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PO-APP-416
ENR 35215

TRIP REPORT
NUTRITION CRSP
CAIRO, EGYPT

January 10 - February 12, 1984

Mill

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Principal Investigator, Purdue University

April 17, 1984

DAW-1989-655-107000

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This is a report of the activities and accomplishments for Nutrition CRSP resulting from a trip to Cairo, Egypt, January 10 to February 12, 1984 (Calendar of Activities, Attachment A). The purposes of the trip were:

1. to review and assess with the other Principal Investigators and with Management Entity, during their site visit, the management needs of the Egypt Nutrition CRSP project for accomplishing the goals of Phase II research.
 2. to review and assess the research plans and the field operations for reproduction/lactation/infant feeding and to initiate any needed modifications and/or training.
 3. to review and assess with Egyptian Senior Scientists the laboratory protocols for blood and urine analysis including quality control and data management procedures and to assist in the development of a system for prompt replacement of supplies and equipment needed for laboratory research.
 4. to assist in the transition phases associated with the resignation of the Field Coordinator and the training of her replacement.
 5. to assist in the development of research plans for the parasitology study of urine and stools and for E. coli analysis of drinking water.
 6. to collaborate with the other Principal Investigators in the development of a project budget for periods IV, V and VI.
- I. Review of Management Needs for Accomplishing the Goals of Phase II Research

A. Scheduling and Logistics for Field Data Collection

Many problems with the data collection in Kalama were evident and were related in part to the need for a Field Director and to the lack of an integrated field schedule. The PIs mutually agreed that the Field Director should be a bilingual, male Egyptian who lives in Kalama. Recently, the head physician at the health center in Kalama was asked and has accepted the responsibilities of Field Director. He is acquainted with many families in the village and has agreed to be the advance man to arrange with the families for the visits of data collectors. The monthly schedule for field work, which is given to the Field Director, is planned and integrated by the data management unit and the Field Coordinator at the Nutrition Institute. The changes in scheduling and logistics for field data collection are to be completely operational by April 1. The short work day in Egypt and the availability of only two vehicles (which are property of the project) present challenges to those who schedule the field work. Dr. Balderston, Deputy Program Director, M.E., was helpful during her site visit in assisting the PIs in developing plans for the improvement in field scheduling and logistics.

B. Research Activities

All protocols and manuals which have been developed for CRSP research activities, excepting immunology, parasitology and resting metabolic rate, have been submitted by scientists to the Nutrition CRSP office for use by all participating scientists. This has provided the opportunity for PIs and scientists to become better acquainted with the methodologies for all phases of the CRSP research. Dr. Calloway, during her site visit, critiqued these materials and offered helpful suggestions in most every area of research for which protocols and manuals were available. The revised materials were submitted by the PIs to the Berkeley archives in February.

During the site visit, Management Entity expressed concern that the

management of the research activities of Egypt Nutrition CRSP is fragmented and that both American and Egyptian scientists have tended to treat the research areas as separate, uncoordinated projects. The availability of protocols and manuals from all research areas presents the opportunity for all scientists and for PIs, in particular, to become more knowledgeable about all of the research activities and to integrate the parts into one project. Also, to facilitate the overall management of the project, M.E. requested that 1) a Field Coordinator with a strong scientific background and field experience be employed or 2) one U.S. PI reside in Egypt to manage the project. If PIs are to manage the project, M.E. prefers the latter arrangement where one PI resides in Egypt. However, M.E. agreed to a 90-day rotation plan whereby one PI will reside in Egypt for a 90-day period for project management with some overlapping time with the rotation period of the next PI. March and April were excluded from the rotation plan because arrangements must be approved at the cooperating U.S. institutions for faculty time away from the institutions.

The PIs concur with M.E. that field site visits have indicated weaknesses in data collection in several areas of work and indicate the need for senior scientists to go to the field on a regular basis. Also more emphasis is needed on adequate training of data collectors and on the use of quality control procedures. Especially important is the need to submit data immediately after collection to the Data Management Unit.

C. Other Activities

A building adjacent to the Health Center in Kalama has been up-graded for project use and is now available as a field facility. The building has been used and will continue to be used for physical examinations, resting metabolic measurements and cognitive testing, as well as a lounge for field workers and observers and an area to review data collection forms. This building should have greater usage as field work increases.

