TRAINERS REPORT FOR THE MICROCOMPUTER APPLICATIONS IN AGRICULTURAL DEVELOPMENT SHORTCOURSE
June 29 - August 7, 1987
(TC-140-35)

Submitted to
USDA/OICD/MANAGEMENT SERVICES

Prepared by
ARTHUR STOECKER
AND
ELTON LI

April 12, 1988
Stillwater, Oklahoma

Report A-47
COURSE DESIGN AND CONTENT

TARGET AUDIENCE

The course was designed for agricultural managers who wish to acquire microcomputer skills for applications in the areas of planning, monitoring and evaluation of agricultural development policies, programs, and projects. Participants were expected to be university graduates and to have had experience with agricultural management problems. Some knowledge of economic methods was desired but no experience in the use of microcomputers was required.

COURSE OBJECTIVES

The overall course objective was for the participant to develop an appreciation of how the microcomputer could facilitate agricultural management and to develop needed skills in microcomputer applications to real world problems of agricultural management. The specific course objectives were to:

1. Instruct how microcomputers can assist with the gathering, processing, and analyzing of information

2. Instruct through lectures and practice the appropriate formats and skills for analyzing data using microcomputers

3. Instruct how results of data and information analysis can be used in agricultural management.

NEEDS ASSESSMENT WITH PARTICIPANTS

Each participant was asked to fill out a brief bio-data form at the beginning of the course. The bio-data form is shown in Annex 1. The amount of prior computer experience was of special interest in determining the way the course was taught. Most of the students had Bachelors' degrees and job experience in
agricultural and/or economic related areas. The majority of the participants had little microcomputer experience. Thus the course was taught under the assumption of no prior computer experience. Special areas of interest (such as data bases) were noted and attempts were made to cover these interests during appropriate section of the course, or by providing relevant reference materials, and/or by individual consultation outside the formal class or laboratory setting. Data brought by the students was used in laboratory examples when appropriate. However, the ability to meet diverging participant needs in a group of 22 students was limited.

TRAINING DESIGN AND METHOD OF DELIVERY

This was a six week short course on microcomputer applications in agricultural development and not microcomputers for their own sake. As such, the microcomputer training was conducted in coordination with instruction on analytical methods useful for agricultural development.

Sample topics of analytical methods covered were:

-- Introduction to policy analysis: the analytical programs and tools.
-- Distribution of economic costs and benefits from market intervention.
-- Enterprise Budgeting
-- Applications of linear programming
-- Investment and project analysis
-- Concepts in livestock modeling
-- Use of supply and demand elasticities in modeling an agricultural economy.
--- Econometric methods
--- Data management

Microcomputer Software Packages used included:

--- Spreadsheets
--- Database
--- Statistical packages
--- Presentation graphics
--- Disk operating system
--- Linear Programming Software

In most cases, coverage of the microcomputer packages was in the context of implementing the analytical methods discussed above.

The typical workday consisted of at least six hours of instruction. The lecture/laboratory format was used with lectures in the morning and three hours of laboratory exercises in the afternoon. In general, the morning lectures were used to introduce the basic management problem, followed by afternoon laboratory exercises designed to give hands-on practice at applying the microcomputer the concepts covered in the lectures. The lab problems were designed to be as realistic as possible. Each student was provided with sole access to a microcomputer for the duration of the course. Keys to the laboratory were issued to the participants to encourage individual practice during evenings and weekends. At least two experienced instructors were always on hand to conduct the subject matter presentations, to lead the laboratory sessions and to answer questions during the laboratory sessions. Much time (either in discussion and further instruction) was spent on topics raised spontaneously during the laboratory sessions.
COURSE SCHEDULE: MICROCOMPUTER APPLICATIONS IN AGRICULTURAL DEVELOPMENT

Training Co-Leaders: Dr. Art Stoecker and Dr. Elton Li

Other Instructors
Dr. Dan Badger
Dr. Darrel Kletke
Dr. Dean Schreiner
Dr. Luther Tweeten

Other Instructors
Dr. Francis Epplin
Dr. Daryll Ray
Dr. James Trapp

Location: Room 408 Agricultural Hall
Hours 8:30-11:30 a.m., 1:30-4:30 p.m.
Logistical Support: Office of International Programs

WEEK 1:

Monday-- Welcome session: (All instructors)

-- Lab: Lesson 1. Introducing the IBM PC microcomputer. Microcomputer Operation Basics. Introduction to Electronic Spreadsheets

Tuesday Instructors Li and Stoecker


Wednesday Instructors: Li and Stoecker

-- Demonstration: Elementary applications of spreadsheet programs

-- Lecture: Diskette handling and elementary DOS commands

-- Lab: Lesson 3. Elementary DOS commands.

