
19	Tue	8:30-9:30 9:30-10:30 10:30-11:30 11:00-3:00	Team Meeting with whole team for first time Directors Greeting Administrative details with senior Cairo staff (by disc Tour of Mansouria and short tour of Cairo enroute to Maadi
20	Wed	2:00P app. 5:30	Open schedule - Tour Cairo, shopping, meetings with disc. Travel to Kafr El Sheikh (Dinner in Kafr El Sheikh)
21	Thur	Morning Afternoon Evening	Tour of EWUP Kafr El Sheikh facilities Disc. preparation time/orientation time Dinner at Stadium Club or downtown Kafr El Sheikh
22	Fri	Morning Afternoon	Prepare training facilities Training staff meeting
23	Sat	Morning Morning Afternoon Evening	Tour of Sakia sites for selection of one's to be used in training program. Trainees arrive - Greetings by Sallan/Redgrave/Kamal Team Meeting to select Sakia sites Jeff Jacobsen's Birthday

WEEK NUMBER 1

DATE	DAY	TIMES	ACTIVITY
24	Sun	7:00-9:30	Greetings - Trainers & Trainees (formal intro & social time)
		9:30-11:30	Discipline Exams
		11:30-12:30	Lunch
		12:30-1:30	Interdiscipline Exams
		1:45-2:45	Appendix A } I + II
		3:00-4:00	Appendix A } I + II
25	Mon	7:30-8:30	Appendix A item III
		8:45-9:45	Appendix A Item IV
		10:00-11:00	Agronomy
		12:00-1:00	Economics INTRODUCTORY LECTURES
		1:15-2:15	Engineering
		2:45-3:45	Sociology
26	Tue	7:30-8:30	Sociology
		8:45-9:45	Engineering
		10:00-11:00	Economics INTRODUCTORY LECTURES
		12:00-1:00	Agronomy
		1:15-2:15	Base Survey Lectures
		2:45-3:45	
27	Wed	7:00-8:00	Team Assignments
		8:00-10:00	Visit Sakias by teams
		11:00-12:00	Lunch
		12:00-1:00	Teamwork Lecture
		1:15-2:15	Meeting format
		2:45-3:45	Disc. Lectures (Base Survey)
28	Thur	7:00-8:00	Writing Reports
		8:15-9:15	Discipline Lecture
		9:30-12:00	Team planning
		1:00-2:15	Team planning
		2:15-3:00	Team Scheduling
29	Fri		Holiday
30	Sat		Holiday

WEEK NUMBER 2

DATE	DAY	TIMES	ACTIVITY
31	Sun	7:00-7:30 7:30-8:00 8:00-4:00	Organization - cross check activities - review day's activities Pick up equipment Conduct Base Survey by Teams/analyze data
1	Mon	7:00-7:30 7:30-4:00	Organization - cross check activities - review day's activities Base survey by teams/analyze data
2	Tue	7:00-7:30 7:30-4:00	Organization - review day's activities Base survey by teams/analyze data
3	Wed	7:00-7:30 7:30-4:00	Organization - review day's activities Base survey by teams/analyze data
4	Thu	7:00-7:30 7:30-11:00 12:00-4:00	Organization Put together written and oral report by teams Oral Presentations by Teams 45 mins. each w/15 min. breaks - 30 min. presentation/15 min. question/ answer period
5	Fri		Holiday
6	Sat		Holiday

WEEK NUMBER 3

DATE	DAY	TIMES	ACTIVITY
7	Sun	7:30-8:30 8:45-9:45 10:00-11:00 12:00-1:00 1:15-2:15 2:45-3:45	Intro. to Phase II Questions Development Made Easy/Developing a Good Hypothesis Team work in Phase II Discipline Lectures Discipline Lectures Discipline Lectures
8	Mon	7:30-8:30 8:45-9:45 10:00-11:00 12:00-1:00 1:15-2:15 2:45-3:45	Discipline lectures
9	Tue	7:30-11:00 11:00-12:00 12:00-2:00 2:00-4:00	Teams for hypothesis Lunch (extra time for teams that need it) Team planning for Phase II Team leaders meet to coordinate activities
10	Wed	7:30-8:00 8:00-4:00	Team Coordination meeting/Equipment pickup Field work, discussion sessions with disc. trainers, team meeting Disc. lectures as needed
11	Thur		↓ ↓ ↓
12	Fri		Holiday
13	Sat		Holiday

WEEK NUMBER 4

DATE	DAY	TIMES	ACTIVITY
14	Sun		
15	Mon		
16	Tue		
17	Wed		Team Work (Discussion of past two weeks activities?)
18	Thur		Holiday
19	Fri		Holiday Visit to Kafr el Sheikh by Pres. Sadat
20	Sat		Holiday

WEEK NUMBER 5

DATE	DAY	TIMES	ACTIVITY
21	Sun	7:30-4:00	Finish writing reports
22	Mon	7:30-11:00 12:00-4:00	Finish reports/Prepare for presentation Oral presentations 60 mins. 30 min = Team Report 15 min = Eval. by Trainers 15 min = Break between reports
23	Tue	7:30-9:00 9:30-10:30 11:00-12:00 1:00-3:45	Intro to Implementation Phase EWUP Implementation Program - Example Team Problem Discussion Dev of appro solutions and planning for meeting with the farmer by team
24	Wed	7:30-9:30 10:00-12:00 1:00-3:45	Meeting with the farmers Review of U.S. Travel Farms Team Review of the Implementation Phase
25	Thu		English and Health Exams
26	Fri		Holiday
27	Sat		Holiday

WEEK NUMBER 6

DATE	DAY	TIMES	ACTIVITY
28	Sun	7:30-12:00 1:00-3:45	Report Writing Report Writing
29	Mon	7:30-12:00 1:00-3:45	Presentation Orientation to U.S. Tour
30	Tue	7:30-12:00 1:00-3:45	Final Exams Clean-up
7/1	Wed	7:30-12:00 1:00-3:45	Graduation Ceremony Clean-up
2	Thu		
3	Fri		
4	Sat		

EWUP SUMMER TRAINING PROGRAM

First Week Report

Base Survey, From May 30

Team No. 2

Sakia No. 6

Member Team

Agronomy:	Mahmoud Afifi
Economist:	Ahmed El Shater
Engineer:	Fathi Ali Soliman
	Kardi Osman
	Esam Monofi
	Mostafa Sakr
	Ahmed Abdel Naiim
Sociology:	Ahmed Gamal

TABLE OF CONTENTS

Contents		Page
Introduction		1
Summary		2
Agronomy		3-7
Economics		8-11
Engineering		12-14
Sociology		15
General Observation		16-17
Appendix	(2 Maps)	18-19

INTRODUCTION

This report contains the base surveying on the farm for all the four disciplines.

