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REPORT ON THE NATIONAL TRAINING WORKSHOP ON THE USE OF
THE COMPUTER FOR PROJECT ANALYSIS

Baghdad, 17-28 November 1985

November 1985

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1. Introduction

A national training workshop on the use of computers for project analysis, organized by the Economic and Social Commission for Western Asia (ESCWA) in co-operation with the National Institute for Planning of Iraq and the Development Policy Studies and Training Service of the Food and Agriculture Organization of the United Nations (FAO), was held from 17 to 28 November 1985 at ESCWA headquarters in Baghdad.

The workshop was opened by the Deputy Executive Secretary of ESCWA. In his inaugural address, he reviewed the historical development of FAO training activities in different parts of the world and in the Middle East region in particular. He also focused on the training needs of Iraq in project analysis and the efforts of the National Institute for Planning to meet those needs. He welcomed the participants and expressed the hope that the workshop would be successful in achieving its objectives.

The objectives of the workshop were: to improve and strengthen the knowledge and skill of Iraqi participants from various ministries and semi-governmental organizations in the preparation and analysis of agricultural and rural development projects; and to enhance the understanding and skills of participants in the use of micro-computer hardware and the Project Data Analysis and Simulation (DASI) software, which improves the quality and speed of analysis in project preparation work.

2. Participants

Seventeen Iraqi trainees from different governmental and semi-governmental offices participated. They were from the Ministry of Planning, the National Institute for Planning, the Ministry of Agriculture and Agrarian Reform, the Ministry of Irrigation, the Ministry of Finance, and the Ministry of Local Government (for the full list of participants see annex I). Selection of the participants was undertaken by the National Institute for Planning.

3. Training Staff

The instructors included staff from the National Institute for Planning of Iraq; the Arab Planning Institute, Kuwait; the FAO Development Policy Studies and Training Services; the Bureau pour le développement de la production agricole (BDPA), Paris; and ESCWA. The training and resource personnel consisted of the following:

Joint ESCWA/FAO Agriculture Division

Mohmoud Sherif	Director
Mahmood Ahmad	Co-ordinator/Instructor
Hubert Escaith	Instructor
Iman Nuwayri	Instructor

National Institute for Planning

Ismail Hamadi
Chief, Agriculture Division

Instructor

Ahmad Brohi
Economist

Instructor

Other international organizations

Carlo Cappi
Economist
Development Policy Studies and
Training Service, FAO

Instructor

Kamal Mahmoud
Economist
BDPA

Instructor

Halim Hamid
Economist
Arab Planning Institute, Kuwait

Instructor

For the topics assigned to the training and resource personnel, see the annex II.

4. The course

The DASI workshop was divided into three main parts:

- (a) A brief review of concepts and methods used in project analysis;
- (b) An introduction to the computer and the DASI package;
- (c) A case-study of the Wadi Hadramaut project (Democratic Yemen).

4.1 Review of concepts and methods used in project analysis

The review of concepts and methods used in project analysis was covered in five two-hour sessions. The section was divided into two parts, the first providing an introduction to project analysis and the second dealing with farm income and budget analysis. The staff provided by the National Institute for Planning was responsible for coverage of these topics.

The subsection on project analysis introduced the concept of the project cycle and touched briefly on the processes of project identification, preparation, implementation and monitoring. The different stages involved in the preparation of technical and economic feasibility studies and the relationship between these stages were discussed. The concepts of project selection criteria, sensitivity analysis and project ranking were discussed in order to prepare the trainees for a better and more rapid understanding of the DASI project analysis package.

The second subsection was devoted to a review of farm budget preparation for project analysis. The lectures were divided into two parts. The first part dealt with a review of the basic concepts used in the analysis of farm and agricultural enterprises, including analysis of cost of production, profitability and revenues, partial budget analysis, and break-even analysis. The second part covered the development of cash flows for "with" and "without" project situations and the calculation of project selection indicators.

4.2 Introduction to the computer and the DASI package

One session was devoted to providing an introduction to the use of micro-and mainframe computers. The staff of the ESCWA Electronic Data Processing and Information Systems Section explained the different components of the computer and the requirements for data format and gave practical demonstrations of computer use.

