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FINAL REPORT
ON
THE FINANCIAL ANALYSIS OF INDUSTRIAL PROJECTS
AND
THE APPLICATION OF UNIDO COMPUTER MODEL FOR
FEASIBILITY ANALYSIS AND REPORTING (COMFAR)

UC/RAB/85/099/11-51
HELD IN BAGHDAD, IRAQ
FROM APRIL 11 TO APRIL 29, 1987
AT THE
ARAB INDUSTRIAL DEVELOPMENT ORGANIZATION

Baghdad
Prepared by:
T. ORFALY - UNIDO CONSULTANT

I. Introduction and immediate objective of the project

The seminar on financial Analysis and the Application of the UNIDO Computer Model for Feasibility Analysis and Reporting (COMFAR) was organized at the request of the Arab Industrial Development Organization (AIDO), by the United Nations Industrial Development Organization (UNIDO). This workshop was held at AIDO headquarters in Baghdad, Iraq from 11 April to the 29 April 1987.

Its immediate objective was to present UNIDO methodology in project evaluation, applying its approach in financial analysis, and training AIDO participants in the application of COMFAR to execute the financial tables and necessary schedules of industrial project evaluation..

The Iraqi Ministry of Industry (light industry) and the Ministry of Industries and Minerals (heavy Industry) delegated two participants each to the seminar. AIDO participants numbered 5 for a total of 9 participants, of whom 7 were engineers and two economists. A list of the participants names, their respective department or ministry is attached as annex 1.

The daily attendance for 8 participants over the three weeks course was 100%. The 9th participant, the director of planning and follow-up participated as much as time permitted him to do so.

II. Development objective of the project

The project development objective was to contribute to the reinforcement of AIDO institutional capabilities in the field of financial analysis, project formulation and appraisal, and the introduction of COMFAR in the evaluation process of its industrial projects. In turn, this would assist in the standardization of the project appraisal method and through COMFAR, accelerate the analysis process enabling AIDO to examine a wider range of project alternatives. These objectives benefited as well the two ministries referred to earlier.

The training for the selected number of professionals in financial analysis and COMFAR covered:

- 1- The presentation of financial analysis principles with an overview of the financial statements and the explanation of a number of key financial ratios and their significance,
- 2- The presentation of UNIDO methodology in the formulation and appraisal of industrial projects,
- 3- The presentation and detailed explanation of the Financial Evaluation chapter of the "Manual for the Preparation of Industrial Feasibility Studies" of UNIDO, the implication and interconnection of all the financial tables, the method of their preparation, their significance and their interpretation,

- 4- The presentation of concrete cases experienced by the consultant to clarify the content of the subjects presented,
- 5- The training of the participants in solving exercises in:
 - a) Financial Mathematics,
 - b) Computation of the cost of capital
 - c) Implementing all the financial tables of the case study "Silicon Carbide" and interpreting the results,
 - d) Computation of key financial ratios applied to the Silicon Carbide case study and their significance,
- 6- The presentation of a general overview of COMFAR and the use of personal computer,
- 7- The presentation of the full range of COMFAR,
- 8- The application of two case studies: the Silicon Carbide and the Manual textile case to COMEAR and sensitizing certain values.

At the request of the director planning and follow-up, Mr. Mohamed Said Ali, the seminar programme was expanded to cover the remaining chapters of the Manual of Industrial Feasibility Studies. The additional chapters covered were:

- 9- The project cycle,
- 10- The market study,
- 11- The project engineering

III Scope of the seminar

The seminar programme was set in accordance with the terms of references before the arrival of the consultant to AIDO. Once in Baghdad, the seminar contents was expanded at the request of AIDO and its timing amended to the following:

Saturday 11 April:	9:00 to 11:30
Sunday 12 to Wednesday 15 April:	9:00 to 10:30
	10:45 to 12:45
	13:00 to 14:00
Saturday 17 to wednesday 22 April	9:00 to 10:30
	10:45 to 12:45
	13:00 to 14:00
Saturday 25 to wednesday 29 April	8:00 to 15:00

The remaining time of Saturday 11 April was taken for the preparation of the conference room, the necessary logistic support, photocopying the handouts and the documents to be distributed to participants.

In total 75.5 hours of lectures and training were delivered in addition to 1.5 hour for the opening ceremony. The time distribution on the main chapters was as follows:

<u>CHAPTERS</u>	<u>no of Hours</u>	<u>% time</u>
1- Project cycle	1.5	2%
2- Market Study	4.5	6%
3- Project Engineering	7.5	10%
4- Introduction to accounting (financial statements review + case study)	4	6%
5- Principles of present value (Financial mathematics+ cost of capital exercises)	2.5	3%
6- Financial analysis of industrial projects + case study	10	13%
7- Interpretation of the financial statements and financial ratios + case study	3	4%
8- Goals and Functions of finance, financial evaluation under uncertainty	3	4%
9- General overview of COMFAR and the use of the Personal Computer	1.5	2%
10- Demonstration of the full range of COMFAR (data entry, calculation and reporting systems)	3	4%
11- COMFAR application of two case studies and the sensitivity analysis and interpretation	35	46%
	<u>75.5 Hours</u>	<u>100%</u>

The breakdown in percentage of the total available time was distributed as follows:

- Lectures and discussions	34%
- Exercises manually and on computer	66%
	<u>100%</u>

The computer time and application of COMFAR was distributed as follows:

- Technical aspects	5%
- Data entry system	40%
- Calculation system	5%
- Reporting system	50%
	<u>100%</u>

Each participant had access for training on the personal computer and the execution of two case studies namely "The Textile case study in the UNIDO Manual and the Silicon Carbide case study. Several printouts were made for the TABI and schedules and the results compared and checked to detect entry errors. Also interpretation of the results (financial statements, ratios and other tables) were made to reach the conclusions and recommendations of the participants on these two case studies.

