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Independent Evaluation

UNIDO Computer Model for Feasibility Analysis and Reporting (COMFAR) Activities

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

UNIDO EVALUATION GROUP

Independent Evaluation

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We hope that the presented conclusions and recommendations will contribute to the continuous improvement of COMFAR and to the achievement of the expected results.

Abbreviations and acronyms

ADB	Asian Development Bank
BDS	Business Development Services
CDM	Clean Development Mechanism
COMFAR	Computer Model for Feasibility Analysis and Reporting
DC	Developing Countries
DEG	Deutsche Investitions- und Entwicklungsgesellschaft
DFI	Development Finance Institutions
DG	Director General (UNIDO)
DOTS	Development Outcome Tracking System
EBRD	European Bank for Reconstruction and Development
EMA	Environmental Management Accounting
FDI	Foreign Direct Investment
FMO	Nederlandse Financierings-Maatschappij Voor Ontwikkelings Landen N.V
GPR	Corporate Policy Project Rating (DEG tool)
ICHET	International Centre for Hydrogen Energy Technology
IRR	Internal Rate of Return
ITPO	Investment and Technology Promotion Office
JIU	Joint Inspection Unit (UN)
LDC	Least Developed Countries
LFA	Logical Framework Approach
MIS	Management Information System
MTR	Mid-Term Review
NCPC	National Cleaner Production Centre
NGO	Non-governmental Organization

NPV	Net Present Value
POPs	Persistent Organic Pollutants
PSD	Private Sector Development
QAG	Quality Advisory Group (in UNIDO)
SME	Small and Medium Enterprises
TIMS	Transition Impact Monitoring System
ToC	Theory of Change
ToR	Terms of Reference
UNIDO	United Nations Industrial Development Organization
USD	United States Dollar

Glossary of evaluation and COMFAR related terms

Term	Definition
Conclusions	Conclusions point out the factors of success and failure of the evaluated intervention, with special attention paid to the intended and unintended results and impacts, and more generally to any other strength or weakness. A conclusion draws on data collection and analyses undertaken, through a transparent chain of arguments.
Effectiveness	The extent to which the development intervention's objectives were achieved, or are expected to be achieved, taking into account their relative importance.
Efficiency	A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted to results.
Impacts	Positive and negative, primary and secondary long-term effects produced by a development intervention, directly or indirectly, intended or unintended.
Indicator	Quantitative or qualitative factor or variable that provides a simple and reliable means to measure achievement, to reflect the changes connected to an intervention, or to help assess the performance of a development actor.
Institutional development impact	The extent to which an intervention improves or weakens the ability of a country or region to make more efficient, equitable, and sustainable use of its human, financial, and natural resources, for example through: (a) better definition, stability, transparency, enforceability and predictability of institutional arrangements and/or (b) better alignment of the mission and capacity of an organization with its mandate, which derives from these institutional arrangements. Such impacts can include intended and unintended effects of an action.
Lessons learned	Generalizations based on evaluation experiences with projects, programs, or policies that abstract from the specific circumstances to broader situations. Frequently, lessons highlight strengths or weaknesses in preparation, design, and implementation that affect performance, outcome, and impact.
Logframe	Management tool used to improve the design of interventions, most often at the project level. It involves identifying strategic elements (inputs, outputs, outcomes, impact) and their causal relationships, indicators, and the assumptions or risks that may influence success and failure. It thus facilitates planning, execution and evaluation of a development intervention. Related term: results based management.

Outcome	The likely or achieved short-term and medium-term effects of an intervention's outputs. Related terms: result, outputs, impacts, effect.
Outputs	The products, capital goods and services which result from a development intervention; may also include changes resulting from the intervention which are relevant to the achievement of outcomes.
Recommendations	Proposals aimed at enhancing the effectiveness, quality, or efficiency of a development intervention; at redesigning the objectives; and/or at the reallocation of resources. Recommendations should be linked to conclusions.
Relevance	The extent to which the objectives of a development intervention are consistent with beneficiaries' requirements, country needs, global priorities and partners' and donors' policies. Note: Retrospectively, the question of relevance often becomes a question as to whether the objectives of an intervention or its design are still appropriate given changed circumstances.
Results	The output, outcome or impact (intended or unintended, positive and/or negative) of a development intervention. Related terms: outcome, effect, impacts.
Sustainability	The continuation of benefits from a development intervention after major development assistance has been completed. The probability of continued long-term benefits. The resilience to risk of the net benefit flows over time.