The DASI computer program for project analysis was introduced to trainees in eight session devoted both to class work and computer demonstrations. The basic concepts of DASI were explained, thus enabling the trainees to understand how to organize project data in a form suitable for use of the model.

OVERVIEW OF THE USE OF DASI IN PROJECT ANALYSIS

The procedure involved in using the DASI computer program for project analysis is described in the following five steps and illustrated in figure I. These steps were explained in greater detail to trainees.

Step 1 Organize the project data into the form required by DASI

All the inputs and outputs of the project have to be defined in terms of the following four categories: commodities, investments, activities and plans.

Step 2 Fill in the blank formats provided with project data

There are four different types of format, one for each of the four categories defined above. Feed the data, which are now in the required form, into the computer

Step 3 Obtain the first print-outs from the computers, showing:

The data bank;

The total quantities of the different inputs/outputs used/produced;

The total values of the different inputs/outputs used/products.

Step 4 Define any further calculations required, for example, as follows:

Specific aggregations of commodities into new variables such as foreign exchange, total production, etc.; calculation of present values, switching values, IRRs; sensitivity tests, credit and tables.

Step 5 Obtain the print-out of the calculations specified in step 4

The trainees were asked to enter data on the blank formats provided for commodities, activities, and plans for the NGAMO* project. This was a simple case-study prepared with the object of illustrating the use of DASI in project analysis and giving trainees an opportunity to experiment with the programs. It also helped explain how to apply the program, step by step, to a set of real project data. Once the trainees had entered the data on the appropriate format and the data had been fed into the computer, the main operations performed by DASI were explained, namely calculation of the quantities and values of project inputs/outputs and determination of the technical parameters and total costs and benefits of the project for each year of project life. It was then explained how DASI provided the possibility of fully exploiting the information they had fed into the computer so as to produce and analyse a number of indicators qualifying the performance of the project. At this point, NGAMO 2 was presented to the trainees in order to introduce the concepts of investment and credit into the DASI exercises.

4.3 Case-study on Wadi Hadramaut

Five sessions were devoted to the presentation of a multi-stage case-study on the Wadi Hadramaut agricultural project in Democratic Yemen. The objectives of the case-study were to show the trainees the methods of project evaluation by using an existing development project in an Arab country as an example and to acquaint trainees with the use of DASI for project evaluation and analysis, thereby showing the efficiency of this computational method.

The case-study was presented in two documents; the reference document, referred to as D1; and the pedagogical structure of the study and its progressive plan, referred to as D2.