The site we studied lies about twenty kilometers from Kafr El Sheikh, City of the North.

The area of farm is about eleven feddans. One farmer owns about five feddans, his nephew owns also about five feddans and one feddan is owned by the brother-in-law. All cultivate the whole area by themselves under the supervision of the farmer.

The crops cultivated: Cotton, corn, rice, sugar beets.

The Sakia No. 6 serves the whole area of this farm only and lifts water from a meska called Farag meska. The locations of the Sakia 6 lies on the last third of the meska.

All the four disciplines work as one unit in making base surveying which is discussed later.

SUMMARY

Team No. 2 start work on farm from 3 a.m. 5-19-81 on Sakia No. 6. The team collected the base surveying as a primary work to know where we work and what is found on this farm.

All the members of the team share in collecting the general observations which may be important for study and search in the next weeks and a principle problem to study and solve.

AGRONOMY REPORT

Base Survey Information

Location: Sakia No. 6

Farmer: F_1 -- Mahmad Hamouda

F_2 -- Fathia

Area: Fed Kirat

10 12

Type of Crops:

The farm consists of different crops such as: cotton, rice, watermelon, berseem, and a very small area planted cucumber and okra. Besides those crops there are idle land after wheat harvest.

They are tablized on the following table:

	Cotton		Berseem		Watermelon		Rice Nursery		Idle Land		Cucumber
	Fed	Karet	Fed	Karet	Fed	Karet	Fed	Karet	Fed	Karet	
1.	2	7.5		11.7		17.1		2.4	1	1.22	.43
2.	1	16.1	1	6.57				2.5		15.9	
3.		12.27						2.3		12.1	
4.								.7			
	4	11.9	1	18.78		17.1		6.9	3	5.2	.43

Total Area: F K

10 10

"A"

DATA COLLECTED

The following data were collected from the farmer:

	F_1	F_2
Previous crops	Tomato, onion	Berseem
Present crops	Cotton	Cotton
Variety	Giza 45	Giza 45
Seeding Rate	7 Kilah	8 Kila
Planting Date	3/15	4/1
Harvest	Almost cotton spent 6 month 11	10/1 10/15
Weed Control	By hand	By hand
Fertilizers - Chemical		
Kind	Urea - Supher P/2	Urea
Application Date	5/23	5/25
Application Rate	200 Kg/Fed	150 Kg/Fed
	He put in 2 times each time about 100 Kg.	
Application method	Hill	Hill
Fertilizers - Animal	150 - 175 Sak/Fed	150 Sak/Fed
Irrigation Schedule	Every 15 day	15 - 18 days
Preirrigation		
Plowing	4 number	4 number
Type of Power	Tractor	Tractor

GENERAL OBSERVATION

The team visited the farm at Sakia No. 6 to collect a general observation about crops and soil. They are summarized in the following points:

1. Seedbed preparation

   a. Plowing

   Site No. 3A as shown on the map the plowing was surface and the farmer not made a crossplowing because we saw some part of the land remains without plowing (B lot).

   The B farmer in this site also made a leveling by himself and takes the surface soil from the land. That is not good for the soil because it full of fertilizers.

   b. Furrowing:

   At Site No. 3 as shown on the map which planted cotton the distance among furrows were more wide than the required distance and this causes the reduction yield reduce.

2. Crop Densities

   The distance between plants along the rows is not uniform and that appears on site No. 3 which planting cotton.

3. Pests:

   We saw some pests at Sites No. 1 and No. 2 which planted cotton such as: Aphids, Afis and spiderweb.

4. Diseases:

   Some diseases appear on Site No. 1 which planted berseem for seed such as Powdery mildew.

5. Weeds:

   There are much weeds on Site No. 1 and Site No. 3 which planted cotton such as el Saad, this weeds eaten from fertilizer which put for plant.

6. Soil:

a. Texture:

We took a soil sample from three depths. The profile of soil was:

1. The first layer is a heavy clay
2. The second layer is a silty clay
3. The third layer is a heavy clay

b. Cracks:

The cracks appears in Site No. 3 idle land, and this cracks cause the land to take more water and maybe the seeds fell down after irrigation.

c. Soil Surface Characteristics:

The characteristics is appear in whole areas of the sand. It has a harmful effect on the roots of plants.

d. Moisture Content:

We take samples of soil by auger at different depths of soil. As we go deeper we find that soil is wetted. At depth about 80 cm from the surface we find the sample was more wetted than the sample taken from depth smaller.

e. Salinity:

Salt appear on the surface of soil in different degrees. Salt appear in Site 3 which planted cotton more than Site No. 1 may be from water table.

f. The observation:

One farmer planted cucumber and okra in small area these two plants carry pests that effect to other plants

APPENDIX 2B: AN EXAMPLE OF A TRAINING TEAM'S SERIES OF REPORTS

The farmers put fertilizer without irrigating after that directly.

It is noticed that the farmers are accustomed to cultivate some stalks of corn inside the field to indicate the demand of the crop for irrigation, "as a tensiometer."

The Review of Economic Survey

The economist Ahmed Elshater with other members of the team collected the economic data of the following subjects.

The Crop Mix

Sakia No. 6 has served 11 feddan and our farmer has owned 5 of them. He cultivated 3 of them by himself and the other two he rented them by share.

He cultivated one feddan and quarter of long berseem, 18 kerat of watermelon and one feddan of cotton, and about the two feddan he rented them by share, there are one and quarter feddan of wheat and 18 kerat of cotton.

At the previous season, the five feddan was cultivated with two and half feddan of cotton, one feddan and kerat of sugar beet after maize.

The Production

A. Main Production

About the previous crops the farm production was 20 kentars of cotton (8 kentars/feddan) and the revenue was 1000 L.E. But about tomatoes, the production was about 28 tons (16 tons/feddan) and the revenue was 840 L.E. and about maize the production was 10 ardabs (13 ardabs/feddan) and he kept them for home

consumption, be he estimated value of maize about 156 L.E. and sugar beet, he produced 21 tons (28 tons/per feddan) and his revenue was 340 L.E. Then the total income of the five feddan was 1900 L.E. at the previous season of the following table.