Periodic meetings, which Dr. Galal and some of the scientists hold with the village leaders in Kalama, have been an excellent means of informing the residents of Kalama about the research which is on-going in their village. Also, this is a time when questions of the villagers regarding the study can be presented and answered. These discussions appear to have been effective both in encouraging household participation in the study and in lessening the attrition of households.

A draft of the Publications Agreement for Egypt Nutrition CRSP was discussed with the U.S. PIs and Dr. Galal. Dr. Galal expressed an interest in modifying the draft copy and agreed to submit the modified version to the U.S. PIs in the near future. Therefore, the final version of the Publications Agreement for the Egypt project is forthcoming.

II. Review of Research Plans and Field Operations for Reproduction/Lactation/Infant Feeding

Dr. Amin Said and I collaborated in revising the Reproduction/Lactation/Infant Feeding forms to incorporate the suggestions of Dr. Calloway. Also, several discussions were held with data collectors to discuss their experiences in the field and to determine whether modifications were necessary in the data collecting forms. Seven questions included in the socio-demographic questionnaire were also included in the Reproduction History form as a check on

interinterviewer reliability. A manual for Reproduction/Lactation/Infant Feeding was developed to aid data collectors in the accurate recording of information. A copy of the revised Reproduction/Lactation/Infant Feeding forms and manual have been sent to the Berkeley archives.

Due to the small number of pregnant women recruited into the study and because of the need to increase the number quickly, an identification of pregnancy form was developed (Attachment B). Also, pregnancy tests were ordered from the U.S. and were sent to Egypt via Dr. Otto Seiber. The pregnancy test is offered to women who have not had a menstrual period for over 45 days. The group of women in Kalama at high risk of pregnancy now numbers 600.

III. Review of Laboratory Research, Quality Control and Data Management for Blood and Urine Analysis

Several discussions were held with Dr. Ahmad Dakroury and with Dr. Mohamad El-Ghorab, who have responsibility for the blood and urine measurements. The values in Tables 1 and 2 represent the experimental results of Dr. El-Ghorab and his colleagues at the Nutrition Institute. Close agreement was found between expected and observed values for both hemoglobin and ferritin concentrations. This attests to the skill of the technicians performing the analyses. Periodically, duplicates of some serum samples analyzed for ferritin in Egypt will be sent to the Purdue laboratory for cross-laboratory comparisons. Out-of-range values for hemoglobin, hematocrit and ferritin in blood samples were discussed and are described in the manual. Dr. Dakroury recommended that 20% of the hemoglobin measurements be duplicate dilutions. Hemoglobin and ferritin controls are measured on each day of blood sample analyses.

In order to facilitate data entry for blood and urine measurements, forms were developed with Drs. Dakroury and El-Ghorab (Attachments C and D). These forms are to be completed and submitted to Data Management as soon as possible after the laboratory analyses are done.

The need for an inventory procedure to identify supply and equipment needs, before they are exhausted, and to allow sufficient lead time for ordering and delivery of items from the U.S. was discussed. Each time a visiting scientist from the U.S. is scheduled to come to Cairo, an inventory check should be made to determine any supply or equipment needs.

IV. Transition to an Interim Field Coordinator

Following the resignation of Dr. June Wolgemuth, Field Coordinator, Ms. Nancy Meyer was approved by the PIs for an interim appointment. This appointment was made in order to allow time for a position announcement to be advertised, candidates to be interviewed and the selection of a Field Coordinator made. Ms. Meyer was trained at Purdue in certain administrative and fiscal aspects of the project. She then traveled with me to Egypt where I participated with her in some of the job transition meetings with Dr. Wolgemuth. A job description (Attachment E), developed jointly by the PIs, was discussed with Ms. Meyer. The importance of her role in assisting the Data Manager to plan an integrated schedule of research activities and field logistics was emphasized. An integrated schedule should help to 1) minimize intrusion into the households and 2) integrate research activities into one project.