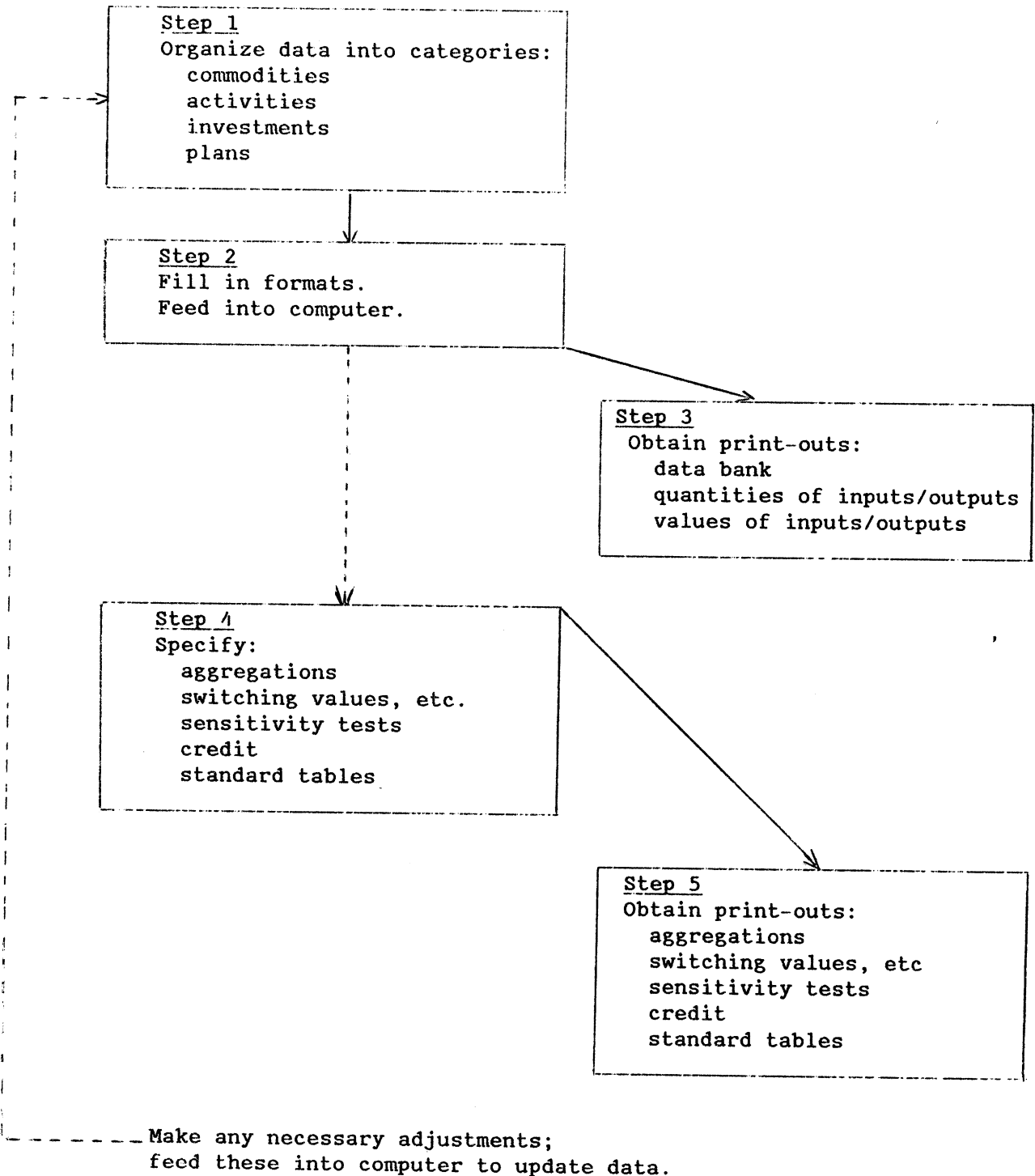
Document D1 is the principal document of the case-study. It contains background information on the Hadramaut region, its location, population, water resources and agricultural activities, and shows its importance for Democratic Yemen's economy and employment situation. The document also contains information on the two phases of the project and on its economic and financial evaluation and gives a detailed description of the project and its organization and management.

The workshop used document D1 as a basic text and each stage was composed of several sequences corresponding to a certain number of pages in the document. The trainees were asked to read the few pages relating to each sequence at the beginning of the lecture, bearing in mind that they were going to learn specific skills in project analysis rather than the subject-matter itself.

From the case-study, certain topics were chosen which play a crucial role in the development of the Wadi Hadramaut area. The exercises were solved either in groups or individually. By confronting different solutions, the

* Source: FAO, DASI User's Guide (Rome, 1984), p.3.

Figure I. DIAGRAM OF STEPS IN USING DASI



Source: FAO, DASI User's Guide (Rome, 1984) p.4.

instructor encouraged trainees to participate directly in discussion. In addition to lectures and exercises, other pedagogical support materials were used, such as maps, graphics and tables.

A general idea of the Wadi Hadramaut region was provided to trainees at the beginning of the course through an audio-visual presentation.

A training guide was also developed and used for the workshop. The main objective of the guide was to enable the instructor to develop the course on the multi-stage case-study of the Wadi Hadramaut agricultural project in an autonomous manner. For this purpose, the instructor was expected to use document D1, document D2, containing the pedagogical structure of the course and its progress plan, and other material necessary for the conduct of the course (pedagogical support materials, exercises, solutions, maps, graphics, etc.).

Document D2 was used in the workshop to indicate to the instructor the methodology to be followed during the course; to show the study outline and the pedagogical progress to be achieved; to provide the instructor with the training material necessary for the realization of the objective (including pedagogical material, exercises and solutions).