	F	K	F	K	F	K	F	K	F	K
area	-	18	1	-	1	6	1	6	-	18
crop	tomatoes		tomatoes		cotton		cotton		maize s. beet	
yield	12		16		10		10		10	21
price	30		30		50		50		15	16
income	12x30/8 180		16x30 180		10x50 500		10x50/2 250		150	340
The income of the farm = 1900 L.E.										

About present crops, berseem gave 4 cuts for animal feed, and he will keep the fith cut for seeds. He also produce 15 ardabs of wheat (12 ardabs per feddan) his share was 7.5 ardabs, he kept it for home consumption, for the watermelon he cultivates 16 kerats nearly and he estimates his production about 300 kg.

About cotton he cultivated one feddan by himself and cultivated 16 kerat by share, he estimated that he will produce 10 kerat/feddan.

About the average yield in the area the higher yield of cotton was 11 kentar and the lowest was about 5 kentars and the average cotton yield was about 7 kentars.

The highest rice yield in the area was 3 tons and the lowest yield was 2 tons and the average was 2.5 tons.

The highest maize yield was 15 ardabs, the lowest yield was 7 ardabs and the average yield of maize was 12 ardabs. The three previous crops are the almost crops in the area.

The By Production

The farmer produced 4 heml of cotton, he kept them for home consumption, he estimated the value about 4 L.E., but about maize he produced 4 heml also and he kept them for home consumption the price was 6.5 L.E., then the values was 27 L.E.

About other crops he can't determine the quantity

of them because he transformed them by his donkey to home and he kept them for home consumption.

The Fertilizers

The farmer added to the farm of cotton (one feddan and 18 kerat) about 600 ghabeet of manure, and then he added 6 bags of urea 46 Y_aN he bought 2 of them from the cooperative with price of 5 L.E. and he bought the other 4 from the free market with high prices equal 9 L.E.

The Owned Animals

The farmer owned 3 heads of female buffalos, the age of them are 5, 6, 1 years, he estimated their value 600, 600, 200 L.E., he also owned one male donkey 7 years old, and his value about 80 L.E.

During last two years, he didn't buy anyone of animals, but he sold 4 young head of buffalos by 400 L.E. and there was no death of his animals. These were all economic data which we collected from the father and the area.

Engineering

The area under our research is about 11 feddans. This area irrigated from sakia no. 6 which lifts water from Farrag meska. The main source of the irrigation is the Abu Mostafa canal. Farrag meska carries it's water from Abu Mostafa canal from the right side at kilo 2.16 approximately with a pipe vent.

The whole area which must be irrigated from Farrag meska is about 80 feddan. Partial area from this area is cancelled by building about 15 feddan.

System of Irrigation

The whole 11 feddan irrigate by sakia no. 6 has been irrigating by lift, i.e., the sakia lift the water from Farrag meska and afterward the farm be irrigated by gravity within a system of ditches as shown on the sketch map surveyed. The dimensions of the sakia are as shown in the following table:

Name of the part of the sakia	Dimensions
Diameter	3 meters
Number of intake scoops	4 scoops
Lifting head	1.0 meter from the center of the sakia
Outlet Diameter	Arch type 50 cm width x 35 cm depth
Intake Scoop	16.5 cm x 29 cm

System of Drainage

The area of the farm has a system of private drainage as shown on the map. The drainage water collected goes to a collector drain which pour its water into a main drain called Safas drain lies at the east side of the farm. Some ditches cross over private drains. The water of this drain pours through a pipe at this point which lies under the bottom of the ditches.

Slope of the Farm

The farm has a bit slope from south to north within a range between 2 to 4 cm in the basin. We did not notice any unordinary high levels in the field.

The Information we Obtained from the Farmer

1. The farmer said that he decides to irrigate when he notices that the color of the plant leaves become dark grey. He stops irrigating depending upon his own experience and estimation that the sufficient water from the plant required. Also he takes into consideration using all rest water in ditches and prevents pouring irrigation water from ditch to drain.

2. The farmer do not irrigate more than one basin in the same time, except in case of irrigation rice he may irrigate more than one basin in the same time.

3. The farmer makes artificial slope in his farm from south to north to help him in operation of irrigation.

4. The farmer irrigates by night only within the period of pre-irrigation before cultivating rice.

5. The farmer said that all sakias on Farrag meska work on the same time only within the period of pre-irrigation before cultivating rice.

6. The farmers do not prefer to use lifting pumps in irrigation instead of using sakia and the reason is to avoid troubles that happen when the pump is broken down because there is no technical man in the village to repair the pumps.

Sociology

Data were collected by questionnaire through personnel interview about the farmer Mohamed Hamouda in sakia no. 6. Data showed that labor on farm were (3) men and the farmer owns (5) feddan. One parcel on the middle of the sakia and shares in one feddan, three parcels at end of meska. Regarding the use of the sakia we find that who goes first irrigate first but in (rice) they discuss. The farmer is the oldest member of the family on sakia lakes and take charge of all matters (such as irrigation, maintenance, etc.). Regarding institutional linkages once a year in rice time farmers go to cooperative director to call irrigation district to inform him about shortage of water. If he does not go they form a group of them to go themselves to the irrigation department. He said that he gets help regarding water comes from village counsel. The farmer talks with Sabey El Shamy and Ibrahim El Rewheny about irrigation matters and cleaning of about leadership Sabry El Shamy, Allia Ahmed and other farmers himself. About perceptual problems (two weeks a year) the season of cultivating rice, irrigation water was not enough and chemical fertilizer were not enough also.

General Observations

A. For Ditches

1. We observe that some weeds in growed inside some ditches also some failures happen in the side of some ditches.

2. We observe that some dikes constructed at the head of some ditches to give a certain increase to water to irrigate certain parts of the field and after finishing irrigation this dike was not completely removed.

3. We noticed that some seeping happened clearly in the time of irrigation from some ditches to the private drains.

B. For Private Drains

1. Most of the private drains have algae inside it also some weeds.

2. We observed also that some drains have some failures in its sides and some drains tails were closed.

3. We observed that the farmer constructs tile drainage in his farm. At the end of this tile drainage line there is an open manhole. The farmers use it to control the drainage of excess water in the farm especially after irrigation is complete.

C. Connection of Observations Obtained from Different Data Collected from Different Disciplines

For example what we know as a team from the farmer concerning the difficulties of irrigation within the period of

pre irrigation before cultivating rice and this problem perhaps happen within the middle of June and perhaps the reason was that the whole sakia lying on Farrag meska work in the same time also perhaps the reason may be that the discharge of irrigation water in Farrag meska is not sufficient relative to the requirements discharge for all sakias in one time.