Thursday Instructors Li and Stoecker

-- Discussion: The role of microcomputers in development

-- Lecture: Business presentation graphics with Lotus 1-2-3

-- Lab: Lesson 4: Business presentation graphics with Lotus 1-2-3

Friday Instructors Li and Stoecker

-- Lab: Lesson 5: Using a Spreadsheet to Summarize Information from a Market Price Survey.

-- Review: Design A Worksheet to Report Rice Sales.
WEEK 2

Monday  Instructors Tweeten, Li and Stoecker

-- Lecture: Introduction to agricultural policy analysis: the analytical programs and tools, Part I.

-- Lab: Lesson 6. Part I. A Lotus 1-2-3 implementation of the calculation of the costs and benefits of government policies.

Tuesday  Instructors Tweeten, Li and Stoecker

-- Lecture: Introduction to agricultural policy analysis: the analytical programs and tools, Part II.

-- Lab: Lesson 6 Part II. A Lotus 1-2-3 implementation of the calculation of the costs and benefits of government policies.

Wednesday  Instructors Kletke, Li and Stoecker

-- Lecture: Enterprise Budgeting.

-- Demonstration: Microcomputer budget generators.

-- Lab: Lesson 7: Budgeting with microcomputers.

Thursday  Instructors Epplin, Li and Stoecker

-- Lecture: Applications of linear programming I

-- Demonstration: Linear programming software on microcomputers.

-- Lab: Lesson 8: Linear programming matrix design with microcomputers.

Friday  Instructors Epplin, Li and Stoecker

-- Lecture: Applications of linear programming II


WEEK 3:

Monday  Instructors Schreiner, Li and Stoecker

-- Lecture: Investment and Project Analysis I

-- Lab: Lesson 10 Agricultural and project analysis with microcomputer spreadsheet programs.
Tuesday  Instructors Schreiner, Li and Stoecker

   -- **Lecture:** Investment and Project Analysis II.
   
   -- **Lab:** Lesson 11 Agricultural and project analysis with microcomputer spreadsheet programs.

Wednesday  Instructors, Schreiner, Li and Stoecker

   -- **Lecture:** Investment and Project Analysis III.
   
   -- **Lab:** Lesson 12 Agricultural and project analysis with microcomputer spreadsheet programs.

Thursday: Field Trip. Leaders, Li and Stoecker

Friday:   Field Trip. Leaders, Li and Stoecker

WEEK 4:

Monday  Instructors Trapp, Li and Stoecker

   -- **Lecture:** Concepts in livestock modeling.
   
   -- **Lab:** Lesson 13 Implementation of a Lotus 1-2-3 worksheet for herd size projection.

Tuesday  Instructors Trapp, Li and Stoecker

   -- **Lecture:** Case study of the use of supply and demand elasticity estimates to build a spreadsheet econometric simulation model of an agricultural economy.
   
   -- **Lab:** Lesson 14 Use of an electronic spreadsheet simulation model for the agricultural economy: the Kite-Trapp model and its extensions.

Wednesday  Instructors Trapp, Li and Stoecker

   -- **Lecture:** Applications of simulation and system modeling.
   
   -- **Lab:** Lesson 15 Random numbers: their generations and applications.

Thursday  Instructors Ray, Li and Stoecker

   -- **Lecture:** Statistical and econometric Methods I.
   
   -- **Lab:** Lesson 16 Statistical and econometric analysis with microcomputers
Friday  Instructors Ray, Li and Stoecker

-- Lecture: Lesson 17 Statistical and Econometric methods III.

-- Lab: Lesson 18 Statistical and econometric analysis with microcomputers

WEEK 5:

Monday  Instructors Ray, Li and Stoecker

-- Lecture: Statistical and econometric methods III.

-- Lab: Lesson 19 Statistical and econometric analysis with microcomputers

Tuesday  Instructors Li and Stoecker

-- Discussion: Applications of Microcomputers in Development

-- Lecture: Database: a primer.

-- Lab: Lesson 20 Database facilities of Lotus 1-2-3.

Wednesday: Field Trip Leaders, Li and Stoecker

Thursday: Field Trip Leaders, Li and Stoecker

Friday: Field Trip Leaders, Li and Stoecker

WEEK 6:

Monday  Instructors Li and Stoecker

-- Lecture: Use of microcomputers for data management.

-- Demonstration: Microcomputer database packages.

-- Lab: Lesson 21 Data management with microcomputers.

Tuesday  Instructors Li and Stoecker

-- Lecture: Use of microcomputers for data management.