IV. Documents and materials distributed to the participants

The following materials and documents were distributed to the participants:

- 1- The seminar programme, (annex 2),
- 2- The manual for the preparation of industrial feasibility studies,
- 3- Discount tables (annex 3),
- 4- Handout notes on accounting principles, financial ratios, financial mathematics, principles of present value, project appraisal, etc. (annex 4),
- 5- The Silicon Carbide case study (annex 4),
- 6- Method of computation of the cost of capital, case study (annex 5),
- 7- COMPAR user manual,
- 8- COMPAR general overview and composition (annex 6),
- 9- COMPAR data input sheets,
- 10- COMPAR schedules and TABI of the two case studies.

Also remitted to the director planning and follow-up the 2.1 COMPAR diskettes, two arabic version of the "Manual for the Preparation of Industrial Feasibility Studies", two English copies of the "Manual for the Preparation of Industrial Feasibility Studies and two English Guide to Practical Project Appraisal (cost/benefit analysis)

V. Seminar evaluation

Participants were mainly in the engineering field and their experience level was uneven. As a result, the presentation of the subjects was adapted according to their grasping the subject under presentation.

During the sessions, the participants were encouraged to raise questions which created a very profitable exchange and which served the purpose of clarifying the subject and expose procedures and facts. Moreover, participants were questioned on substance under presentation to expose the rationale for a particular treatment. These approaches served in maintaining a constant high level of attention to the substance presented during the sessions.

In light of the questions raised, the responses obtained from the participants, the discussions, the exercises and the training on the personal computer, it's clear that the seminar has attained all the objectives set to meet in the terms of references.

Also, the seminar was appraised by the participants and they registered a high degree of satisfaction. Furthermore, it has been highly praised for its positive contribution that it brought to them and hence, could be qualified as a resounding success.

VI Recommendations

- 1- The adoption by AIDO of the UNIDO methodology to become the standard norm in project evaluation,
- 2- The request by AIDO in the terms of reference that institutions presenting feasibility studies, follow UNIDO methodology in project evaluation, in order to standardize the evaluation process and facilitate the application of COMFAR,
- 3- The adoption by AIDO of the UNIDO COMFAR software for project evaluation and hence, the generalization in the use of personal computer by its staff in the process of project appraisal,
- 4- The follow-up of this seminar by another one to assist AIDO in examining the progress of the introduction of UNIDO methodology and the implementation of COMFAR to AIDO projects,
- 5- AIDO obtaining from UNIDO, COMFAR graphix which has already been developed,
- 6- UNIDO participation with AIDO in:
 - The appraisal of new project to assist in the gradual introduction of its methodology,
 - Rehabilitation appraisal of ailing projects,
 - Assistance in specific technical aspects of projects,
 - Formulation and elaboration of new projects,
- 7- Providing each project evaluator with table of discount, annuities, etc.

VIII. Acknowledgement

The consultant expresses his gratitude to the Arab Industrial Development Organization officials for all the assistance, facilities and logistic support provided during the seminar which made of it a very successful one. Special thanks are extended to Mr. Mohamed Said Ali, director of planning and follow-up, for his overall guidance and support, to Mrs. Ferial Abou Zeid, economist, who's daily follow-up and assistance in many aspects, provided the necessary ingredient to an effective seminar.

The consultant also presents his thanks to the UNDP resident representative in Baghdad and UNIDO programme officer. Special thanks are extended to Mr. W. Behrens, head of the Feasibility Studies Section and Mr. G. Rezek, backstopping officer of this project at UNIDO headquarters in Vienna, who organized this workshop and who's guidance and assistance contributed to its success.

ANNEX I

LIST OF PARTICIPANTS

<u>NAME</u>	<u>SPECIALIZATION</u>	<u>FIELD OF WORK OR DEPARTMENT OF</u>
1. FERIAL SALAH ELDIN ABOU ZEID	ECONOMIST/ANALYST COMPUTER PROGRAMMER	PLANNING AND FOLLOW-UP DEPARTMENT (AIDO)
2. ABDUL MALIK AL-KADHILI	CIVIL ENGINEER	TECHNICAL & SECTORIAL DEVELOPMENT DEPT. (AIDO)
3. DHIA JALIL EBRAHEM	CIVIL ENGINEER	MINISTRY OF HEAVY INDUSTRIES ENGINEERING COMPANY OF INDUSTRIAL DESIGN AND CONSTRUCTION/DESIGN DIVISION
4. SAHIRA ABASS AHMED	CHEMICAL ENGINEER	MINISTRY OF INDUSTRY STATE COMPANY FOR INDUSTRIAL STUDIES DEPT.
5. ANAHIT RUBEN GARABET	CHEMIST	MINISTRY OF INDUSTRY STATE COMPANY FOR INDUSTRIAL PROJECTS STUDIES DEPT./DOCUMENTATION DIVISION
6. JENAN AZIZ ABD AL-HAMID	AGRICULTURE ENG.	MINISTRY OF HEAVY DEPT. OF STUDIES
7. DR. ABDULFATTAH ABUBAKR	INDUSTRIAL ENGINEERING	PRODUCTIVITY DEPT. (AIDO)
8. AHMED ABBAS ABBAS	PRODUCTION ENGINEER	TECHNICAL AND SECTORIAL DEVELOPMENT DEPT. (AIDO)
9. MOHAMMED SAID ALI	ECONOMIST	DIRECTOR PLANNING & FOLLOW-UP (AIDO)