Table 1
Quality Control for Hemoglobin Measurements

Hemoglobin Concentrations in Control Samples ¹										
Expected values	Observed values									Mean values
g/dl	g/dl									g/dl
Low, 8.0 \pm 0.2	7.9	7.9	7.8	7.9	7.7	7.8	7.9	8.1	8.0	7.9 \pm 0.1
	7.9	7.8	8.0	7.9	7.7	7.8	8.0	7.9	8.0	
Normal, 11.5 \pm 0.3	11.3	12.0	11.4	11.3	11.3	11.5	11.5	11.8	11.4	11.5 \pm 0.2
	11.2	11.6	11.4	11.5	11.3	11.4	11.6	11.8	11.5	
High, 16.0 \pm 0.4	15.7	16.2	15.8	15.9	16.1	15.5	15.5	16.1	15.7	15.9 \pm 0.3
	15.9	15.6	16.4	16.0	15.5	15.8	16.0	16.0	15.8	

¹Boehringer Mannheim Diagnostics, Indianapolis, IN 46250

Table 2
Quality Control for Serum Ferritin Measurements

Ferritin Concentrations in Control Samples ¹										
Expected values	Observed values									Mean values
ng/ml	ng/ml									ng/ml
Low, 11 \pm 4	13.0	9.2	13.0	11.4	10.0	7.4	9.0	10.4 \pm 2.1		
Medium, 58 \pm 9	58.0	58.0	50.0	87.6	62.0	54.0	50.0	59.9 \pm 12.9		
High, 213 \pm 37	280	230	213	200	240	190	-	225 \pm 32.5		

¹Ramco Laboratories, Inc., Houston, TX 77098

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Ms. Meyer was informed of her key role in the timely handling of raw data including the transfer of these data/data tapes to the U.S. She was also informed of the importance of regular and frequent communication with the U.S. Project Representative regarding project activities and any changes in field research plans/operations.

Ms. Meyer should become aware of the procedures and lead time required for the advancement of project funds from Purdue to the Nutrition Institute in Egypt. The importance of reimbursement to the field workers on a regular basis is important to the success of the project. Also, the Field Coordinator should be aware of the procedures involved in any changes which may be needed in the Egypt Nutrition CRSP budget to expedite the scientific work. Other details of her administrative and fiscal responsibilities are included in the job description which she was given.

V. Research Plans for Parasitology and Bacteriology

A. Bacteriology

I met several times with Dr. Mohamed Reda El-Sherbeeney, scientist in the Nutrition Institute, concerning water analysis in Kalama. He has agreed to work with a collaborating U.S. scientist on the E. coli contamination of drinking water, communal pump water and canal water. Dr. Reda developed a proposal which was reviewed and has been revised by Dr. Swaminathan, a food microbiologist, Purdue University. In particular, Dr. Reda has asked for assistance from Dr. Swaminathan in water sampling procedures and in the methodology to use for E. coli analysis. Dr. Swaminathan, currently on sabbatical leave at the Center for Disease Control (CDC), Atlanta, Georgia, has discussed with some of the scientists at CDC the tentative plans for E. coli analysis of water in Kalama. They are eager to work with him on the analysis at little cost to the project excepting Dr. Swaminathan's travel expense to CDC. The plans are to use a new tool of genetic probing for screening E. coli. According to Dr. Swaminathan, a genetic probing by DNA colony hybridization is a powerful tool for assessing the potential of an organism to cause disease. Enterotoxigenic Escherichia coli (ETEC) have been isolated at a high frequency from patients with diarrheal illness in developing countries in Asia, Africa, and South America. Frequently, these diarrheal diseases have been a major cause of morbidity and mortality in these countries, particularly among infants and young children. ETEC gene probes are now available to enable the screening of E. coli isolates from sick subjects, well subjects, and environmental sources for the presence of specific extrachromosomal gene sequences which code for the ST (heat stable) toxin, LT (heat labile) toxin and even for enteroinvasiveness potential.

B. Parasitology

Dr. Saif from the Institute of Research for Tropical Medicine, Ministry of Health, Cairo, will subcontract with the Nutrition Institute to analyze stool and urine samples for parasitic infections. The proximity of the Institute of Research for Tropical Medicine to the Nutrition Institute will facilitate easy delivery of fresh biological samples for analysis. Dr. Gaafar, parasitologist, Purdue University, has agreed to collaborate with Dr. Saif in the research and has had a telephone conversation with him. Urine samples will be analyzed for S. haematobium and stools for S. mansoni ova. Dr. Gaafar is a native of Egypt and is knowledgeable of the impact of parasitic infections on the health of the Egyptian people. He has worked in various areas of the world on parasitology problems.