-- Demonstration: Microcomputer database packages.

-- Lab: Lesson 21 (Continued) Data management with microcomputers.

Wednesday  Instructors Li and Stoecker

-- Lecture: Project management with microcomputers
-- Demonstration: Microcomputer project management packages.

Thursday Instructors Li and Stoecker

-- Discussion: Microcomputer hardware and software selection
-- Demonstration: Microcomputer hardware components
-- Lab: Lesson 22 Advanced microcomputer disk operating systems

Friday Instructors Li and Stoecker

-- Backing up diskettes and final instructions

ITEMS TO IMPROVE COURSE

Several participants felt that computer software should have been included as part of the course fee. It is our feeling that an adjustment of course fees to cover student versions of the major software types used would be a good idea for the following reasons. First, participants need to continue practicing with the software used in the course and to demonstrate their skills to their co-workers. If a student has to wait for his/her respective agency to purchase the software, several months may pass before the transfer of knowledge can continue. Even if the students' agency has the software such as Lotus the lack of good reference manuals may prevent the participant from expanding the skills developed from the course. Many students expressed interest in purchasing their own microcomputers in which case the software would be put to immediate use.

Provision of computer materials in French or Spanish. The lack of English was a problem for some of the participants. If
additional funding could be obtained to hire a translator, copies of the course materials could be made available in French and Spanish. This would enhance the progress of some of the non-English speaking participants during the course and also facilitate the job of the participants instructing their co-workers upon return to their respective countries.

Clearer information about housing conditions, transportation and shopping. Many participants opted for the private apartments which further from the class room than the adjacent dormitories and then felt that bedding, cooking utensils, telephone service and transportation should have been provided.

PARTICIPANTS

There were 22 participants from 13 countries. They were from all around the world but most were from Africa. The participants, their countries, and agencies were

1 Abdul Salam Alzabidi Yemen Planning Department Employee
2 Medhat S. Aziz Egypt Civil Engineer
3 Alelaide B-Siriboe Ghana Government Ag Economist
4 Bam Tek Bahadur Nepal Project monitor
5 Emmanuel Chukwu Nigeria Deputy Ag Planning Coordinator
6 Ehoue Bleoue Nicaise Ivory Coast Agricultural Project Analyst
7 Lahsen Esslimi Morocco PhD student (Purdue)
8 Abdesslam Fahfouhi Morocco Just completed MS at U of Rhode Island
9 Fekkar Mohamed-Bachir Algeria Application Engineer, Min of Ag & Fish
10 Hlahla Military Zimbabwe Planning Officer
11 Cornell Ishengoma Tanzania Ag Mechanization Project Coordinator
12 Kougbenny Lebene Togo Mgr of Forecasting crops & Stat Analysis
13 Sam Laki Sudan PhD student (Michigan St.)
14 Nour Djamel Algeria Microcomputer Technician, Min of Ag & Fish
15 Chiji Ojukwu Nigeria Deputy Ag Planning Coordinator
16 Ndongo Eteme Victor Cameroon Project Economist
17 E.A.N. Okorie Nigeria Agricultural Planning Coordinator
18 Fernando Paixao Mozambique Program Monitor
19 Jose Paulino D. R. Just completed MS at U of Florida
20 A.S.M. Wadudur Rahman Bangladesh Bangladesh Government Official
21 Waly Seck Senegal Agricultural Project Analyst
22 Mohamed Ali Zahid Malaysia Malaysian Government Official

EVALUATION

A summary of the questions where numerical ratings were given is shown in Annex 2. Some selected comments to written questions are summarized in Annex 3.

The participants gave the course an overall rating of 3.8 on a 5 point scale. The overall instructor rating was 4.2 and the average rating of the course content was 4.0. The average field trip rating was 4.2 and the average logistic rating was 3.6. The results of the evaluation were reviewed with all the course
instructors. Where possible, the instructors agreed to incorporate the participants suggestions in future presentations. Most instructors however felt that a minimal level of background material related to the methodological application (e.g., policy methods, linear programming, statistics, etc.) was necessary to acquaint the participants with the nature of the computer applications to be carried out.

