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UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANISATION

TRAINING WORKSHOPS IN APPRAISAL OF
INVESTMENT PROJECTS
with application of
" COMFAR III Expert "

UNIDO / TACIS

ALMATY, AKMOLA

KAZAKHSTAN

18 March - 17 April 1996

FINAL REPORT

Prepared by

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Back-stopping Officer: L. Kurowski

April 1996

I. PROJECT BACKGROUND.

This mission comprised two training workshops of two weeks' duration in Kazakhstan. The Training Workshops on Investment Project Appraisal and the application of COMFAR software were organised by EU TACIS Programme. Almaty. and UNIDO..

The first Workshop, concentrating on the applications of COMFAR software for investment projects' appraisal was the fourth module of the comprehensive training programme. introduced in Kazakhstan by the PIPM TACIS Programme and implemented by UNIDO over the period: November 1995 - March 1996, which dealt in detail with various aspects of the investment projects' preparation, appraisal and implementation. The former three Workshops covered respectively: project development cycle, financial and economic appraisal and project implementation.

The second Workshop, located in Akmola - earmarked to be the new capital of Kazakhstan - covered all aspects of investment projects' preparation and appraisal, including the application of COMFAR, and was organised jointly by PIPM TACIS Programme and the Office of the Mayor of Akmola.

I.1. Objective.

The main objective of the Workshops was to develop and/or improve the skills of the group of participants from the State Export-Import Bank of Kazakhstan (EXIM Bank) and other Kazakh banks and Government institutions in the preparation and appraisal of the investment projects, including the applications of the new version of UNIDO Computer Model for Feasibility Analysis and Reporting - "COMFAR III Expert".

I.2. Location.

1.2.1. Workshop I - Almaty

The first Workshop was held at the premises of the International Business School. Kazakh State Academy of Management. Almaty

1.2.2. Workshop II - Akmola.

The second Workshop was located at the premises provided by the Akmola City Administration.

I.3. Facilities.

1.3.1. Workshop I - Almaty.

Appropriate training facilities were provided by the organising institution, including fifteen personal computers, printers, overhead screen and transparencies' projectors, whiteboard and photocopying services.

COMFAR 2.1 and COMFAR III Expert have been loaded on all computers by the Consultant upon the arrival at the location. Due to the limited number of keys COMFAR III Expert could only be loaded and operated on 8 computers.

Efficient support from the IBS staff was arranged by the Organisers whenever any technical problems occurred

1.3.2. - Akmola.

Adequate training facilities were provided by the organisers, including the blackboard, overhead projector, photocopying facilities and five computers for the COMFAR training module. Since three of the above turned out to be either faulty or of inadequate standard compared with the COMFAR III Expert hardware requirements, the local TACIS project was approached for the hardware assistance. The project management obliged, providing one laptop and two desktops of the appropriate standard. Thus, including the Consultant's laptop and one laptop provided by the participants, the trainees had at their disposal seven computers for practical COMFAR applications.

II. DESCRIPTION OF THE WORKSHOPS.

II.1. The Workshops.

Prior to the commencement of both Workshops the Consultant has been thoroughly briefed on the overall objective, detailed schedule of the Workshop activities as well as on the background and profiles of the participants.

The design of the detailed Workshops' programmes has been prepared before the Consultant's arrival, however, as a consequence of differences in participants' background, level of computer skills and familiarity with basic principles of financial and economic analysis as well as the available time schedule, some necessary amendments had to be made in order to make the programme equally attractive to all concerned. All these were thoroughly discussed with the PIPM TACIS Project Manager and - in the second case - with the Deputy Mayor of Akmola before their implementation.

The programmes and timetables are appended in Annex 1.

II.2. Workshop I - Almaty.

Due to the regular power cuts in the morning hours it was agreed to start the Workshop at 1.00 p.m. and finish at 6.00 p.m. The basic daily workload comprised therefore of three sessions of 1.5, 1.5, and 2 contact hour's duration respectively, with 2 short breaks in between, giving a total of 50 contact hours throughout the Workshop Friday 22 March being a Holiday, it was agreed with the participants to extend the Workshop by Saturday 30 March, so that the number of days originally scheduled for the Workshop activities could be maintained.