This problem is an example showing how to combine the data obtained by the 4 disciplines.

D. The team observe that salinity appears on the surface of some basins which cultivating cotton and this observation perhaps due to high water table.

E. The farmer to increase his crop production he obliged to buy more fertilizers from black market with high price.

Rice Nursery | Berseem | Cotton | Water Melon | Cucumber

82.

Team: No 2

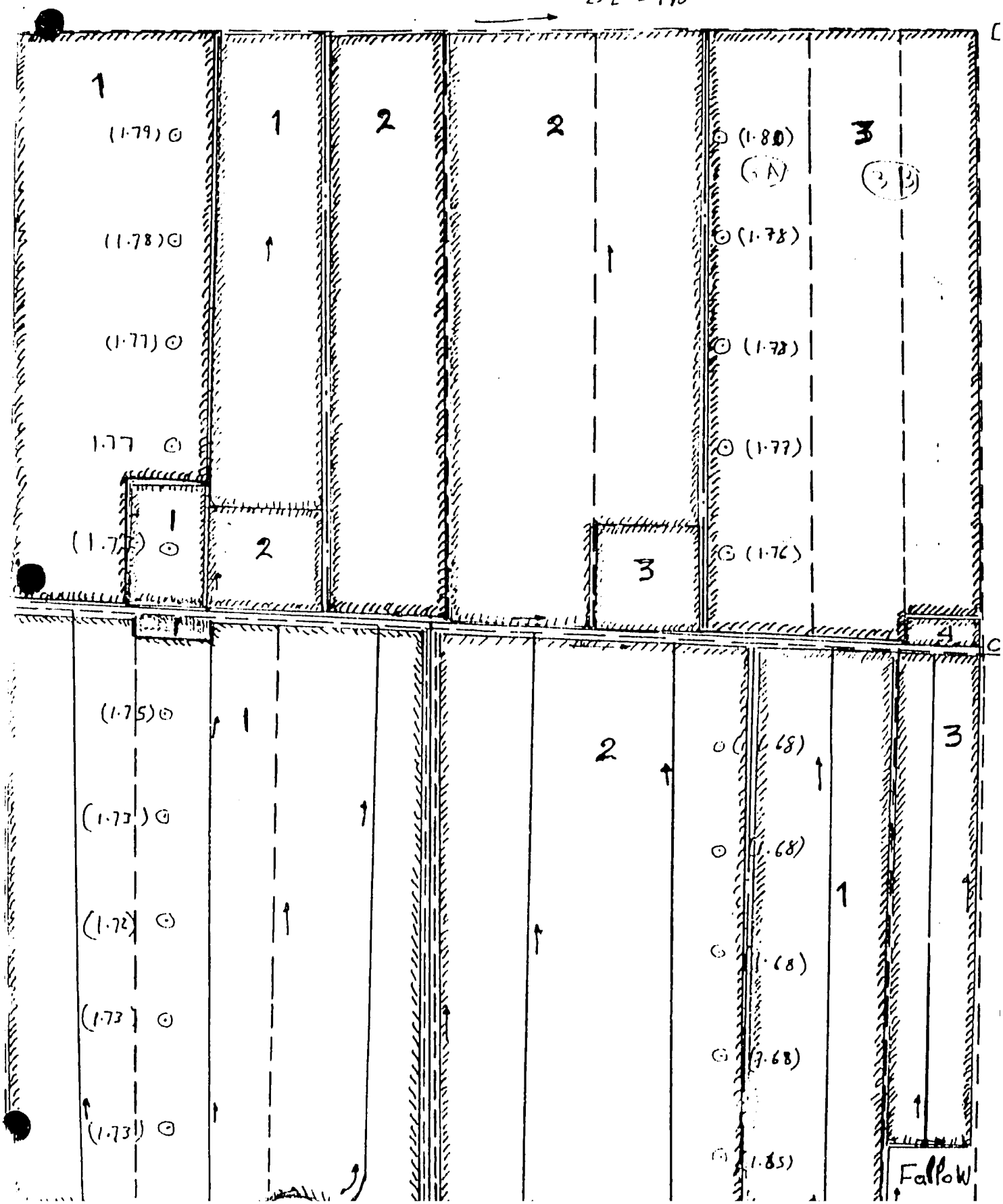
Sakia 6

Detch
Drain
Bon of Basin
sakia

AB = 189
BC = 113 m
CD = 118
DE = 190

EF = 114 m
AF = 117 m
CF = 188 m

W.