COURSE MATERIALS AND ADEQUACY

Materials Used. The materials used in the course included
b. Microcomputer exercise tutorials designed to guide the participants through the use of the microcomputer and microcomputer software (Lotus, DOS, TSP, MUSAH86 and REFLEX) in analyzing economic problems. These materials were developed by the OSU staff.
c. Reference Materials which included users manuals and other popular guides on using products such as Lotus and Reflex.
d. Software Packages (Lotus, Reflex, TSP) were available throughout the course. The students were allowed to purchase the TSP and Reflex software at cost. Several participants expressed a desire to purchase the Lotus Software.
e. PC type microcomputers. Each student had sole access to an IBM compatible computer with 640K RAM, two floppy disk drives and graphics capability.
Adequacy of Materials. The materials seemed adequate for the majority of the participants. The materials should provide a basis by which the participants could provide instructions to their co-workers. However the more advanced students could have used more challenging materials and could have benefited from more instructor time on more advanced topics. At the other extreme, students who were less prepared in terms of English language proficiency, economic background, or in typing or using a keyboard sometimes progressed more slowly than the majority of the class. With additional support we could assist in the language area by provision of course materials in French and Spanish. The relatively large number of participants meant that time for individualized instruction was limited.

New materials Recommended. Our first recommendation is that the book allowance be increased and used to purchase student versions of the major software series used in the course. A recommended set of software to be included in this package would include:

- Lotus Student Version (manual and program) $40
- Micro TSP (student ver manual and program) $60
- Reflex data base program (manual and program) $80
- Users Guide for Lotus or Reflex $30
- DOS users guide (manual) $25
- Participants Manual $30
- Policy Analysis Tools for Economic Development $35

Total $300

SUPPORT (USDA/OICD)

There were 22 participants enrolled in the short course. The anticipated reimbursement is expected to be $48,875. The level
of funding was based on $2875 for the first 12 students and $1437.50 for each additional participant. The funding formula, which is presumably based on the more traditional lecture courses does present problems in this type of course which is more laboratory oriented. Twenty two participants are really more than can be adequately handled during the laboratory sessions because there are a large number of questions. This kind of course which deals with using a microcomputer which is totally unfamiliar to many participants requires lab instructors with a great deal of experience. This is because the instructor often has to solve an individual students problem without seeing how the problem was created. The teaching of the course over the six week period while rewarding is physically exhausting. Because of the need to maintain a fairly high instructor to student ratio (about 1 instructor per 8 students). it is very difficult to reduce the marginal instruction cost of the half price students below the $1437.50 figure. Our estimate of the marginal student cost (without additional instructor assistance) is as follows:

<table>
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<tr>
<th>Item</th>
<th>Cost</th>
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<tr>
<td>Software</td>
<td>$200</td>
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<tr>
<td>Tuition and Fees</td>
<td>720</td>
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<tr>
<td>Printing, Zerox</td>
<td>100</td>
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<tr>
<td>Transportation</td>
<td>100</td>
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<tr>
<td>Computer rental (2 mo)</td>
<td>350</td>
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<tr>
<td><strong>Total Management Cost</strong></td>
<td><strong>$1470</strong></td>
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The per student cost on an additional experience full time instructor for the six week period for each additional 8 students after the first 12 is approximately $6450 or about $800 per student for a total cost of approximately $2270 per student.

OBSERVATIONS AND RECOMMENDATIONS
The course is rewarding in part because the participants can see immediate progress and respond by working very hard. The constant interaction between participants and instructors in the laboratory setting greatly aids in promoting communication and understanding. We feel the instructional environment (quality of instructors, facilities and equipment, course materials) are of very high quality.

Our recommendations include:

1. Continue to develop and revise course materials to take advantage of more data from developing countries and or to utilize advances in the software packages.

2. Provision of copies of software and reference manuals used in the course to participants.

3. Adjustment of the funding formula to better reflect the true marginal cost of accepting additional students.

4. Provision of more information about the implications of alternative housing choices (dormitory vs. married student apartments) and transportation.
## ANNEX 1

MICROCOMPUTER APPLICATIONS IN AGRICULTURAL DEVELOPMENT

PARTICIPANT INFORMATION SURVEY

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<thead>
<tr>
<th>NAME</th>
<th>Surnames or Family Names:</th>
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<th>Other Names:</th>
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<th>CURRENT OCCUPATION</th>
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<th>FUNDING AGENCY</th>
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Describe your experience with computers and microcomputers

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
List the microcomputer techniques and/or software packages you would most like to learn in this shortcourse.

_____________________________________________________________________________________________________________________________________

List the data handling and analytical techniques you would most like to learn in this shortcourse.

_____________________________________________________________________________________________________________________________________

If you have brought some data from home, describe the data

_____________________________________________________________________________________________________________________________________

Other comments

_____________________________________________________________________________________________________________________________________

_____________________________________________________________________________________________________________________________________
Annex 2  Numerical Summary of Participant Evaluations

OVERALL COURSE SATISFACTION

Would you recommend this course to others with a background similar to yours? (1 = No, 2 = Yes)

How confident are you that you can apply the skills learned during this course to situations when you returned home?