VI. Development of Project Budget for Periods IV, V and VI

Two meetings were held in Egypt with the PIs to discuss Phase II research and the budgetary needs to accomplish the goals of the project. Each institution (University of Arizona, University of Kansas, Purdue University and the Nutrition Institute) prepared separate budgets which were then submitted to Purdue University for consolidation. The total budget was submitted by Purdue University to Management Entity.

VII. Summary of Accomplishments

1. A review was made, with the assistance of Management Entity, of the management needs of the project for accomplishing the goals of Phase II research.
2. Research plans and field operations for Reproduction/Lactation/Infant Feeding were reviewed and the necessary modifications of protocols and additional training of field workers made.
3. A review was made, with Egyptian scientists, of laboratory research, quality control and data management for blood and urine analysis.
4. An interim U.S. Field Coordinator, hired by the U.S. PIs, was initiated into project work. A job description was prepared for the Field Coordinator and was approved by the PIs.
5. Research plans were initiated for parasitology and for water analysis in Kalama.
6. The project budget for periods IV, V and VI was discussed among the PIs and plans were made for finalizing the budget in the U.S.

Professional Contacts Made in Egypt (January 10-February 12, 1983)

Contacts were made with several Egyptians who are involved with Nutrition CRSP activities in Egypt. These individuals include:

Dr. Hekmat El-Sayed Aly, Retired Director of Nutrition Institute and Member of Executive Committee for Nutrition CRSP

Dr. Zeinab Bishry, Professor Child Psychiatry, Department of Psychiatry, Ein-Shams University

Dr. Ahmad Dakroury, Head, Department of Nutritional Biochemistry and Metabolism, Nutrition Institute

Dr. Esmat Ekladios, Department of Microbiology, University of Cairo

Dr. Mohamad El-Ghorab, Department of Nutritional Biochemistry and Metabolism, Nutrition Institute

Dr. A.M. El-Naggar, Work Physiologist, Helwan University, Cairo

Dr. Daisey Fleita, Biochemist, American University, Cairo

Dr. Mamdouh Gabr, Professor Pediatrics, University of Cairo

Dr. Osman Galal, Director, Nutrition Institute and PI Egypt Nutrition CRSP

Dr. Mohammed Hussein Khalil, Chairman, Department of Statistics, High Institute of Public Health, Alexandria, Egypt

Dr. Wafaa Moussa, Head, Department of Surveys, Surveillance and Programs, Nutrition Institute

Dr. Amin Said, Head, Department of Clinical Nutrition, Nutrition Institute

Dr. Farouk Shaheen, Department of Surveys, Surveillance and Programs, Nutrition Institute

Mr. John Wiles, Nutrition Officer, Agency for International Development

Dr. Feisal A. Yunis, Department Psychology, Faculty of Arts, Cairo University

Attachment A

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Calendar of Activities (January 10 - February 12, 1984)