The following main topics were covered in the course of the Workshop:

> Introduction to COMFAR 2.1 and COMFAR III Expert, presentation of Manuals.

> COMFAR: 2.1.

>> Basic concepts and structure of the COMFAR 2.1 System.

>> COMFAR 2.1 Main System:

>> Data Entry subsystem:

>>> text variables,
>>> general variables,
>>> matrix structure,
>>> data entry syntax.

>> Utility functions,
>> Calcul subsystem:

calculation rules; warnings
production cost tables by product.

Report subsystem:

input tables,
output tables,
analysis of COMFAR schedules,
analysis of alternatives; sensitivity analysis.

COMFAR GRAFIX Module:

specifying source table/s/.
preview of GRAFIX charts - interpretation,
sensitivity option,

COMFAR III Expert

Graphical User Interface

Menu bar: Data entry - introduction,

Data entry - detailed procedures,
Data entry - the use of Edit, Insert,

Selection of results, Calculation module,

Show Results module, overview and discussion of results,

Cash flow for financial planning,

Project's financial structure,

Data inputs cont'd: sources of finance, profit distribution, taxes, allowances.

Financial analysis: schedules, measures of viability: NPV, short NPV, IRR,
MIRR, IRRE, return on joint venture capital, payback period, financial ratios.

Analysis of the alternative financing structures - financial engineering and
leverage analysis.

Menu bar: Graphics - break-even analysis.

Menu bar: Graphics - parametric analysis,

Menu bar: Sensitivity - discussion of sensitivity analysis,

Special features: J-V projects, cost allocation, cost escalation and inflation.

Module: Economic Analysis - value added approach.

Assign Economic Analysis feature.

Valuation principles.

Shadow pricing.
Discussion of schedules: value added analysis, net foreign exchange effect

4

Demonstration of software installation procedures and presentation of further development plans was conducted at the end of the substantive program content.

At the request of several participants a quick "refresher" review of basic principles of the financial analysis was introduced to the Workshop's programme content. including: basics of financial analysis. investment costs' schedules. cost of capital. operating costs' schedules. discounted cash-flow analysis. financial appraisal methods. break-even analysis. operating and financial leverage.

II.3. Workshop II Akmola

UNIDO Approach to Project Preparation and Appraisal:

> project development cycle.
> project identification,
> concepts of project's viability,
> structure of the feasibility study.
> reasons for investment projects' failures,

> Time value of money: compounding and discounting principles,
> discounted cashflow concept,

Market Analysis:

> basic elements of the market study.
> specification of necessary data inputs.
> data sources and methods of collection and processing,
> basic elements of marketing strategy.
> selected methods and problems of demand and sales forecasting
> inputs: parameters' identification and forecasting,
> relationships between market projections and other stages of pre-investment study.

Technical Analysis:

> raw materials and supplies.
> location and site.
> environmental impact assessment
> technology selection and acquisition.
> manpower planning.
> organisation and overhead costs.

Financial Analysis:

> basics of financial analysis,
> investment costs' schedules,
> cost of capital,
> operating costs' schedules.
> discounted cash-flow analysis,
> financial appraisal methods:
> ratio analysis,
> payback period,
> net present value.
> IRR. MIRR, IRRE.
> risk. break-even. sensitivity analysis.
> financial engineering: leverage effect.
> review of financial analysis.

Economic Analysis:

due to the highly restrictive time schedule only basic concepts of the ECBA were
presented.

COMFAR III Expert

Graphical User Interface

Menu bar: Data entry - introduction,

Data entry - detailed procedures,
Data entry - the use of Edit, Insert,

Selection of results, Calculation module,

Show Results module, overview and discussion of results,

Cash flow for financial planning,

Project's financial structure,

Data inputs cont'd: sources of finance, profit distribution, taxes, allowances.