Document D2 emphasised the division of the course into pedagogical stages, the place of each stage in the course and the progress made from a pedagogical point of view. Since the stages represented new steps in the teaching process, each new stage was required to have a precise objective teaching new techniques in project analysis and evaluation. In order to attain its objective, each stage included one or more sequences of work. Each sequence had a pedagogical note giving the duration, objectives and development of the sequence, the pedagogical material to be used, exercise(s), solution(s) and instructions for the user.

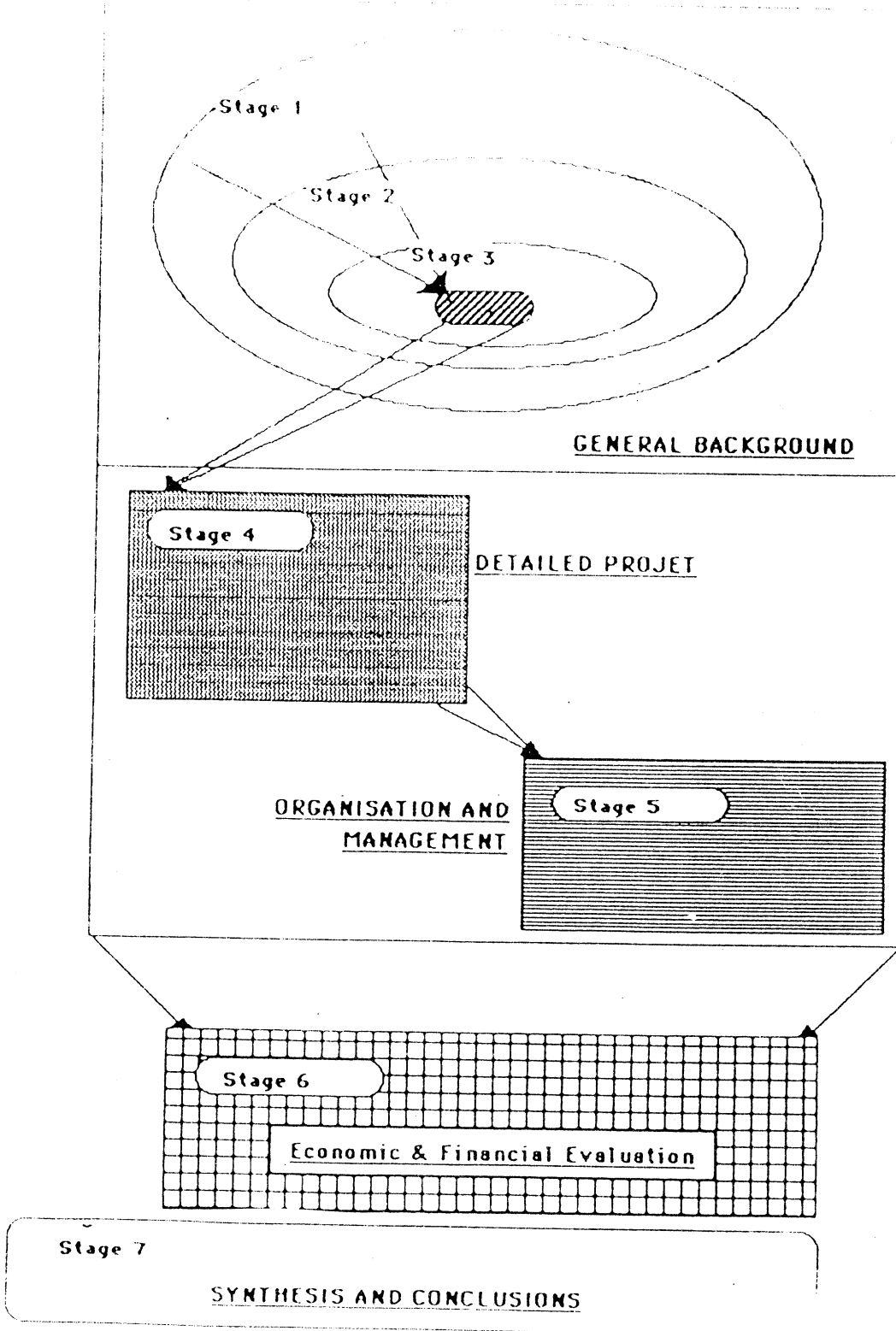
The multi-stage case-study of the Wadi Hadramaut agricultural project was divided into seven successive pedagogical stages, each representing a new phase in the training programme and having a precise pedagogical objective. Each stage was composed of one or more work sequences. A pedagogical memorandum corresponded to each sequence and contained the information given in the instructor's guide.