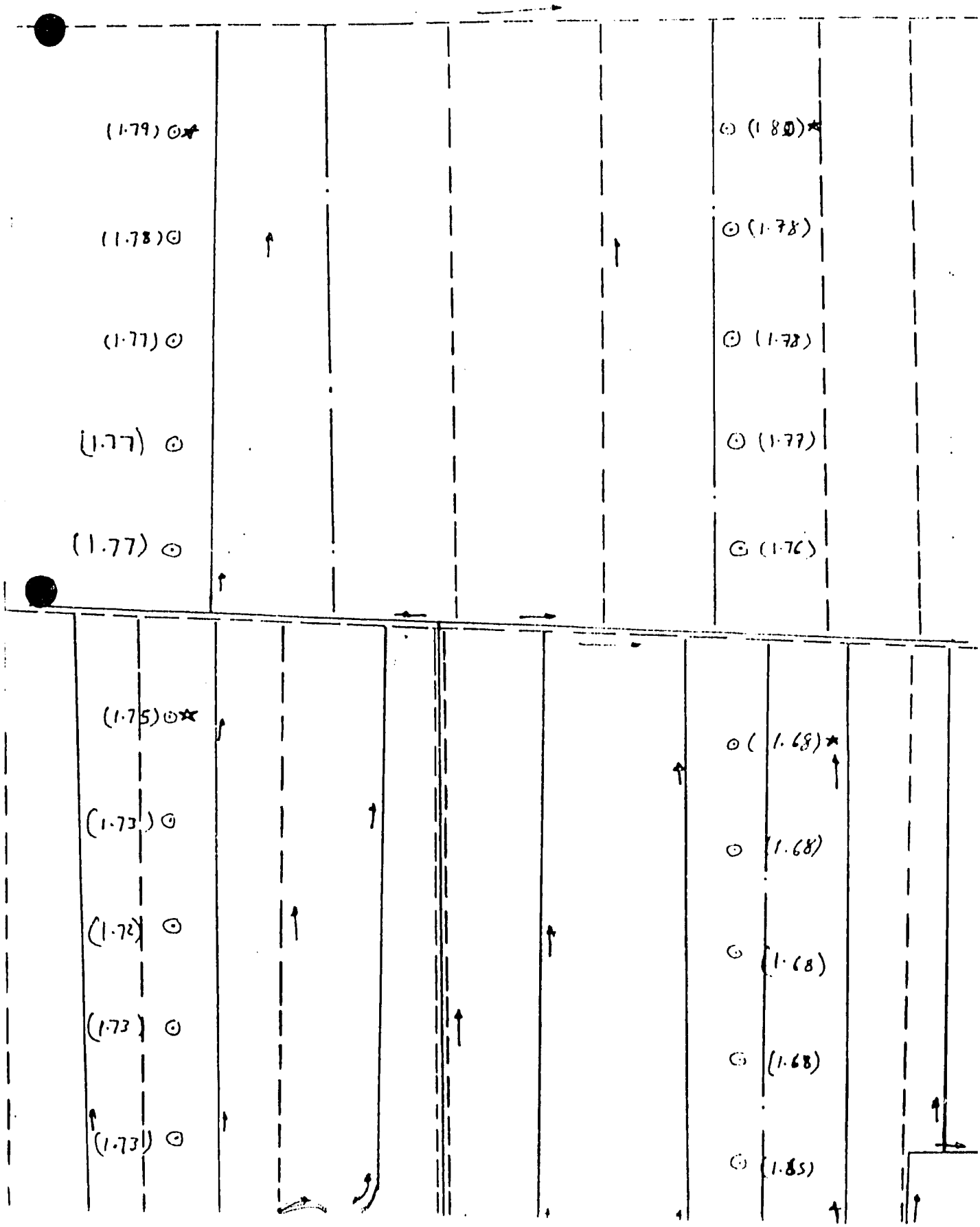


Team:
No 2
Sakia 6

Ditch
Drain
Bon of Basin
sakia

AB = 139 m
BC = 113 m
CD = 118
DE = 190

EF = 114 m
AF = 117 m
CF = 188 m



83w

APPENDIX 2C AGRONOMY LECTURES

Note: (Lecture outlines are being compiled in a separate program syllabus)

AGRONOMY

PHASE I.

The objectives of this phase are as follows:

1. To visually observe the soil-plant-water system.

2. To familiarize economists, engineers and sociologists with the agronomic base survey.

3. To show the agronomy trainees how their (agronomic base survey) fits into an interdisciplining research process.

4. To encourage the agonomy trainees to take some responsibility towards the team during the agronomic base survey.

5. To assist the teams during the agronomy base survey.

Each team spent half a day at their particular sakia gathering agronomic information and then returned to the training office to reduce data. This base survey was accomplished by taking visual observations for the total area served by each sakia. Some soil profile sampling was done, but it was minimal.

Lectures were given to all trainees and individually to the agronomy trainees. The lectures to all trainees were designed to acquaint the trainees with the agronomists' role in an interdisciplinary team, specifically related to water managment. Base survey lectures, informal discussions and field demonstrations were given to the agronomy trainees during this phase. See the agronomy appendix for lecture outlines.

After the base survey was finished, the teams had basic information which lead to a basic understanding of how th soil-plant-water system operates. This information was obtained by a farmer interview and field observations. This type of fieldwork helped to form a functional team necessary for future work. The agronomy trainees took some control of the team in the field during the base survey. Oral and written reports were given by the team to all trainees at the end of phase I.

Phase II.

Possible Solutions.

- Teaching some of the materials concerning plant water relationships.
- Knowing the symptoms from the basefield survay each team formed a hypothesis.
- To form a hypothesis teams had already put out linesplans to collect more data to prove or disprove the hypothesis.
- Teams went to the field for the collection of more date.
- Data had already been analyzed-verify hypothesis. If the hypothesis is wrong another hypothesis should be formed therefore other plans are needed if necessary.
- Teams should determine possible improvement method of their hypothesis, select one method.
- Finaly teams presented oral and written reports.

Phase III.

The objectives of phase III are as follows:

1. To use information from the previous phases and study the implementation of possible improvements(within the scape of this training program).

2. To use all disciplins in studying the implementation of each idea.

3. To realize that the farmer has final approval on all suggested inprovements.

4. To get the farmer's opinions on the suggested improvements.

The teams held meetings to discuss the implementation of possible improvements. The interdisciplinary nature of this research prcess became apparent as the teams progressed towards implementation. Once the team had several alternatives, the team went to the field to discuss them with the farmer. The farmers' responses were recorded and included in the final report.

Lectures on implementation, project implementation and training program implementation were given to all trainees at the beginning of phase III. The teams were on their own, except when guidance was asked for.

A final report, which included the team's opinions and the farmers' opinions, gave the trainees an endpoint to his research process. The farmer accepted some of the suggested improvements and rejected others. In most cases, the report contained a brief summary on work done in phase I and II, as an introduction to phase III (the emphasis of the final report).

Agronomy Lectures

1. Laboratory Trailer

   Equipment checkout procedures and care of equipment

2. Base survey

3. Irrigation management and crop production

4. Role of Agronomy in Irrigation Management

5. Discussion about base survey

6. Soil Physical Properties

7. Measuring soil water content

8. Evapotranspiration

9. Measuring field capacity and wilting point

10. Soil sampling

11. Soil chemical properties

12. Plants and Soils

APPENDIX 2D: ECONOMICS LECTURES

Note: (Lecture outlines are being compiled in a separate program syllabus)

Role of the Discipline of Economics In the Three Phases of the Training Program

Phase I - Base Survey

The objective of the discipline of Economics in this phase of the program was to collect preliminary data on the resource allocation dimension of the Farming System. This information was primarily obtained from the farmers by interviews.

The teams economists were assisted in constructing a questionnaire for the collection of the base survey data. The questionnaire was put together in coordination with other disciplines in order to ensure that no repetition of questions asked from farmers by different disciplines would occur.

The economics base survey questionnaires for the three teams were conducted on three different days with all the members of the team present at the interview session. The information gathered as base survey data was summarized by the team economists and linked with the base survey data collected by other disciplines, where possible.

The data obtained by economists during this phase consisted of: (1) crop and livestock production practices, output and disposition; (2) labor utilization and cost, and (3) sources of fertilizer and costs.

The final output of this phase was to gain preliminary insight about the farming system in order to identify a set of possible problems and constraints under which the farmers operate.

Phase II - Problem Evaluation

Following the formulation of the team hypothesis, the economist in each team engaged in data collection and economic analysis of the team problem. The objective of these economic studies were to determine the economic rationale for and consequences of the team problem.