COMFAR related terms

Yellow Manual	Refers to the UNIDO publication "Manual for the preparation of industrial feasibility studies", which includes primarily the methodology and theoretical background for the financial analysis of investment projects.
Green Manual	Refers to the publication "Guide to practical project appraisal, social benefit cost analysis", which includes primarily the methodology and theoretical background for the socio-economic analysis of investment projects.
Black box model	COMFAR III, unlike e.g. Microsoft Excel solutions, offers a strict Input-Output model to the users, i.e.: the calculation rules may not be altered and thus wrong results may only be a function of wrong assumptions/input data.

Executive summary

Not many development interventions have survived for 30 years as COMFAR has done. When the software version was launched in 1981, manuals for preparation of feasibility studies and for economic analysis (yellow and green books) had already been on the UNIDO shelves for several years. Since then, however, the world and the business environments have seen dramatic changes, with increased globalization and a fundamental change in development paradigms away from state managed economies towards liberal market principles.

The basic rationale for COMFAR remains as relevant as it was back in the 1980s, namely the intention to improve the quality of investment projects in the developing world. This was to happen through provision of an analytical methodology, supported by a computer model. To a certain degree it was built on the technocratic belief that everything is planable – as long as one just followed the manuals strictly. This is most clearly expressed in the cost-benefit part of COMFAR, which aims at assessing the socio-economic effects of the prevalent state owned holding companies of the 1970s.

The expectation would be that this type of methodology would have disappeared together with the parastatals somewhere along the way. However, COMFAR is alive and kicking as ever before. In 2008/2009, more licenses were sold than in any other two-year period – almost 1750. This is about 23 per cent of all licenses sold since 1995. Only 3 per cent of all licenses sold in 2008/09 went to buyers from industrialized countries, while a full 21 per cent were from the Least Developed Countries (LDCs). This is a product that demands a fee – and is not a give-away development good – 68 per cent of licenses were bought without any UNIDO Technical Cooperation (TC) project funding. Therefore we could conclude that COMFAR must still have an appeal, particularly to clients outside the OECD.

Evaluation background

This evaluation was undertaken following a request from the Director General of UNIDO to assess the relevance and effectiveness of COMFAR after 30 years of operation. Given a tight time-line for the evaluation, focus was on relevance and quality and use of outputs. The methodology included a review of the COMFAR program theory, two surveys of COMFAR users and promoters, a focus group meeting with trainees, interviews with trainers and a context analysis through expert opinions in the form of a peer review of the COMFAR methodology and through expert interviews with professionals of organizations aiming at similar objectives as the COMFAR program. [1]

[1] The Evaluation was carried out from May to August 2010; the evaluation team included Erlend Sigvaldsen (Nordic Consulting Group) as external evaluator and team leader and Johannes Dobinger from UNIDO Evaluation Department.

Relevance

COMFAR is deemed to be relevant to important development challenges in poor countries. Firstly, COMFAR is a tool that correctly calculates financial results, based on a certain input following standard financial practices, and the model has been continuously updated to make it applicable in different business contexts. The newest version - COMFAR 3.2 – gives the users a large range of possibilities and it does it in 19 different languages.

For many users the main alternative to COMFAR is to use a self-made excel model. This can be a more flexible tool for financial modelling. However, it requires that staff have the required skills in financial analysis and in modelling. Unfortunately, these skills are in short supply in many developing countries. In this as in many other professional areas, there is an apparent capacity gap between the developed and the developing parts of the world. Excellent project ideas with trustworthy partners may never reach banks or other financiers simply because companies are not able to prepare projects in the right terms, supported with the right tables and with the right graphs. The “Agri-Fund” project that UNIDO supports / in Egypt demonstrates the importance of preparing project proposals in investor friendly terms – with the use of COMFAR. Such a capacity gap is likely to become more of an issue as poor countries attract more of the global capital in the wake of globalisation. An African investment authority should have the skills to fairly assess the investment plan presented to it by - for instance - a Chinese investor.