The following stages were established for the case-study,

- (a) Background on Democratic Yemen and the Wadi Hadramaut area;
- (b) The main physical, agricultural and socio-economic features of the Wadi Hadramaut area;
- (c) Food consumption and production in Wadi Hadramaut;
- (d) Constraints strategies and proposals for agricultural development in the area;
- (e) Project organization and management;
- (f) marketing and price policy and project evaluation;
- (g) Synthesis and conclusions.

These stages are also elaborated in figure 2 below.

Figure II. GENERAL OVERVIEW OF THE CASE-STUDY



Source: FAO, Wadi Hadramaut Multi-stage Case-study: Trainer's Guide (Rome, 1985), Ch,II, p.6.

5. Course evaluation

Two separate evaluations were carried out to determine the effectiveness of the workshop:

- (a) An evaluation of the DASI package;
- (b) An evaluation of the case-study used to illustrate the DASI package.

5.1 Evaluation of the DASI package

The participants were asked the following questions:

1. Much too short;...; 5. Much too long.

- 1. xxxxxx xx
- 2. xxxxxx x
- 3. xx
- 4.
- 5.

2. How did you find the presentation of the formats?

1. Too much time devoted to presentation;...; 5. Too much discussion.

- 1.
- 2. xx
- 3. xxxxxx x
- 4. xxxxxx x
- 5. xx

3. How was the presentation of material organized?

1. Unclear/disorganized;...; 5. Clear/organized.

- 1.
- 2. x
- 3. xxxxxx
- 4. xxxxxx x
- 5. xxx

4. How valuable were the exercises?

1. Useless;...; 5. Very valuable/informative.

- 1. x
- 2. x
- 3. xx
- 4. xxxxxx xx
- 5. xxx

5. How did you find the use of the computer?

1. Too much time devoted to it;... ; 5. Too much discussion.

- 1.
- 2. xx
- 3. xx
- 4. xxxx
- 5. xxxxx xx

6. How did you find the application of DASI to the computer?

1. Very difficult;...; 5. Very easy.

- 1. x
- 2.
- 3. xxxxx xxxx
- 4. xxx
- 5. x

7. How do you rate the amount of time made available for the use of the computer?

1. Far too little;...; 5. Far too much.

- 1. xxx
- 2. xxxxx xxxx
- 3. xx
- 4.
- 5.

8. Do you think the content of the lectures was too complex?

1. Far too little so;...; 5. Far too much so.

- 1.
- 2. x
- 3. xxxxx xxxxx xxx
- 4.
- 5.

9. How do you rate the balance between lectures and discussion/practice?

1. Far too much discussion/practice;...; 5. Far too many lectures.

- 1.
- 2. xx
- 3. xxxxx xxxxx x
- 4. x
- 5.

10. How do you rate the quality of presentation of the sessions?

1. Very poor;...; 5. Most excellent.

- 1.
- 2.
- 3. x
- 4. xxxxxx xxxx
- 5. xxxx

11. How do you rate the value of the discussions for deepening your understanding of the subject-matter?

1. Useless;...; 5. Essential.

- 1.
- 2. x
- 3. xx
- 4. xxxxxx xx
- 5. xxxx

12. How do you rate the importance of the subject-matter for your own work?

1. Very low;...; 5. Very high.

- 1.
- 2. xx
- 3. xx
- 4. xxxxxx x
- 5. xxxx

13. How do you rate the relevance of the background material to the subject-matter treated?

1. Very low;...; 5. Very high.

- 1.
- 2.
- 3. xxx
- 4. xxxxxx xx
- 5. xxxx

14. Did the stated objectives of the workshop correspond to the outcome?

1. No correspondence;...; 5. Workshop delivered what was promised.

- 1.
- 2. xx
- 3. xxxx
- 4. xxxxxx x
- 5. xx

4. Number of exercises.

- 1. Too few. xxxxxx x
- 2. Sufficient. xxxxxx xxxxx
- 3. Too many. x

5. Quality of exercises.

- 1. Good. xxxxxx xx
- 2. Fair. xxxxxx xx
- 3. Poor. x

6. The Wadi Hadramaut project.

(a) Was it appropriate as a case-study?