In cases of two teams, the economists determined the costs associated with convenience losses in the marwa and for the third team, the impact of water table on yield, and farmers' income was explored.

The data required for the above-mentioned studies were gathered by conducting further interviews with the farmers. Technical data on volume of convenience loss in the marwa, water table and impact on yield was obtained from team engineers and agronomists.

---

* For dtail on activities of the discipline of economics, see weekly reports, lecture summary outlines, and team reports.

A series of lectures were given to the economists in order to prepare them for data collection and economic analysis needed in this phase.

Phase III - Implementation

The role of the economists in this phase was to determine the economic feasibility of the solutions proposed by each team to the problems that were investigated by the three teams in the second phase.

In the cases of the two teams which had selected convience loss at the problem, economic feasibility of lining was studied. The benefits and costs data for this study was obtained by a joint effort of various members of the teams.

The result of the feasibility studies in this phase indicated the indispensible role of economics in search of the optimal solution. Great appreciation about this role of economics was developed by members of the other disciplines.

Economic Lectures

1. Interdisciplinary on-farm research methodology
2. Resource allocation decisions
3. Production economics
4. Economic resource survey
5. Principles of economics in farming
6. Partial budgets
7. Farm management survey
8. Opportunity cost and shadow pricing
9. Theory of cost
10. Linear programming

APPENDIX 2E: ENGINEERING LECTURES

Note: (Lecture outlines are being compiled in a separate program syllabus)

Overall View of Engineering Discipline Program

Objectives

There were several objectives that we stressed throughout the training program in the engineering discipline. They were as follows:

1. Teamwork - stressing the need for a multidiscipline approach.

2. Understanding the importance of communicating with the farmer to benefit from his knowledge.

3. Understanding how the farm level systems fit into the macro scale system that the government irrigation engineers work with.

4. The importance of following the research method being taught to make the most efficient use of time and materials and to channel energies in one direction.

5. The importance of collecting only that data which is necessary to give an individual an understanding of the problem or hypothesis.

6. To teach as many of the basic field tests, laboratory tests, and data analysis procedures as possible, given the time framework, necessary for on-farm water management studies.

7. To stress the importance of writing a concise, informative report.

Content

Time was the limiting constraint that determined how much technical instruction could be done. For this reason, all activities were geared towards preparing the trainees to conduct the fieldwork necessary for studying their hypotheses. Topic areas covered were as follows:

1. Soil Physical Properties.
2. Soil-water relationships.
3. Measuring water contents.
4. Calculation Usage.
5. The Physical System: Water Control Dimension.
6. A Base Survey: The Engineer's Responsibility.
7. Surveying and Field Mapping.
8. Land leveling.
9. Infiltration Rates.
10. Groundwater and Drainage.
11. Cutthroat Flumes.
12. Irrigation Evaluations.

In addition, lectures were given reiterating the interdisciplinary approach, farmer importance and performing as a team leader.

The acual field tests performed by the trainees were measuring flow rates, observation well usage, piezometer usage, salinity studies, moisture

content sampling, infiltration rate determination, surveying and field mapping, and making visual observations to gain an initial understanding of how the farming system operates.

Procedure

Dissemination of material was done in the following ways:

1. Lectures were given to prepare the trainees for the field work and related data analysis processes.

2. Planning sessions were held with teams to coordinate discipline activities and to decide on what tests were necessary and how they would help in the overall process.

3. Teams then went to the field to conduct tests, sensitize other disciplines concerning the engineering profession, and to gain hands on experience in what had been presented in lectures.

4. In the field discussion,sessions were held to go over why tests were conducted, how the tests were run and ramifications of the data collected.

5. The teams then met in the office to analyze data and to write their reports.

Engineering Lectures

Phase I

1. Calculator usage
2. The physical system: water control
3. Base survey: Engineers responsibilities
4. Surveying and field mapping
5. The engineering base survey
6. Preparation for team meetings

Phase II

1. Interdisciplinary work in Phase II
2. Infiltration rates
3. Soil physical properties
4. Soil water characteristics
5. Measuring flow rates with cutthroat flumes
6. Measuring water content
7. Irrigation evaluation
8. Groundwater and drainage
9. Land leveling

Phase III

General lectures and Field Exercises in support of team investigations

APPENDIX 2F: SOCIOLOGY LECTURES

Note: (Lecture outlines are being compiled in a separate program syllabus)

The Sociology Discipline

The major objectives of the sociology discipline in this Training Program were three-fold:

1) to improve the knowledge base of the sociolcgy trainees in terms of understanding sociological variables are needed to be studied in an on-farm water management context;

2) to develop the methodological skills of the sociology trainees in order to enhance their ability in knowing how to study those critical variables; and

3) to develop a sensitivity among the sociology trainees as to how their discipline interacts with other disciplines in a problem solving context.

Phase I demanded that two types of information be disseminated. The first type of information was interdisciplinary in nature explaining the role of the sociologist in an interdisciplinary team, i.e., what does a sociologist do and how a sociologist can work with such a team. A second type of information was discipline oriented and reflected on what constitutes a base survey. The sociology trainees were presented with an organizational format which was designed to include the crucial variables necessary to evaluate a social system. Based on this format, the sociology trainees constructed their own base survey instrument which included the variables they thought were most important. In teaching this format, lectures were given by the trainers as to the logic behind the format and workshops were conducted in order for the trainees to practice how to use this format. The trainees applied their knowledge and skills in the field exercises of this phase.

The second phase consisted of testing a hypothesis which was constructed by the team after their base survey was completed. During this phase, the sociology work focused on the methodological skills and techniques of testing a hypothesis. Lectures were given on how the format could be used in testing a hypothesis and on the general methodological procedure of testing hypotheses. In addition, lectures combined with workshops explored the techniques of questionnaire construction, interviewing, and observation. The trainees used this information to construct a questionnaire measuring the sociological aspect of the hypothesis and then interviewed the farmers involved.

Implementation constituted the last phase of the Training Program. The major lectures were interdisciplinary in nature describing the process of implementing an innovative solution to a particular problem. Given the time restrictions, the field exercise consisted of interviewing the farmer to receive his reactions as to how implementable the solutions really are. The final report examined the circumstances surrounding the solution and thus demonstrated what was involved in implementing any type of solution to a problem.