This is where COMFAR has particular strengths, namely as a tool for capacity development and training in financial project analysis helping to even out the gap. By design, the model follows the progression of how a course in financial analysis would present issues and concepts. For experienced analysts, this may appear cumbersome and inflexible, but for clients that do not have an MBA, it is a good avenue into financial analysis. It is not the perfect methodology, but has certain aspects that make it work well as a "crash course". The COMFAR combination of training and software is quite unique and as the survey results show, this aspect is highly valued particularly by users from developing countries and in particular for small and medium investments.

On the other hand, COMFAR cannot be said to constitute state-of-the-art approaches in the field of pre-investment studies, nor in software development. The technical platform needs urgent upgrading. While the theoretical foundation is solid, the practical application aspects leave something to be desired. However, users all have different needs, and not all need state-of-the-art tools. One of COMFAR’s advantages is its penetration of markets that normally are not that well served by similar models and planning software

COMFAR is most out of tune with “state-of-the-art” when it comes to measurement of development effects of projects. As a development organization,

this should worry UNIDO. Most development organizations (like Development Finance Institutions) have abandoned the classic cost-benefit analysis of private sector projects. The method is too cumbersome to use and is unsuited as a communication tool with stakeholders. Development challenges as technology spillovers, working conditions or pollution prevention are difficult to incorporate. Most agencies today take development aspects into account through scoring models, checklists and performance benchmarks of projects, and not through purely economic analysis.

The capacity building nature of COMFAR makes it highly relevant for UNIDO, taking into account the organization's overall mission as a technical cooperation partner. Since 1995, COMFAR has been purchased by approximately 200 UNIDO TC projects. Many of these cases are the result of individual staff initiatives, and not of any systematic strategy.

In interviews with UNIDO staff, there was one single argument that almost everybody stressed: UNIDO needs to improve the quality of its own feasibility work. The implication was not necessarily that COMFAR had to be used everywhere, but that the analytical quality of investment analysis had to be improved. UNIDO is seldom an investor itself, but is involved in a great number of projects with investment consequences. Most development organizations that develop activities with direct investment consequences assess projects in greater detail than UNIDO, both with regard to financial and developmental results. The report presents several models of such organizations, which might be of interest to UNIDO.

Effectiveness

In absence of documents that describe the objectives and expected outcomes of COMFAR the evaluation deduced that the main outcome was improved capacity for financial and economic analysis and the main objective (impact) was a contribution to minimized investment risk and to pro-poor investment in developing countries.

There is reasonable evidence that COMFAR has had noteworthy capacity building effects. We do not know precisely how well COMFAR is integrated in real decision making in individual institutions, and the extent of the capacity strengthening is thus unclear. But it seems that COMFAR through its particular methodology at least has proven excellent potential to improve capacities in financial skills in institutions and companies in the developing world. Evaluations from training courses, interviews with individuals, evidence of long-term institutional use of COMFAR, the survey, and the continued sales of the COMFAR package all tend to support this notion. In the survey 2 out of 3 users find COMFAR important or very important in their day-to-day work.

With regard to the effects of COMFAR on sounder investment planning survey respondents say that COMFAR was involved in investments of about 295 million

USD in 2009. We have no independent verification that this actually happened, or that it would not have happened without COMFAR. Users maintain that COMFAR is an effective tool, though. Almost 87 per cent say COMFAR has high or very high effect on minimising investment risk, 88 per cent say the COMFAR package allows appraising more projects than without it and 70 per cent confirm that COMFAR studies lead to the rejection of unfeasible projects.

It is much harder to find tangible evidence for the pro-poor investment objective. There is relatively little knowledge about how much the use of COMFAR impacts investments. But given the limited relevance and use of the cost-benefit module, the contribution of COMFAR to development effects of investments is likely to be minimal. There are so many other factors that influence an investment decision.

COMFAR does not itself create and generate quality investments. It is just a tool that crucially depends on the quality of information put into it. Further – and this is a key point in relation to development impact – there is nothing intrinsic about COMFAR that leads a promoter to choose a project with better development effects than another with less developmental emphasis.

Efficiency

COMFAR is organized unlike any other activity in UNIDO. While staff is fully integrated in the organization, funding of its activities is done through a special fund. All costs except the staff costs are now covered by license fees. This special fund is likely a key reason for COMFAR's survival for 30 years. With an input of about 3 staff-years annually, and some administrative costs, the COMFAR unit sells about 850 new licenses a year (average 2008 and 2009), carries out training, produces updated software modules and manages a pool of COMFAR experts. The net cost outlay for UNIDO in 2009 is estimated at about USD 60,000 - all expenses considered.