- 1. Yes. xxxxxx xxxxxx xxx
- 2. No.

(b) Was it representative of agriculture?

- 1. Yes. xxxxxx xxxxxx xx
- 2. No. xxx

(c) Did the case-study have enough data for purposes of project analysis?

- 1. Yes. xxxxxx xxxxxx xx
- 2. No. x

7. Was the case-study useful as teaching material?

- 1. Yes. xxxxxx xxxxxx xx
- 2. No.

8. Was the case-study useful in relation to your work?

- 1. Yes. xxxxxx xxx
- 2. No. xxxxx

9. Participation of trainees in discussions.

- 1. Poor. xx
- 2. Moderate xxxxxx xxxxxx
- 3. Adequate. xxx

10. Give the names of some projects in Iraq that might be used as case-studies:

Irrigated project	Rain-fed project	Livestock production project
Complex of Dujaila; the agro-industrial project 2	Northern Jezira, Mosul 1	Cattle projects
Jezira irrigation project, Mosul 2	Zawitah project 1	State Poultry Enterprise, Central Region 1
Ishaki project 2		Al-Whahdah project 1
Delmij project 1		
30 July project 1		

The evaluation of the DASI part of the workshop indicated that trainees rated overall performance and the substance of the exercises covered as very good to excellent. The content of the lectures and the balance between lectures and discussions were also rated as ideal. A majority of the trainees assessed the subject-matter covered in the workshop as being highly relevant to their own work. The trainees made it clear that the overall time devoted to the workshop, and to the computer in particular, was too short.

The evaluation of the case-study indicated that the trainees were unanimous that the explanation of the case-study in given Arabic was clear and that the case-study itself provided useful teaching material. An overwhelming majority indicated that the training methods used were good to fair and that the numerical exercises presented to the class were adequate. A majority indicated that the time devoted to the case-study was too short.

6. Conclusions and recommendations

1. The workshop represented a complete training course on a very specialized field, at a minimal cost and with an apparent high payoff in terms of benefits to a member country.

2. The workshop provided only introductory training on the DASI software package and it would be most beneficial to hold an intensive workshop in the 1986-1987 biennium. The possibility of organizing a regional or subregional workshop on DASI should also be explored.

3. More financial resources should be committed to the support of training programmes, not only in project analysis but also in other areas of agricultural planning such as the use of computer in demand/supply projection and sectoral analysis. There is an urgent need to train planners in these areas.

4. In the light of the evaluation of the DASI workshop, the training period for the projected intensive workshop should be increased to three or four weeks.

5. A multi-stage case-study selected from one of the agricultural countries of the region should be developed as training material for DASI. The work can be completed in co-operation with other regional training and funding agencies and FAO headquarters.

7. Closing session

At the closing session, the Executive Secretary of ESCWA thanked the staff of the National Institute for Planning of Iraq and of the FAO Development Policy Studies and Training Service for making the workshop a success. He pointed out that it had been an introductory workshop and that an intensive workshop had been envisaged by ESCWA in its 1986-1987 work programme. He distributed certificates of attendance to the participants.