9SW

Sociology Lectures

1. Introduction to the role of the sociologist in an interdisciplinary team
2. What the Sociologist may contribute to an Interdisciplinary Team.
3. Sociology base survey - conceptual framework
4. Sociology base survey - general procedure
5. Sociology base survey - questionnaire workshop
6. Possible improvements - hypothesis development
7. Possible improvements - study planning workshop
8. Introduction to implementation
9. Role of Sociology in implementation

APPENDIX 2G: GENERAL LECTURES

Note: (Lecture outlines are being compiled in a separate program syllabus)

General Lectures

1. Responsiblities of training staff
2. Trainee evaluation procedure
3. Logistics and procedures
4. History of the training program
5. Role of training within EWUP
6. Expectations from trainees
7. Base survey/Research methodology
8. Introduction to training manual
9. Hypothesis development
10. Team meeting methods
11. Working as an interdisciplinary team
12. Concepts in implementation

APPENDIX 3A: AGRONOMY EVALUATIONS

Name_____

PRE-DIAGNOSTIC EXAM
AGRONOMY

Instructions: This is a pre-diagnostic exam. Answer all questions. Answers should be brief and to the point. Adequate space is left for short answers, blanks are left for one word or several word answers, circle either true or false, or the correct letter for a multiple choice question. GOOD LUCK.

Soil Physical Properties

1. What is soil texture?

2. Soil texture is made up of 3 soil separates. They are_____, _____, and_____.

3. What is soil structure?

4. TRUE or FALSE. When a soil is at field capacity (FC), its moisture content is higher than the permanent wilting percentage (PWP).

5. TRUE or FALSE. When a soil is at field capacity (FC), its moisture content is higher than the saturation percentage (SP).

6. What is water holding capacity?

7. TRUE or FALSE. A fertile soil should be productive.

8. TRUE or FALSE. A productive soil should be fertile.

9. Define:

   soil bulk density:

   soil particle density:

   porosity:

Soil Chemical Properties

1. What is soil pH and what type of equipment is used to measure it?

2. What does electrical conductivity (EC) measure?

3. What is a saline soil?

4. The cation exchange capacity (CEC) measures the

   A. amount of soluble salts
   B. soluble cation concentrations
   C. adsorbed cations
   D. adsorbed anions

5. TRUE or FALSE. A sodic soil has an exchangeable sodium percentage (ESP) less than 15%

6. Name 2 kinds of nitrogen fertilizers and the nitrogen percentage of each material.

   A._____ _____

   B._____ _____

7. When taking soil samples from a field for fertility analysis, what should be done to obtain a good soil sample?

   A.

   B.

   C.

Crops

1. Name 4 summer crops

   A._____ C._____

   B._____ D._____

2. Name 4 winter crops

   A._____ C._____

   B._____ D._____

3. Crop rotation is important because

   A. soil structure is improved
   B. insects and diseases can be controlled
   C. it maintains soil fertility.
   D. A, B, and C (all of the above)

4. Name 3 macronutrients.

   A. _____ C._____

   B._____ D._____

5. Name 3 micronutrients.

   A._____ C._____

   B._____ D.

6. List 2 methods of determining the moisture content of soil.

   A._____

   B._____ _____

Problems

1. How many kilograms of urea $(NH_2)_2CO$ (46% N) are required to fertilize one feddan at a rate of 69 kg N/feddan?

2. In a corn field, the furrows (rows) are 60 cm apart and the plant density in a row is one plant/25 cm. How many corn plants/feddan.

1 feddan = 4200 square meters

Name:_____

AGRONOMY CROSS DISCIPLINE EXAM

1. What data does the agronomist collect that your discipline can use in your analysis of a farming system?

2. Name 3 factors that will decrease the production level of a maize crop.

100 a

APPENDIX 3B: ECONOMICS EVALUTION PACKAGE

ECONOMICS DISCIPLINE EXAM

1. What is meant by partial budget analysis? Give an example where partial budget analysis can be used and describe the steps that should be followedin conducting this analysis.

2. a - Define shadow price and explain the rational for shadow pricing agricultural commodities such as wheat and rice in Egypt.

   b - Can the market price of agricultural labor in Egypt be utilized to estimate the value of farm family labor? Explain your answer.

3. a - What are the three most common uses of linear programming in economics?

   b - What role do the constraints play in a linear programming model? Explain the differences between the three types of constraints in regard to the availability and use of the resources.

4. What type of an economic study would you undertake to determine the economic feasibility of the solution proposed by your team?

ECONOMICS CROSS DISCIPLINE EXAM

1. What role does an economist play in evaluating an improvement in the water course such as lining of the meskas?

2. A number of studies conducted by on-farm irrigation engineers indicated that farmers in Egypt tend to apply more water than required. Explain the economic rational for the farmer's over irrigation practice.

3. What data do engineers collect that your discipline can use in your analysis of a farming system?

4. What do engineers collect data from:

   a. drilling observation wells -
   b. infiltration tests -
   c. infiltration tests -
   d. surveying -
   e. installing flumes -

5. What data does the agronomist collect that your discipline can use in your analysis of a farming system?

6. Name 3 factors that will decrease the production level of a maize crop.

ECONOMICS CROSS DISCIPLINE POST-TRAINING EXAM

Answer the following euqestions about the role of economists in an interdisciplinary on-farm water management program based on your experience in the training program.

a. What type of an economic study did your team economist conduct during phase two, and why?

b. What type of information did your discipline provide to your team economist to conduct the economic study in phase two?

c. How did your team economist contribute to the evaluation of the number one solution which your team suggested to the farmer?

103a

APPENDIX 3C: ENGINEERING EVALUATION PACKAGE

Pre-Training Diagnostic Exams

Grading Procedures:

Each question and problem was assigned a ten point value. An initial score was given to each answer by one of the trainers. The papers were then reviewed by both trainers and adjustments made based on the relative performance of each trainee.

Remarks:

The trainees found the examination to be extremely difficult. Troubles understanding english, terminology and technical procedures were evident. General question # 2 was added because of the ambiguity of the question statement. A summary of exam results is attached.

Recommendations:

The examination will be amended before being administered as a post training exam. Questions will be added or deleted to better reflect what was taught in the training program. Suggest also adding a few questions concerning the research process, farmer importance and interdisciplinary approach.

POST TRAINING EXAMINATION

Grading Procedures:

Each question and problem was assigned a point value of 10. The exam was graded in much the same way as was the diagnostic exam taking into consideration the relative performance of the trainees.

Remarks:

There were still some problems with English, however, nothing that couldn't be overcome by simply rewording the questions.