The COMFAR model of selling licenses on a commercial basis establishes a link with the market that acts as an "efficiency safeguard", as too high prices or too low quality of the product would be punished by the market through diminishing sales. However, the limited use of COMFAR within UNIDO means that resources are not used efficiently enough yet.

Outsourcing COMFAR partly or as a whole is an option, but this would reduce possibilities to develop COMFAR further as a capacity strengthening tool and as an internal UNIDO methodology. Options to increase the dissemination of COMFAR should be considered, particularly in relation to increase the scope of training.

Options and recommendations

A key conclusion of the evaluation is that COMFAR is more than mere software and the capacity building effects have been key to observed development relevance. Further, COMFAR possesses a good potential to increase UNIDO contribution to private sector based development. More pragmatically, with its current self-financing structure, except for saving US Dollars 60,000 a year, it would be hard to see what could be gained from discontinuing COMFAR.

At the strategic level, the question is if COMFAR can be made a more forceful part of UNIDO wider strategy for private sector development. There are three particular aspects of COMFAR that constitute strategic opportunities for UNIDO:

1. Externally, with clearer focus on its role in capacity building in financial analysis of industrial investments for stakeholders in developing countries. The COMFAR package could be tailored as a generic, or a more sector specific instrument.
2. Developmental, introducing better methodologies for measuring and ensuring development effects of private sector projects in general.
3. Internally, as a general basis for improving UNIDO own feasibility and planning processes. This involves establishing core competences in feasibility analysis of industrial investments within the organization, based less on new software than on improved analytical skills.

Given the resources available, addressing all of these at the same time is not realistic. Further, COMFAR competes with all other programmes in UNIDO for any extra resources. Being a small cog in the large machinery of investment promotion, COMFAR may have difficulties attracting visibility. However, it is recommended that COMFAR should still be a part of UNIDO long-term strategic plans.

The key reason is the need to improve the analytical quality of UNIDO own appraisal and feasibility processes, as expressed so clearly by UNIDO staff. This will need a methodological underpinning and the COMFAR assets are believed to be key to any such future development.

There are several options for how COMFAR can be utilized by UNIDO in the future, however. It depends crucially on future priorities of UNIDO, and whether extra resources can be made available. As archetypes, three basic options for future direction of COMFAR can be suggested:

1. Continue as-is COMFAR, but with an upgraded COMFAR 4. The basic business as practiced today continues with a new technological platform.
2. Internally focused COMFAR, by redefining COMFAR to concentrate on UNIDO internal demands to improve project preparation, already during UNIDO project screening, appraisal and approval process. This implies a

broader mandate within financial analysis processes in UNIDO and that new software development produces dedicated tools for different internal user groups.

3. Capacity building COMFAR, redefining the COMFAR package to target capacity building for financial and socio-economic analysis of industrial investments in developing countries per se. This would involve conscious efforts to design a package with training at its core, and likewise identify marketing strategies that supports this aspect in particular.

While option one can be pursued with the existing level of resources assigned to COMFAR by UNIDO, this option forecloses the opportunity to exploit the full potential of COMFAR. Each of the options 2 and 3 will require dedicated human resources to be added to the existing COMFAR unit; depending on priorities they could be pursued separately or in parallel.

Such a revived COMFAR would fit well in UNIDO investment promotion and private sector development portfolio and it would be additional as no other development organization has such a capacity building product. It also meets the demand for a sound business-oriented approach of UNIDO technical cooperation.

One aspect should be carefully considered and integrated into any option namely better systems to ensure COMFAR's contribution to development impacts. Whether as a weighted rating system, as a set of environmental and social safeguards or even as a simplified cost-benefit calculation; UNIDO additionally could improve markedly making development impact part of any COMFAR investment analysis.

In conclusion, the basic recommendation is to continue with COMFAR. If UNIDO decides to invest more resources, there is potential to make COMFAR not only more relevant but also more effective in contributing to UNIDO objectives. This might need rethinking the business model of COMFAR, but a key principle should be to continue as a self-financed activity. A scenario based on a vision of an expanded COMFAR would require a comprehensive business plan for a COMFAR 4.

A list of detailed recommendations is contained in chapter 4.2 of this report.