- January 9 Monday Travel with Ms. Nancy Meyer, interim Field Coordinator, from West Lafayette to Cairo.
- January 10 Tuesday Arrived in Cairo; delivered to Nutrition Institute supplies and equipment which were carried from U.S. as excess baggage; met with Dr. Wolgemuth, Field Coordinator, to plan transition schedule for Ms. Meyer to assume the F.C. duties; met briefly with Dr. Galal, Dr. Said and Dr. Dakroury to plan agenda for next few days.
- January 11 Wednesday Meetings at Nutrition Institute with Drs. Galal (project management), Shaheen (morbidity/anthropometry), Said (reproduction/lactation) and Dr. Saneya Wahaab (data management); also met with Dr. Wolgemuth and Ms. Meyer regarding duties and responsibilities of the Field Coordinator.
- January 12 Thursday Attended CRSP project meeting in morning at Nutrition Institute; met with Dr. Edelman, resource person for AID's five year nutrition strategy with Egypt; met with Dr. Saneya for complete up-date on data management activities.
- January 13 Friday Holiday and day of worship in Egypt.
- January 14 Saturday Met with Ms. Meyer (interim Field Coordinator) and Amany (inventory assistant for CRSP) to discuss the activities associated with the arrival and disposition of CRSP supplies and equipment; met with Drs. Galal, Said and Wahaab to discuss activities associated with reproduction/lactation/data management.
- January 15 Sunday Met in Kalama for observation of cognitive and morbidity data collection with Dr. Charlotte Neumann (P.I. for Kenya project, Dr. Adolpho Chavez (P.I. for Mexico project), Dr. Marty Forman, U.S. A.I.D., Dr. Osman Galal, Dr. Farouk Shaheen and Ms. Meyer; late afternoon and evening meeting at the Nutrition Institute with same group to discuss morbidity protocols and activities in the three countries.
- January 16 Monday Met with Dr. Charlotte Neumann and Ms. Meyer to discuss general project activities and management; met with Dr. Dakroury to discuss biological fluid measurements and to resolve some problems with laboratory equipment; met with Saneya regarding data management activities.
- January 17 Tuesday Work in Kalama to observe data collection; met in afternoon at Nutrition Institute with Drs. Saneya Wahaab and Dakroury concerning data management.

January 18 Wednesday Met at Nutrition Institute with Drs. Dakroury and El-Ghorab concerning laboratory quality control procedures and final revisions of a laboratory manual; met with Dr. Saneya Wahaab concerning data entry sheets for biological fluids.

January 19 Thursday Work in Kalama to observe data collection; met with Dr. Saneya Wahaab.

January 20 Friday Holiday and day of worship in Egypt.

January 21 Saturday Met at Nutrition Institute with Drs. Galal, Faisal, and Said concerning project activities including data records.

January 22 Sunday Work at Nutrition Institute with Drs. Galal, Jerome, Said, El-Ghorab, Ms. Meyer and Kathy Torres of Catholic Relief Service.

January 23 Monday Work at Nutrition Institute with Drs. Galal, Balderston, Jerome, Wachs, Said and Shaheen; status of project and scheduling problems were discussed.

January 24 Tuesday Met with Drs. Galal, Balderston, Jerome, Harrison to discuss CRSP data management procedures and plans.

January 25 Wednesday Visit to field site in Kalama with Drs. Balderston, Shaheen and Jerome; met at Nutrition Institute with Drs. Balderston, Harrison, Jerome and Wachs to review status of field activities.

January 26 Thursday CRSP project meeting at Nutrition Institute in the morning to discuss progress of work and core research goals of the project; meeting with U.S. PIs and Dr. Balderston in afternoon to continue discussions.

January 27 Friday Holiday and day of worship in Egypt.

January 28 Saturday Special meeting with Dr. Balderston, all senior investigators and PIs to discuss problems associated with scheduling to meet core research goals and to develop integrated field schedules.

January 29 Sunday Continuation of discussion regarding scheduling; meeting of U.S. and Egyptian PIs to discuss research activities relative to budget plans for periods IV, V and VI.

January 30 Monday Meeting with Drs. Balderston, Jerome and Harrison at USAID to brief Dr. William Oldham and Mr. John Wiles about CRSP activities; budget meeting of four PIs and Dr. Balderston.

January 31 Tuesday Visit to field site at Kalama; visited households with data collectors; meeting with Drs. Calloway, Balderston, Jerome, Harrison and Wachs.