Financial analysis:
schedules, measures of viability:
NPV, short NPV,
IRR, MIRR, IRRE, return on joint venture capital,
payback period,
financial ratios,

Analysis of the alternative financing structures - financial engineering and
leverage analysis,

Menu bar: Graphics - break-even analysis,

Menu bar: Graphics - parametric analysis,

Menu bar: Sensitivity - discussion of sensitivity analysis,

Special features: J-V projects, cost allocation, cost escalation and inflation,

Module: Economic Analysis - value added approach,

Interpretation of results.

II.4. Training Methods.

Training has been organised in accordance with the programme. Throughout the Workshops
four basic teaching methods have been applied, i.e.: lectures/demonstrations, discussions,
case studies and exercises. In line with the practical orientation of the Workshops, the main
emphasis was put on the active participation of each trainee through extensive use of hands-
on exercises and case studies under the guidance of the Instructor.
Before any practical operations were undertaken by the participants each
operation/procedure was explained by the Instructor. This was reinforced by the individual
assistance of the Instructor in the course of solving of the case studies, since the major
objective was to give the Workshops' participants as much exposure to the practical
problems solving as possible.

II.5. Case Studies.

II.5.1. Workshop I.

Three different case studies were introduced in the course of the Workshop.

Following the detailed "guided tour" of COMFAR 2.1., the participants were given the "Krylandia" case study - discussed below - for the group-work highlighting the main features of the programme. This was further used to review in some detail the Sensitivity module and the applications of the software for analysing various financing schemes of the project.

For COMFAR III Expert - following the similar "guided tour" type introduction - for initial tutorial purposes the basic case from the Tutorial Manual was utilised. It was applied to facilitate the understanding of the software's general structure as well as the detailed aspects of Financial Analysis. With the corresponding modules all steps and applications were demonstrated and practised.

In order to reinforce the understanding and to reach the corresponding degrees of independent work participants were exposed to the "Krylandia" case study prepared by the Consultant. The advantages of this case study comprised:

- less structured form, thus making the case closer to the opportunity studies prepared in the developing countries and requiring more effort and initiative from participants in organising and structuring respective data inputs,

- "open-ended" project financing, which in consequence demanded that participants develop and optimise the financing plan for the project,

- economic data enabling the application of Economic Analysis module of COMFAR III Expert.

Graphics and Sensitivity modules were discussed in detail based on the above case study.

Additional advantage was the ability of comparing the results of the same case study solved by the application of both programmes.

Lastly, Growmania Garments Ltd. - another of the three cases studies contained in the COMFAR III Expert Tutorial Manual - was introduced in order to familiarise the participants with hitherto not covered features of COMFAR III Expert, namely the j-v financing structure, cost allocation, cost escalation and the Economic Analysis Module.

Due to the time limitations only the value added approach was covered in some detail.. Analysis of the schedules covering value added distribution and net foreign exchange effect was, however, covered due to the fact that the model solutions were pre-loaded for all three Tutorial Manual case studies.

For COMFAR 2.1. the participants were organised in teams of two, which have been working together starting from the simple, isolated exercises on specific aspects of the software. Due to the limited availability of keys only eight teams could be organised for the exercises and case studies involving COMFAR III Expert, which comprised over 65% of the overall time allocation. Teams have been reorganised twice in order to equalise differences in educational and professional background of the participants as well as their different experience in application of computerised software for investment projects' analysis and appraisal

A "wrapping-up" summary session was made by the instructor after each case study in order to point-out typical errors and highlight the most important new elements learned by the participants.

II.5.2. Workshop II.

In order to facilitate the comprehension of the theories and concepts presented during the first -mostly theoretical - module of the Training Programme the Sugarcane Processing Plant case study. developed by the Consultant. was introduced early in the course of the first week. This served the purpose of illustrating various concepts related to the market analysis and forecasting as well as some aspects of financial and economic analysis

Considering the limitations imposed by time-frame and the participants' computer literacy it was decided to introduce only COMFAR III Expert. For the purpose of familiarising the participants with the software the similar. however more limited, approach was taken as in the case of the Workshop I. Following the "guided tour" demonstration of the software structure. the participants - organised in teams - solved the Tutorial Manual "Tomato" case study, followed by "Krylandia". Another of the Tutorial Manual cases, i.e.: "Growmania" was only used for the demonstration purposes during the last day of the Workshop.