I

Evaluation Background

The Computer Model for Feasibility Analysis and Reporting (COMFAR) has existed as an UNIDO activity for almost 30 years. Its core is a computer model that facilitates short and long term analyses of financial and economic consequences of industrial as well as non-industrial projects (e.g.: agro, tourism, mining or infrastructure projects), whether new investment, rehabilitation, expansion, joint venture or privatization projects. The model is based on a set of methodological publications dating back to the 1980s, including titles like “UNIDO Manual for the Preparation of Industrial Feasibility Studies” and “Guide to Practical Project Appraisal. Social benefit cost analysis in Developing Countries”.

The software has been continuously upgraded, and the current version - COMFAR III - is now available in nineteen languages. Recent additions to the software include modules on the Clean Development Mechanism (CDM Module) that aims at facilitating the demonstration of additionality for CDM projects, and Environmental Management Accounting (EMA).

The COMFAR activities of UNIDO are now coordinated by two professional staff members currently within the UNIDO Investment and Technology Unit (PTC/BIT/ITU) of the Business, Investment and Technology Services Branch (PTC/BIT). The activities comprise the following main elements:

- Continuous Development and Maintenance of the COMFAR software and, to some extent, of the methodology
- Management of the COMFAR Fund, including the income from the commercial sale of COMFAR licenses and training fees
- Training seminars for COMFAR users at UNIDO headquarters and in the field, both within UNIDO technical cooperation (TC) activities as well as through direct requests.
- Inclusion of COMFAR components in UNIDO technical cooperation projects.

There are no overall documents that assign particular objectives to COMFAR activities. They are, however, supposed to contribute, together with other UNIDO technical cooperation activities, such as Private Sector Development, Investment

and Technology Promotion, Agri-Businesses, Energy & Climate Change or Environmental Management, to the following objectives and outcomes[2]:

- To facilitate responsible private investment and the adoption and diffusion of improved technologies in support of pro-poor industrial development.
- Industrial investment, partnerships and innovation systems generate growth and employment.
- Public and private institutions support foreign and domestic companies and investors in investment projects and technology transfer on a sustainable basis.

The evaluation

COMFAR has never been subject to a fully fledged evaluation[3]. Thus, a process was started in spring 2010 to do a comprehensive evaluation of a number of aspects of COMFAR. The purpose of the evaluation is according to the ToR to

a. determine the relevance and usefulness of the COMFAR Programme almost 30 years after its introduction (including the relevance of COMFAR to promote the organization's objectives of sustainable industrial development and it's different sub-objectives),
b. determine the effectiveness of the Programme vis-à-vis its original objectives,
c. determine the quality of the methodology (UNIDO publications, software tools and training materials) developed under the programme as compared to other tools available in the market,
d. assess the business model used by UNIDO to develop, promote and deliver COMFAR to clients (commercial licensing, fee-policy, in-house maintenance and development, centralized distribution, etc.)
e. assess the actual application of the tools by clients when making investment decisions, and
f. assess the usefulness of COMFAR as integral part of UNIDO technical cooperation services, its potential to contribute to the quality of UNIDO projects and to determine the optimal set-up to leverage UNIDO activities.

Evaluation methodology

A wide ranging methodology has been applied to address the main evaluation questions. The key ingredients have been:

- Review of documents and UNIDO staff interviews,

[2] PROGRAMME AND BUDGETS, 2010-2011, Proposals of the Director-General, IDB.36/7–PBC.25/7

[3] However, COMFAR was assessed by one UNIDO internal assessment in 2004 and one assessment of UN system revenue producing activities in 2002

- Re-construction of the COMFAR theory of change (in collaboration with UNIDO COMFAR staff)
- Survey of COMFAR clients and assessment of COMFAR training
- Survey of UNIDO staff, UNIDO Investment and Technology Promotion Offices (ITPOs) and National Cleaner Production Centres (NCPCs)
- Brief Review of the COMFAR model
- Review of the COMFAR client portfolio based on figures from the COMFAR fund
- One focus group meeting with COMFAR trainees during a COMFAR training workshop at UNIDO HQ
- Review of income and expenditures related to COMFAR activities
- A review of current trends and practices regarding industrial feasibility studies and their application
- Two expert opinions on the relevance of the COMFAR methodology (manuals) as compared to state-of-the-art investment analysis[4].