- February 1 Wednesday CRSP project meeting with all Egyptian senior scientists, PIs, Drs. Calloway and Balderston to discuss research activities; meeting with U.S. PIs and Drs. Calloway and Balderston for remainder of day.
- February 2 Thursday Visit to Kalama with Dr. Calloway and U.S. PIs for an overview of research activities in the field.
- February 3 Friday Holiday and day of worship in Egypt.
- February 4 Saturday Meeting with Dr. Amin Said to discuss reproduction/lactation research activities; meeting of U.S. PIs with Field Coordinator to discuss her responsibilities for the project.
- February 5 Sunday Work with Dr. Amin Said; meeting with Dr. Calloway, U.S. PIs and Ms. Meyer to discuss goals and plans for CRSP research.
- February 6 Monday Meeting with Dr. Hussein Khalil and PIs to discuss plans for data management; meeting with Dr. Calloway, U.S. PIs and Ms. Meyer to discuss research activities.
- February 7 Tuesday Attended a meeting of Dr. Calloway with Dr. Gabr to discuss goals, plans and administration of Egypt Nutrition CRSP; Dr. Calloway's exit meeting with PIs; meeting of PIs to discuss Dr. Calloway's recommendations for the project; Dr. Ted Wach's exit meeting with U.S. PIs.
- February 8 Wednesday Nutrition CRSP budget meeting of PIs to discuss needs for periods IV, V and VI.
- February 9 Thursday CRSP project meeting of Egyptian senior scientists and PIs to discuss activities of past week and future plans; work with Dr. Amin Said on activities in area of reproduction/lactation/infant feeding.
- February 10 Friday Holiday and day of worship in Egypt.
- February 11 Saturday Work with Dr. Jerome and Dr. Amin Said; met with Dr. Reda concerning E. coli analysis of water.
- February 12 Sunday Exit meetings with Drs. Galal, Harrison and Ms. Meyer. Met with Dr. El-Ghorab regarding a workable system for replacement of laboratory supplies.
- February 13 Monday Departure from Cairo.

Identification of Pregnancy

Block No. Household No. Date

Interviewer Name of Lead Female _____

ID No. Age years

. What was the first date of your last menses? day month or
 between day month and day month

. Date of last menses was established by
 Exact calender
 Calender of events

. Time since first day of last menses D M

(If intermenstrual period is more than one month)
 . Do you think you are pregnant?
 yes; no; don't know; no answer.

(If answer to pregnancy is "Yes")
 . For how many months are you pregnant? months, don't know.

(If answer to pregnancy test is "NO" or "Don't know")
 . Are you using contraceptives? no, no answer
 yes:
 Pills
 Condom
 Cream
 Safe period
 Other (specify) _____
 . Do you hope to be pregnant?
 yes; no; no answer.

Pregnancy Test :

For women who have ^{not had} a menstrual period for over 45 days, the pregnancy test should be offered.

Attachment D

NUTRITION INSTITUTE
EGYPT NUTRITION CRSP

URINE EXAMINATIONS

Block No. Household No.

Name H.H. Head _____ Date

D M Y

Examiner Time AM PM

Urine Sample Collection

Target Person	I.D.	Name			Albumin, mg/dl						Glucose, mg/dl						Ketones, mg/dl				
		First	Middle	Last	Neg	Tr	30	100	300	>2000	Neg	100	250	500	1000	>2000	Neg	5	15	40	>80
1*					<input type="checkbox"/>																
2**					<input type="checkbox"/>																
3					<input type="checkbox"/>																
4					<input type="checkbox"/>																
5					<input type="checkbox"/>																
					<input type="checkbox"/>																
					<input type="checkbox"/>																
					<input type="checkbox"/>																
					<input type="checkbox"/>																

*Test all members of household once.
**If <4 months pregnant, repeat monthly and at 1 and 6 months lactation.

Attachment E

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Job Description
FIELD COORDINATOR
EGYPT NUTRITION CRSP

1. Participate actively in regular planning and evaluation meetings with Egyptian scientists to assure coordination of the research activities of U.S. and Egyptian scientists.
2. Coordinate field logistics for the research activities of U.S. and Egyptian scientists; maintain appropriate records of field activities.
3. Maintain appropriate quality-control procedures as established by U.S. and Egyptian scientists for all types of data collection.
4. Timely handling of raw data, transfer of data and data tapes to appropriate U.S. institution(s) and keeping records of data transfer.
5. Communicate regularly and frequently with the U.S. Project Representative keeping this person informed of project activities and any changes in research plans/operations.
6. Maintain fiscal/administrative records as required by International Education and Research, Purdue University, to meet the contractual agreements with Management Entity (University of California, Berkeley) and USAID.
7. Initiate quarterly budget reviews with the Egyptian P.I. to assess adherence to previous quarter's budget and to project the next quarter's expenditures.
8. Monitor the receipt, use, maintenance and care of titled property in Egypt for which Purdue University has custodial responsibility until completion or termination of the project.
9. Other duties as assigned by the Egypt P.I. and U.S. Project Representative.