Russian language versions of both case studies are appended as Annex IV.
II.6. Participants.

II.6.1. Workshop I.

The complete list of the participants attending the training activities under the PIPM TACIS project in Almaty is appended as Annex II. Their respective institutions are listed below:

> Eximbank;
> Committee of Foreign Capital Utilisation,
> Ministry of Economy,
> Republican Inter-Branch Senior Personnel Training Institute,
> Ministry of Oil and Gas Industry,
> Agency of Enterprise Restructuring,
> National Academy of Science,
> Ministry of Transport.

The composition of the participants' group was heterogeneous in terms of their background. of previous practical experience. and the level of computer literacy. which made it difficult to keep
all participants progressing at approximately the same speed

The intensity of interest and motivation displayed by the participants was above the average level experienced in this type of training.

II.6.2. Workshop II

Fourteen participants attended regularly the Workshop's activities. The list of the participants is appended as Annex III. The institutions they represented are as follows:

> National State Bank,
> Temir Bank,
> Viedergeburg Bank,
> KRAMDS Bank,
> City Administration,
> Commodity Exchange "Akmola"
> "Ging-Sing" private enterprise,
> Sary-Arka Corporation,
> "Info-Service"

Despite the intensive efforts made by practically all participants the time allocated was too short for few of those not having adequate background to fully comprehend all the concepts presented. The difficulties were compounded by the fact that some of the participants were not familiar with the Windows environment However. all things considered. the participants

were showing the encouraging level of involvement and a strong resolution to master the newly acquired skills.

III. CONCLUSIONS, RECOMMENDATIONS.

The following observations have been made throughout the course of the Workshops as well as in the course of individual talks held by the Consultant with participants on many informal occasions, which may be treated as the conclusions and recommendations for further training activities of the similar character.

III.1. The organisational aspects of the Workshops were highly satisfactory as was pointed out by the number of participants.

III.2. Considering the lack of any previous experience of the Akmola target group with the computerised project appraisal and with the comprehensive project appraisal concepts in general, the time allocated to Workshop II was definitely too short.

III.3. Every effort should be made to avoid substantial disparities in the level of participants' professional background and experience.

III.4. Since the first priority of the Workshop was - understandably - to concentrate on aspects of financial analysis and appraisal of the projects, within the limited time scope, ECBA could not be given full justice - hence the feeling of insufficient coverage of Economic Analysis module shared by the Instructor as well as the trainees.

III.5. In order to comprehensively cover all the features of COMFAR III Expert programme, including Economic Analysis, the minimum time allocated to COMFAR III alone should be two weeks - preferably three for the uninitiated users. This finding clearly supports the conclusions stemming from the previous training programmes of the similar character.

III.6. Newly acquired skills must be put to constant use in order to be perfected. The target group of participants, in order to become proficient in applications of COMFAR III Expert, requires ample opportunities to practice applications of the software in their professional capacities.

III.7. There is an acute shortage of expertise in the investment projects' preparation and appraisal in Kazakhstan, as well as that of the computerised software facilitating the appraisal process. Despite high opinions of the Workshops' participants regarding the applicability of COMFAR III Expert software, for many of them the language barrier poses the insurmountable obstacle in the practical applications of the English language version. The Russian language version of the software would certainly help to remedy the situation.