Recommendations:

Questions 4 & 3 should be rewritten to eliminate misunderstandings. Question 8 should be restated in a more general way to enable it to be included in the diagnostic exam. Otherwise, the post training exam administered during this program may be used for both pre and post exams in the future.

Name _____

CROSS DISCIPLINE EXAM

1. What role does an economist play in evaluating an improvement in the water course such as lining of the meskas?

2. A number of studies conducted by on-farm irrigation engineers indicated that farmers in Egypt tend to apply more water than required. Explain the economic rational for the farmer's over irrigation practice.

3. What data do engineers collect that your discipline can use in your analysis of a farming system?

Name _____

4. Why do engineers collect data from:

   a. drilling observation wells:

   b. infiltration tests:

   c. infiltration tests:

   d. surveying:

   e. installing flumes:

5. What data does the agronomist collect that your discipline can use in your analysis of a farming system?

6. Name 3 factors that will decrease the production level of a maize crop.

APPENDIX 3D: SOCIOLOGY EVALUATION PACKAGE

Sociology Discipline Evaluation Exam
EWUP Summer Training Program, 1981

THEORY SECTION

Definitions (Knowledge/Comprehension) (45 Points)

1. Setting
2. Culture
3. Structure
4. Authority Linkage
5. Resource Linkage
6. Normative Linkage
7. Equal Ranking Parameters
8. Unequal Ranking Parameters
9. Norm

Short Answer Essay (Analysis) (100 Points)

You, as a sociologist, have been assigned by the Minister of Irrigation to perform a preliminary study on two meskas examining why farmers who live on one meska clean their ditches while the farmers who live on the second meska do not. The purpose of this study is to only present some explanations as to the difference in behavior; therefore, you must create an overall picture of what may influence the behavior of the farmers in each meska. What information do you think is necessary to collect in examining the situation? Use the following four categories to organize your answer:

1. Information pertaining to the setting. (30 Points)
2. Information pertaining to the culture. (30 Points)
3. Information pertaining to the structure. (30 Points)
4. What level of analysis would you choose? (10 Points)

M E T H O D O L O G Y S E C T I O N

Definitions (Knowledge/Comprehension) (25 Points)

1. Concept
2. Independent Variable
3. Dependent Variable
4. Intervening Variable
5. Validity

Short Answer (Comprehension) (75 Points)

1. What are some important criteria which must be taken into consideration when constructing a questionnaire?
2. Describe some essential strategies, techniques, and tactics used by the interviewer in directing the interview situation.
3. What are the four major types of observation used for collecting information and what are the three general categories of the situation which are examined?

Short Answer Essay (Analysis) (45 Points)

From the previous research assignment concerning the farmers' cleaning of the meskas, take one of the potential reasons for the different behavior which you described and construct a research design around that potential problem. Organize your answer along the following phases:

1. The Conceptual Phase.
2. The Empirical Phase.
3. The Interpretive Phase.

3E: TRAINEES EVALUATION OF TRAINING PROGRAM

EVALUATION BY THE TRAINEES

The trainees were asked to evaluate the training program at its' conclusion. A questionnaire was used as a guide with the following questions:

1. In looking back on those lectures, what do you think was of most value to you?

2. What would you liked changed in those lectures. In terms of

   - Content

   - Format

   - Presentation

3. What would you like to see included in this section of the program?

4. What did you like about the lectures of this phase?

5. What would you like to see changed in these lectures?

6. What did you like about the field exercise?

7. What would you change in these field exercises

8. What would you like to see included in this section?

9. What did you like about the lectures of this phase?

10. What would you like to see changed in these lectures?

11. What did you like about the field exercise?

12. What would you change in these field exercises?

13. What would you like to see included in this section?

14. What did you like about the lectures of this phase?

15. What would you like to see changed in these lectures?

16. What did you like about the field exercise?

17. What would you change in these field exercises?

18. What would you like to see included in this section?

19. What do you see is the purpose of the discipline exams?

20. What do you see is the purpose of the interdisciplinary exams?

21. What would you do to improve the examination process? Answer in terms of:

    - Content

    - Procedures

22. What are your suggestions concerning how the administration of the training program may be improved?

23. Please give to us any comments about the training program you wish.

An example response is included The overall results are discussed in the main report under evalution.

Evaluation of the EWUP 1981 Summer Training Program

Discipline:

Introductory Week:

Introductory lectures were presented by each discipline.

(1) In looking back on those lectures, what do you think was of most value to you?

All of them. They help in making the interdisciplinary work clear and obvious.

(2) What would you like changed in those lectures? In terms of:

- Content:

More details and examples

- Format:

More time for questions and discussions

- Presentation:

To be near the seminar more than lecture

(3) What would you like to see included in this section of the program?

Time is given to the trainees to explain their points and ideas about the Interdisciplinary work itself to achieve the best understanding of it.

Base Survey Phase:

(4) What did you like about the lectures of this phase?

The lectures which were about the methodology

(5) What would you like to see changed in these lectures?

More interesting or waring about the methodology of the procedures.

(6) What did you like about the field exercise?

1. Field observations
2. Interviews with farmer

(7) What would you change in these field exercises?

More time and less sensation for the discussion with the farmer in the interview

(8) What would you like to see included in this section?

Some essential measurements (plus the observation) should be done.

Appropriate Solution Phase:

(9) What did you like about the lectures of this phase?

All of them are necessary

(10) What would you like to see changed in these lectures?

More time for them to be with more explanations and details

(11) What did you like about the field exercise?

All the field measurements

(12) What would you change in these field exercises?

Given the chance to apply more tests and field measurements

(13) What would you like to see included in this section?

More time for field measurements and its procedures

Implementation Phase:

(14) What did you like about the lectures of this phase?

All of them are necessary

(15) What would you like to see changed in these lectures?

More time for them

(16) What did you like about the field exercise?

The discussion with the farmers

(17) What would you change in these field exercises?

Applying small trails

(18) What would you like to see included in this section?

More time to see the farmer reaction about the proposals.

Examinations:

(19) What do you see is the purpose of the discipline exams?

The first exams to see the minimum levels of understanding the last one to see the program had done

(20) What do you see is the purpose of the interdisciplinary exams?

To see the understanding of each discipline about the others

(21) What would you do to improve the examination process? Answer in terms of:

- Content:

  More questions in short statements

- Procedures:

(22) What are your suggestions concerning how the administration of the training program may be improved?

More time for Phase II and III

(23) Please give to us any comments about the training program you wish.

1. Place of living and place of training will be better if thing are the same place.
2. The teams presentation if reports will be better if are in one place one time. I give each trainees copy of his team report.