(1 = Not at all confident, 5 = Extremely confident)
-- During the course, was the daily schedule  
-- too short (=1), about right (=2),  
-- or too long (=3)  

During the course, was the daily schedule -- too short (=1), about right (=2), -- or too long (=3)

-- Overall Length of course was  
-- too short (=1), about right (=2),  
-- or too long (=3)  

Overall Length of course was -- too short (=1), about right (=2), -- or too long (=3)

-- How helpful you find the following training  
-- methods used during the course  
(1 = Not at all Helpful, 5 = Very Helpful)

1. Lectureettes  
2. Large group discussions  
3. Small group discussions  
4. Case studies  
5. Field trip  
6. Classroom/laboratory exercises & experiments  
7. Role play/simulations  
8. Individual consultations with instructors  
9. Demonstrations

a. Lectureettes  
b. Large group discussions  
c. Small group discussions  
d. Case studies  
e. Field trip  
f. Classroom/laboratory exercises & experiments  
g. Role play/simulations  
h. Individual consultations with instructors  
i. Demonstrations

-- Your opinion of the use of the following methods  
(1 = Not at all Useful, 5 = Very Useful)

1. Course manual  
2. Handouts  
3. Textbooks  
4. Audiovisual materials  
5. Computer assisted instruction

a. Course manual  
b. Handouts  
c. Textbooks  
d. Audiovisual materials  
e. Computer assisted instruction

-- How useful were the following types of materials  
-- used in the course  
(1 = Not at all Helpful, 5 = Very Helpful)

1. Course manual  
2. Handouts  
3. Textbooks  
4. Audiovisual materials  
5. Computer assisted instruction

a. Course manual  
b. Handouts  
c. Textbooks  
d. Audiovisual materials  
e. Computer assisted instruction
### Course Content

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### At the beginning of the course or during the course did you discuss with the instructors how the course content would meet your specific needs?

(1 = No, 2 = Yes)

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### Please indicate your achievement of each of the training objectives listed below:

(I = Not at all achieved, 5 = Fully achieved)

General understanding of op. & uses of micros
Understand. of how micros can be applied to ag dev.
Suff. skills to applied to everyday work at home
Understand. of anal. methods for computer application
Increased analytical and info handling capability

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### Was the level of presentation of the subject matter

Too complex (= J), About Right (= 2),

or Too Simple (= 1)

---

### For each of the following course topics/unit

(a = Omit, 2 = Shortened, 3 = Leave as is, 5 = Expand)

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**Lotus**

**Policy Analysis**

**Budgeting**

**Linear Programming**

**Project Analysis**

**Simulation**

**Econometrics**

**Database**

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**AVG --> 4.000**

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## UNIT EVALUATION

### INTRODUCTORY (Stoecker & Li)
- **Unit objective clear?**
  - **(You)** participated in discussion to extend wanted?
  - **(Others)** participated in discussion to extend wanted?

### POLICY ANALYSIS (Tweeten, Stoecker & Li)
- **Unit objective clear?**
- **(You)** participated in discussion to extend wanted?
- **(Others)** participated in discussion to extend wanted?

### BUDGETING (Kletke, Stoecker & Li)
- **Unit objective clear?**
- **(You)** participated in discussion to extend wanted?
- **(Others)** participated in discussion to extend wanted?

### LINEAR PROGRAMMING (Epplin, Stoecker & Li)
- **Unit objective clear?**
- **(You)** participated in discussion to extend wanted?
- **(Others)** participated in discussion to extend wanted?

### PROJECT & INVESTMENT ANALYSIS (Schreiner, Stoecker & Li)
- **Unit objective clear?**
- **(You)** participated in discussion to extend wanted?
- **(Others)** participated in discussion to extend wanted?

### SIMULATION (Trapp, Stoecker & Li)
- **Unit objective clear?**
- **(You)** participated in discussion to extend wanted?
- **(Others)** participated in discussion to extend wanted?

### ECONOMETRICS (Ray, Stoecker & Li)
- **Unit objective clear?**
- **(You)** participated in discussion to extend wanted?
- **(Others)** participated in discussion to extend wanted?