ANNEX I

COMFAR III Workshop

Tentative programme

First week

Date/Time	Monday	Tuesday	Wednesday	Thursday	Friday
09.00 – 10.15	Introduction – General description of COMFAR III	Data Structure/ Financial Data Input (contd.)	Tomato Case Study – contd.	Local Case study or consultant's case (Data input)	Growmania Case: Financial data input (contd.)
11.30 – 12.00	Graphical User Interface Menus/Items	Financial Data Input-Tomato case study	Tomato Case – Final calculation/Review of results	Local Case study or consultant's case (Data input)	Growmania Case (contd.)
LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	
13.00 – 14.30	Graphical User Interface Menus/Items	Financial Data Input-Tomato case study	Financial schedules/Graphs	Special Features of COMFAR	Growmania Case (contd.)
14.30 – 16.30	Data Structure/ Financial Data Input	Preliminary calculation/ Review of results	Local Case study or consultant's case (Data input)	Special Features of COMFAR (contd.)	Growmania Case (contd.)

Date/Time	Monday	Tuesday	Wednesday	Thursday	Friday
11.00 - 12.15	Growmania Case: Economic data input (value added approach)	Calculation/Review of financial results - Growmania Case Study	Sahara Textile Case or Local case (data input - financial and economic)	Sahara Textile Case or Local case (contd.)	Dealing with Expansion/Rehabilitation projects
11.30 - 12.00	Growmania Case: Economic data input	Review of economic results - Growmania Case Study	Sahara Textile Case or Local case (contd.)	Sahara Textile Case or Local case - Calculation/review of results	Dealing with Expansion/Rehabilitation projects
LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	
13.00 - 14.30	Growmania Case: Economic data input	Sensitivty analysis module	Sahara Textile Case or Local case (contd.)	Sahara Textile Case or Local case - Calculation/review of results	Other topics of special interest
14.40 - 15.00	Growmania Case: Economic data input	Sensitivty analysis module	Sahara Textile Case or Local case (contd.)	Dealing with Expansion/Rehabilitation projects	Evaluation of the Programme by participants

Training Seminar on Investment Project Preparation and Appraisal
with applications of COMFAR software
Akmola April 1996

Week 1

	Day 1	Day 2	Day 3	Day 4	Day 5
Session 1	Introduction to the programme (Course objectives and outline) Importance of investment appraisal	Market Research -Data requirements Sources of information	Product pricing Marketing strategy, market segmentation. price quality relationships:	Choice and cost of technology Location and site selection	Project cost estimates - initial fixed investment - pre-production - working capital
Session 2	Project development cycle 'dentification of Investment Opportunities - Concept & methodology	Income and Price elasticities	Production capacity, marketing programme and sales estimates	Environmental impact assessment. Screening of environmental impacts Identification of receptors of impacts	Sources of finance Cost of finance Debt repayment
	Why do investment projects fail ? Introduction to Market Analysis	Market forecasting quantitative techniques and the limitations in their applications	Specific aspects of export market analysis	Time value of money Compounding discounting	Financial Appraisal Simple methods rate of return (on investment, on equity) pay back period
Session 4	Basic market mechanisms - Demand and Supply Price determined by market	Determination of production capacity and production programme based on market size	Assessment of promoter/project sponsor's capabilities (managerial and organizational appraisal)	Financial statements - Cash flow table -Income Statement - Balance sheet	Financial Appraisal Dynamic methods Internal Rate of Return Net Present Value

Week 2

	Day 1	Day 2	Day 3	Day 4	Day 5
Session 1	Introduction - General description of COMFAR	Financial Data input (contd)	Case Application (contd) - Review of results	Local Case study (Review of results)	Growmania Case Economic data input (contd)
Session 2	Basic modules and the underlying computation rules	Selection Review of results	Local Case study (Data input)	Special features of COMFAR	Growmania Case (contd)
Session 3	Data Structure/ Financial Data Input	Financial schedules graphs	Local Case study (Data input)	Growmania Case Introducing special features	Review of results - Growmania Case study
Session 4	Financial Data Input- Tomato case study	Case Application (Electron Ltd)	Local Case study (Data input)	Growmania Case Economic data input	Review of results - Growmania Case Study