An option to visit clients in the field was never exercised as neither time nor resources permitted it. Also, the evaluation team considered that it was possible to answer the evaluation questions without such a field visit.

A particular challenge is that there exists no programme document or anything similar by which to assess performance and attainment of targets[5]. Objectives have been formulated in the most general of terms, and there is no official theory of change supporting the COMFAR activities. Part of the evaluation thus consisted of constructing a theory of change, but it is important to keep in mind that this is a theoretical creation that the COMFAR unit has never been given as an official operational guideline.

The intention to improve and promote investments in developing countries has been at the base of COMFAR throughout its 30 years. While a commendable objective, the likely impact of a software tool and a methodology like COMFAR on actual, real world investments is very hard to define and trace. There are so many other factors that play a role in investments thus making it very difficult to attribute results to COMFAR.

[4] Both experts are active professionals in the field of financial analysis and cost-benefit analysis. One expert is from a German university, one from a US consultancy firm. These experts were selected by the evaluation team with a view to "peer review" the methodology embodied in the COMFAR manuals. They were selected based on their experience with financial and economic analysis as shown in publication records.

[5] Until 2004 brief project document existed for COMFAR activities, but these documents mainly described activities and outputs without establishing a logical framework from objectives to outcomes to outputs/activities and without describing assumptions and risks.

We have no ready available counterfactual “without-COMFAR” information on projects and countries. This clearly constrains firm conclusions beyond informed assessments of wider development impact from the operations. In the absence of hard, measurable facts, the surveys to the clients and to the UNIDO staff have been seen as key resources/inputs. The client survey was sent to all 1044 COMFAR users with active email accounts (one user can hold several licenses as is the case for many institutional users).

However, there are a few methodological issues that need to be mentioned with regard to the survey of existing clients of COMFAR:

- It is individuals that answer the questions, while it in many cases it is the institutional view that is really relevant, for instance with regard to capacity strengthening effects.
- Those who have a positive experience with COMFAR are more likely to take the time to answer such a comprehensive survey, than those that have a less positive experience with it.
- A potential issue is that a person will seek to confirm the wisdom of his/her original decision. In the case of COMFAR, buyers of a license can be expected to – ceteris paribus – give positive answers as to the usefulness of COMFAR.

Thus, while the survey gives important insights to the evaluation, the interpretation of its results needs to take a bias towards overly positive answers/assessments into account.

The survey response rate of 11.2 per cent (117 of 1044) is low, but actually not lower than what is considered normal for this type of survey. Marketing companies estimate that for a general client satisfaction survey of medium length, response rates tend to be lower than 10 per cent when no particular "invite incentive" is used.[6] A higher response rate would have been better of course, but that should in itself not disqualify those that actually took the time to answer the 70+ questions survey that was sent out. The sample size of the COMFAR client survey of 117 reflects the views of all users at a confidence level of 95 per cent with a confidence interval of +/- 8 per cent (i.e. when the response of the sample is 80 per cent the response of the universe can be expected to lie between 72 and 88 per cent). Thus, the evaluation team took only very clear survey responses of 70 per cent and higher as indicator for a certain opinion or fact of the universe of COMFAR users.

A further caveat is that of 117 respondents, there were 20 from one single country (17 per cent), namely Iran. Uganda with 8 and Nigeria with 7 respondents came second and third, with the other 72 respondents being evenly split on 48 countries. Iran is not a typical developing country, having a rather particular

[6] See, for example: “Survey response rates”, Peoples Pulse; http://www.peoplepulse.com.au/Survey-Response-Rates.htm

business environment with a large degree of state control, including large parastatal holding companies. However, when cross checking random survey questions, the Iranian responses seemed to distribute reasonably similar to the responses from other countries.

The UNIDO survey was sent to project managers, field offices, ITPOs and NCPCs. Also this survey has a number of constraints. First, the response rate was relatively low (approx. 40 per cent). Second, only few field offices, ITPOs and NCPCs participated, so it was not possible to arrive at meaningful findings for these groups of COMFAR promoters.

Given the limitations of the surveys, an effort was made to cross reference the findings from survey responses with findings from other sources (see list above).