### DATABASE (Stoecker & Li)
- **Unit objective clear?**
- **(You)** participated in discussion to extend wanted?
- **(Others)** participated in discussion to extend wanted?
### INSTRUCTORS

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<tr>
<th>Instructor</th>
<th>Knowledge of subject</th>
<th>Presentation skills (speaks clearly)</th>
<th>Ability to relate information to other countries</th>
<th>Encourages participants to discuss country's situation</th>
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<td>Stoecker</td>
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<td><strong>Ability to relate information to other countries</strong></td>
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<td>4 4 4 3 4</td>
<td>4 4 3 4 4</td>
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<tr>
<td><strong>Encourages participants to discuss country's situation</strong></td>
<td>2 3 4 4 4</td>
<td>3 3 5 3 4</td>
<td>4 4 4 4 4</td>
<td>4 2 4 5 3</td>
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</table>
### Field Trip

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**Please indicate your satisfaction with the following field trip arrangements**

(1 = Not at all satisfied, 5 = Extremely satisfied)

| Pre-trip Information | 2 4 4 5 4 2 4 4 4 5 4 4 3 5 3 2 3 3 4 3 4 3 2 2 0 2 7 1 0 3 3.636 |
| Transportation       | 5 4 5 5 4 5 4 5 4 5 4 5 4 5 5 5 5 5 5 5 2 2 0 0 0 8 1 4 4.636 |
| Lodging              | 4 4 5 5 4 4 4 4 5 4 4 5 3 4 5 4 5 4 5 2 2 0 0 1 1 3 8 4.318 |
| Helpfulness of instructors accompanying you | 5 4 5 5 4 3 4 5 4 5 5 5 3 4 5 4 5 3 4 5 4 5 2 2 0 0 2 9 1 1 4.409 |
| Helpfulness of people you met in the field | 4 4 5 5 4 4 4 4 3 4 4 5 3 4 4 3 5 5 4 4 5 2 2 0 0 3 1 3 6 4.136 |
| Overall Coordination | 4 3 5 5 4 1 3 4 4 4 4 3 4 3 4 4 5 4 4 4 2 2 1 0 5 1 3 3 3.773 |

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**Please indicate how relevant the field trip was to the following**

(1 = Not at all relevant, 5 = Extremely relevant)

| Relevant to course information & activities | 4 3 5 5 4 2 2 4 4 4 2 2 4 3 3 4 3 4 3 3 2 1 0 3 7 9 2 3.476 |
| Home country needs and situations          | 4 2 5 5 4 1 2 4 4 4 3 1 4 3 2 2 3 2 3 3 2 1 2 5 7 5 2 3.000 |
| Personal interests                         | 4 3 4 5 5 3 4 5 4 4 2 5 4 4 3 3 3 3 2 3 2 1 0 2 8 7 4 3.619 |

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**Average**

3.897
### Course Administration/Logistics

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<table>
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**AVERAGE** 3.596

(1) In what ways did the course differ from what you had expected?

"More time is devoted for lecturing (on) the subject matter (than expected)"

"We did not have enough time to practice on microcomputers, and I wished to know more about (software) packages and their uses."

"It was theoretical more than my needs."

"I expected all participants to be new to microcomputers like myself; and the course would be purely technical with few theories on subjects proper."

"There were a lot of economic lectures compared to computer applications."

"Time allocated for database is inadequate, need to cover dbase in addition to reflex."

"The course was more theoretical than I expected. Some lecturers have no good knowledge of developing countries conditions and could not deal with some specific problems."

"What (was) expected (is) not possible to show, but I like to say what (one) got or learned (was) good. But if the duration (of the course) is more then it would be more effective."

"I was expecting more microcomputers applications than agricultural economics."

"I do not expect economic theories being taught in this course."

"I am interested in development of project analysis."

"Too much theory. I was expecting to cover more software programs and not an economics theory course."

"I didn't learn TSP and Reflex more. These programs could help me to do what I need, especially crop forecasting and how to treat data."

"I was expecting more microcomputers applications than agricultural economics."

"I have expected pretty much what I found (as far as facilities, number of students and teachers.) I still think we could benefit if the students number was small (but everybody have to have opportunities)."

"No difference except that I did not expected some topics e.g. econometrics to be covered during this course."

"I was expecting a more uniform background in the participants, in agricultural economics or social sciences."

"In live with expectations."
"My expectation was OK. However I feel we should have allocated a little extra time to computer use and also time specifically to discuss our problems."

"I was expecting this course (would be) more concentrated on computer skills and not economics."

"The conception of the course is excellent (Lecture in the morning and practice in the afternoon). The instructors are available even at night. The course contents are also excellent. I was expecting something like that."

(2) At the beginning of the course or during the course did you discuss with the instructors how the course content would meet you specific needs?

"No, because we have (already) written a list of (our) needs. (So), I did (not) have to discuss my needs."

"The instructors treated the class as having the same background though personal help could be obtained when needed from the instructors."

"We made many suggestions that were never implemented."

"No, because I was not consulted when the programs were being prepared."

"Due to the large number of students, we discussed briefly in the beginning and myself had chances to discuss along the course running because I had brought some data."