Annexes



Annex I

LIST OF PARTICIPANTS

Name	Age	Degree	Position	Place of employment
1. Mr. Mahir Nur-Aldin Rasheed	42	B.A. Economics	Director of Research	Ministry of Planning
2. Mr. Hassan A. Hassan	31	B.Sc. Agriculture	Auditor	National Institute for Planning
3. Ms. Raghda A. Rasool	28	B.A. Statistics	Research Officer	National Institute for Planning
4. Ms. Hidood F. Abbas	29	B.A. Economics	Research Assistant	National Institute for Planning
5. Ms. Shemal H. Hemood	25	B.A. Accounting	Assistant Auditor	Ministry of Planning
6. Ms. Wethba A. Mohamed	27	Higher Diploma	Research Assistant	National Institute for Planning
7. Ms. Suhaila F. Rifaat	33	B.A. Statistics	Research Officer	National Institute for Planning
8. Mr. Mohamed M. Khanjer	30	M.A. Economics	Research Officer	Ministry of Planning
9. Mr. Ahmed R. Abdul-Khadir	40	M.A. Economics	Research Officer	Ministry of Irrigation
10. Ms. Thikra Abbas	25	B.Sc. Agriculture	Assistant Agricultural Engineer	Ministry of Agriculture and Agrarian Reform
11. Mr. Saadi U. Hassan	32	B.A. Statistics	Research Officer	Ministry of Planning
12. Ms. Ifthkar J. Kazim	25	B.Sc. Agriculture	Assistant Agricultural Engineer	Ministry of Irrigation
13. Ms. Amal J. Faris	32	B.A. Statistics	Superintendent	Ministry of Planning
14. Ms. Sena A. Abdul-Aziz	33	B.Sc. Agriculture	Assistant Agricultural Engineer	Ministry of Agriculture and Agrarian Reform
15. Ms. Muna A. Takki	32	Diploma in Statistics	Research Assistant	National Institute for Planning
16. Ms. Ibtihaj S. Behaa	26	B.A. Economics	Research Assistant	Ministry of Local Government
17. Mr. Saad A. Ksara	37	B.Sc. Economics	Research Assistant	Joint ESCWA/FAO Agriculture Division

Annex II
SCHEDULE

FIRST WEEK		17 November	18 November	19 November	20 November	21 November	22 November
Day	Time	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
	9.00 - 11.00	Registration Inauguration	Introduction to concepts and methods in project analysis; financial and economic analysis. Ismail Hamadi	Introduction to concepts and methods in project analysis; agricultural project income and budget. Ahmad Brohi	Introduction to concepts and methods on project analysis; agricultural project income and budget. Ahmad Brohi	Introduction to DASI; use of micro computers in projects analysis. Carlo Cappi Halim Hamid	
	11.15	BREAK	BREAK	BREAK	BREAK	BREAK	
	11.15 - 1.30	Introduction to concepts and methods in project analysis; financial and economic analysis. Ismail Hamadi	Introduction to concepts and methods in project analysis; financial and economic analysis. Ismail Hamadi	Introduction to concepts and methods in project analysis; agriculture project income and budget. Ahmad Brohi	Introduction to concepts and methods microcomputers. Iman Nowayri	Case-study on Wadi Hadramaut, Democratic Yemen Kamal Mahmoud	Holiday

SECOND WEEK

Day	23 November	24 November	25 November	26 November	27 November	28 November
Time	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday
9.00 - 11.00	Introduction to DASI; input data and format filling; demonstration on the computer; NGAMO 1 case-study. Carlo Cappi Halim Hamid Hubert Escaith	Holiday	Introduction to DASI; computer data entry; group work on computer. Carlo Cappi Halim Hamid Hubert Escaith Ahmad Mahmoud	Introduction and discussion of input/output data; group work on computer. Carlo Cappi Halim Hamid Hubert Escaith Ahmad Mahmoud	Introduction; NGAMO 2 case-study group work on computer. Carlo Cappi Halim Hamid Hubert Escaith Ahmad Mahmoud	Introduction; results and discussion of NGAMO 2 case-study. Course evaluation. Carlo Cappi Halim Hamid Hubert Escaith Ahmad Mahmoud
11.15 - 11.30	BREAK	BREAK	BREAK	BREAK	BREAK	BREAK
11.30 - 1.30	Case-study on Wadi Hadramaut, Democratic Yemen. Kamal Mahmoud	Holiday	Case-study on Wadi Hadramaut, Democratic Yemen. Kamal Mahmoud	Case-study on Wadi Hadramaut, Democratic Yemen. Kamal Mahmoud	Group work on computer on NGMO 2 case-study. Carlo Cappi Halim Hamid Hubert Escaith	CLOSING SESSION