ANNEX II

List of participants of workshops on PIPM TACIS Project

		Seminar tests results			
		6/11-17/11/95	04/12-15/12/95	29/01-6/02/96	18/03-29/03/96
1.	Sagitova A., Eximbank	51.5	8	5,5	5
2.	Aristov A., Committee of Foreign Capital Utilization (CFCU)	47	13.5	5	5
3.	Kazybaeva S., Eximbank	47	14	4.5	5
4.	Ungarova Zh., Eximbank	41	14	4	4
5.	Irzhanov T., Ministry of Economy	40,5	10.5	6	0
6.	Akimbekova A., Republican Inter-Branch Senior Personnel Training Institute	40	11	4,5	4
7.	Azanov V., Ministry of Economy	37	12	4,5	0
8.	Akhmetova L., CFCU	34	12	4.5	0
9.	Kabulbekov A., Ministry of Oil and Gas Industry	34	11,5	0	0
10.	Turtaev A., Eximbank	32	10	4	3,5
11.	Kabiev D., CFCU	29	8,5	3.5	0

12.	Kartabaev A., Agency of Enterprise Restructuring	28	11	4.5	0
13.	Paramonov V., CFCU	24	10	4	3
14.	Bisenova S., Republican Inter-Branch Senior Personnel Training Institute	23	9	6.5	3.5
15.	Shaniev K., Ministry of Economy	22	11.5	4.5	0
16.	Saulebaev N., Ministry of Economy	22	10	3	0
17.	Omarov B., National Academy of Science	21	10	5	0
18.	Imbergin E., Eximbank	21	10	4.5	5
19.	Doskhozhaev A., CFCU	20	10	0	0
20.	Binnagambetov T., Eximbank	19	7.25	4	4
21.	Imanberdiev D., Eximbank	19	8.75	4.5	4
22.	Abykanov I., Ministry of Economy	18	8.5	2.5	0
23.	Kireeva S., Ministry of Economy	18	7.5	2.5	0
24.	Istekov A., Ministry of Oil and Gas Industry	17	10	0	0
25.	Umurzakov E., Ministry of Transport	16	11	2.5	0

ANNEX III

Подготовка и оценка проекта, включая COMFAR.
Список участников семинара (Акмола, 02.04.96-12.04.96)

1.	Бабурина Г.	-	Городская администрация
2.	Мурысев Г.	-	Нацгосбанк
3.	Корсак В.	-	Нацгосбанк
4.	Малсымбаева Г.	-	Темирбанк
5.	Серебряков А.	-	Темирбанк
6.	Ахметов Н.	-	Ведергебургбанк
7.	Постанюк М.	-	КРАМДС Банк
8.	Канапьянов С.	-	Корпорация "Сары-Арка"
9.	Абжанов Н.	-	Корпорация "Сары-Арка"
10.	Шпак Р.	-	"Инфо-Сервис"
11.	Таканов Ж.	-	Товарная биржа "Акмола"
12.	Ахметов Н.	-	Товарная биржа "Акмола"
13.	Кобжасаров Г.	-	МП "Жинг-Синг"
14.	Шпак В.	-	"Инфо-Сервис"

Investment Project Preparation and Appraisal including COMFAR.

List of Seminar Participants (Akmola, 02.04.96-12.04.96).

1.	Galina Baburina	-	City Administration
2.	Gennady Murysyov	-	Natsgosbank (National State Bank)
3.	Vasily Korsak	-	Natsgosbank (National State Bank)
4.	Gulnara Malsymbaeva	-	Temir Bank
5.	Alexander Serebryakov	-	Temir Bank
6.	Nurzhan Achmetov	-	Viedergeburgbank
7.	Marina Postanyuk	-	KRAMDS Bank
8.	Saken Kanapyanov	-	Sary-Arka Corporation
9.	Nurlan Abzhanov	-	Sary-Arka Corporation
10.	Robert Shpak	-	"Info-Service"
11.	Ginayat Takanov	-	Commodity Exchange "Akmola"
12.	Nurlan Achmetov	-	Commodity Exchange "Akmola"
13.	Tulev Kobzhasarov	-	SME "Ging-Sing"
14.	Victoria Shpak	-	"Info-Service"