"Yes, we filled out a questionair and also indicated some of our personal problems that necessitated why we were sent for the course."

"Yes, and they already have helped me with some books and information."

"No, I didn't have time to discuss that. But from the handout I had a clear idea of the outcome. To me without a strong background in Ag Econ, challenge is to come after this course. I will do the best I can to put in practice those well conceived materials that I have learned here. Only the future will tell."

(3) Which topics/activities of the subject matter covered in the course do you feel you will use most when returning to your country?

"Project analysis, because my everyday job is to make project analysis, monitoring and evaluation of the projects."

"Databases, because that's what I am working on by now."

"Linear programming and some functions in econometrics."
"LP & project analysis; project reports by use of database and budgeting."

"I will use spreadsheet (Lotus) and Reflex."

"LP, econometrics and Reflex -- the database manager."

"Lotus 1-2-3 for project preparation and analysis. Database management and reporting, MicroTSP for quantitative analysis (research)."

"Database, project analysis, budgeting, econometrics & project and investment cost."

"Lotus, budgeting and database softwares."

"Database, statistics, spreadsheets."

"Policy analysis and econometrics."

"Lotus, reflex for processing data."

"Project analysis, policy analysis and database."

"Project and investment analysis, Database management, policy analysis and budgeting."

"Use of PC computer as a tool in my job. The computer can help you but you have to know economics or whatever your field is."

"Lotus on cost-benefit analysis. TSP & regression. Reflex in managing data."

"Policy analysis, application of Lotus 1-2-3 and Reflex."

"Linear programming in solving some equations, database in management of data."

"Project analysis are budgeting are commonly used in the agricultural development bank where I am working."

(4) Which topics were most relevant to your country's conditions and to your role in your country's development?

"Project analysis."

"Policy analysis, project analysis, simulation and database."

"Project analysis & econometrics."

"LP & project analysis; project reports by use of database and budgeting."

"All topics were relevant."

"Database, project analysis, and Lotus 1-2-3."

"Use of Lotus 1-2-3 in agricultural project management and analysis."
"Database, project analysis, project investment and budgeting."
"Lotus and Reflex -- the database manager."
"Budgeting and database."
"All topics."
"Project analysis with Lotus."
"None."
"Policy analysis and econometrics."
"All topics."
"Project analysis, policy analysis, and budgeting."
"Project and investment analysis, Database management, policy analysis and budgeting."
"Policy analysis."
"Project analysis."
"Project analysis, policy analysis, regression, Lotus 1-2-3 and Database (Reflex)."
"Linear programming."
"All those topics are important to (my country), no doubt about that.

(5) What topics would you recommended be added to the course?
"Forecasting."
"Word processing."
"International trade in agriculture and the realization of the benefits of comparative advantage among developing countries."
"Cost analysis, project management and database."
"I will recommend to use plotters and visit microcomputer enterprise."
"Well, divide the course. Make one only with linear programming and econometrics."
"Use of word processors like wordstar or word perfect."
"Handling of (each) participant's unique problems."

(6) Would you recommend this course to other individuals with a background similar to yours?
"Yes, it is very useful."
"Yes, because this kind of course can improve the way one can do his job."

"No, (but) I would if the individual can obtain more information (about the topics) that I indicated before."

"Not if it is agricultural (economic) oriented course as it has been, (since) those (attend) should have economic background."

"Yes, because it gives a good opportunity to practice with the computer and refreshes the memory on economic theories."

"Yes, I am satisfied."

"Yes, because it is not difficult."

"Yes, if there isn't too much economic theory and there is enough computer practice."

"I think this course is very good and the way (it) is done is very good."

"Yes, course is very useful. Since many topics are covered, one is bound to grasp one or two topics helpful back home."

"Yes, I will recommend the course only for people with a background in economics ranking from good to very good."

"Yes, most of my colleagues have the same background would benefit from similar exposures."

"Yes, it gives an easy way of analyzing and dealing with agricultural problems."

"Yes, because it gives one that exposure to what you can use computer - hard and softwares in agriculture."

"Yes, because I learned many things about computers."

"Yes, the course is well designed. The only problem is the timing which is up to USDA."

(7) Please comments housing accommodations, training facilities, transportation, administrative & logistical help and arranged social activities.

"There is no bedsheets and other related facilities in the apartment. Slept without bedsheets, pillow and blanket for three days."

"Nothing to complain about administration and logistics."

"Housing accommodation is not furnished."

"Housing accommodation arrangement was unclear since we were treated as permanent students on cash deposits and still no proper arrangement for house inspection when leaving the apartments and therefore our cash deposits (were) left behind."
"The international center could do more to assist the participants."

"Participants should be given early information about housing, so that they can choose and check in as they arrive."

"Overall, it was a very good experience for me."

"The transportation have to be improved."

"Social activities were difficult to come by due to (1) most of (the) students (were) out of campus; (2) time is too short to make friendship with the locals and (3) Stillwater is very "quiet" in cultural activities. My social activities I have engaged outside the course participants and teachers, I did on my own and playing and doing sport."

"I expected the provision cf relevant text books and diskettes free."

"Arrangements were adequate enough."

"Arrangements for participants housing and needs were virtually absent. No pre-arrangements were made for transportation in Stillwater, taking into considerations the absence of public transport in the town. No telephone facilities in married student housing."

"There should be special arrangements/regulations regarding short courses on housing rules, transportation and logistics."

"The worst thing is the social activities, there is nothing at all."

"Some programming languages such as FORTRAN, Basic, Pascal etc."

(8) Comments on STOECKER.

"He did everything well."

"I would (like him) if he speaks clearly (so that I can) understand and make use of his ability."

"He has been exposed to few developing countries, he needs to have many examples from developing countries but (he is) excellent at computers."

"Excellent professor."

"His third world experience was useful."

"More about country's situations could have been possible if there were enough time. There were no time for country comparisons."

"We have learned the fact that how excellent is Dr. Stoecker."

"Excellent job."

"Good assistance."

"Needs to be exposed to data from developing countries."
"Excellent participation during the course."

"He is generally good. As he deals mainly with computers it is difficult to assess his abilities to relate subject to developing countries."

"He is well organized, matured and stable in all his undertakings."

"He is very good instructor."

"Time was short, so we didn't have time to discuss country's situation, otherwise he will."

(9) Comments on LI.

"He did everything well."

"I would like him if he encourage participants to discuss their countries' situations."

"He needs to have some specific examples from developing countries, but he is excellent at computers."

"Need to be open to participants suggestions for smooth operations of activities."

"More about country's situations could have been possible if there were enough time. There were no time for country comparisons."

"In the true sense of the term, Dr. Elton Li is too helpful for us and excellent for (the) participants."

"Excellent job."

"Should put more energy in teaching; try not to lose temper."

"Good assistance and he likes computer too much. I need him to do some work for my country."

"Needs to slow down when explaining difficult things."

"Excellent participation in and out of classroom."

"He deals mainly with computers and this is based on theory presented by other lectures, so it is difficult to assess him on basis of ability to relate to developing countries. He is generally good."

"Highly adaptable to all conditions. His is indeed an computer man. Computer made simple is his name."

"He is very good instructor."

"Time was short, so we didn't have time to discuss country's situation, otherwise he will."

(10) Comments on TWEETEN.
"He needs to be sure of what he speaks about, especially when a country is compared to another economically. He should not draw conclusions extravagantly."

"I gained a lot from his instruction."

"Very articulate in his presentation."

"Excellent."

"He is very good. I enjoyed his lectures."

"No commentary"

"He is one of the best tutors I have ever had."

(11) Comments on KLETKE.

"His subject was well presented."

"He needs to learn more on developing countries with specific examples."

"The chapter on enterprise budgets did have LDC examples, need to include them."

"Excellent."

"Not so good."

(12) Comments on EPPLIN.

"Excellent"

"Need one more day to look at scenerios when LP assumptions do not hold. Excellent professor."

"Not much time for country specifics, was very articulate and kept his lectures lively throughout."

"Quite good. Very short time to go into theory because LP is a difficult subject."

"One of my best tutors met - I love him."

(13) Comments on SCHREINER.

"He should draw conclusions with specific examples from developing countries."

"Need the chapter."

"Instructor/lecturers should have very good knowledge of developing countries problems and be able to relate it to the course instructions."
"His topics are good and relevant to our course."

"Excellent job."

"No commentary."

"Quite O.K. Needs to relate subject to developing countries because our situations are quite different from the US situations."

(14) Comments on TRAPP.

"He needs many examples from developing countries."

"Had a difficult topic. Did his best with little humor."

"Excellent, but I am not capable to understand his class."

"Should care about the understanding of the material."

"A difficult subject, but he did his best to present it."

"His subject acceptably is not easy. He made commendable effort within the limited time."

(15) Comments on RAY.

"He needs to digest the needs of the participants especially with those (who) have had no background on subject."

"His classes were very useful."

"Very articulate in his presentation."

"Excellent."

"Excellent professor. Extremely good ability to explain a very complicated subject to a group with almost no previous background in economics."

"Quite good, but we should have done a little more of forecasting."

"He is a sound teacher but we had very little practical (computer demonstrated) example."