II

Context of UNIDO COMFAR activities

COMFAR is a rare case in today's development aid business. There are very few development interventions that have lasted for almost 30 years, as COMFAR has done. Old practitioners still speak fondly of the "yellow" and "green" books published in the 1970s on financial and economic feasibility studies. By the time the second version of the manual for Industrial Feasibility studies were ready in 1992, more than 150,000 copies had been sold in 20 different languages, making it one of the best-selling publications of the whole United Nations system. Indeed, for many, COMFAR and UNIDO appear analogues, and it has been a factor in flagging UNIDO as an important player within industrial development.

However, the world has seen fundamental changes since the first COMFAR products were published. Development paradigms have shifted decisively and globalisation has transformed financial, political and economic relationships to a degree that were hard to imagine 30 years ago. Indeed, the pace of change itself has changed, with today's market requiring immediate ability to react to changes in market parameters. Flexibility and adaptability have become competitive factors in world industrial markets. Further, environmental, social and ethical considerations have added new dimensions to all types of economic activities, with the global poverty challenge looming as large as ever.

A key question for this evaluation is thus how COMFAR fits in this new global environment. Is it still a relevant development aid instrument? Can it be made more relevant, or should it be discarded and finally laid to rest? As noted above, there are a number of methodological challenges to this evaluation that makes assessments qualitative in nature, and less "hard" than an investment analyst would ideally desire.

However, the overall context gives us important clues as to relevance, and the key issues selected to explore were a) the current best practice of investment and feasibility analysis, and b) what other important development institutions do. Given that UNIDO development interventions are to provide additionality and impact, COMFAR should preferably do well in relation to both contextual assessments.

2.1 Brief history of COMFAR

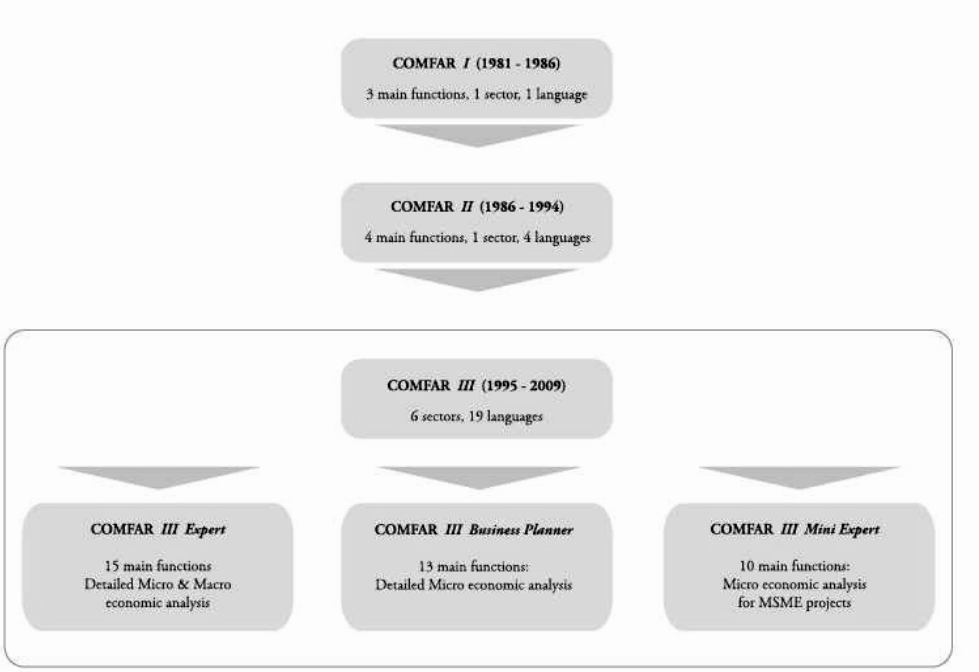
In the late 1970s, UNIDO had a special Branch for Feasibility Studies, headed by the economist Werner Behrens. At this time, industrialisation - as a key prerequisite for economic growth - was an important field of Government interventions. To facilitate investment decisions, handbooks and guidelines were seen as necessary to assist the developing countries in choosing the right projects.

This was also the time of large parastatal holding companies in many parts of the world, that all seemed to need methodologies for prioritising their investments. While financial analysis was one part of this, social cost-benefit analysis was seen as equally important. Markets tended to be heavily regulated, and prices seldom reflected “true” demand and supply relations. Thus, adjustments to financial inputs were deemed necessary to make the "correct" calculations, in a context of state managed economies.

UNIDO thus developed very thorough manuals for feasibility studies, first published in the 1970s. The sheer detail of the guidebooks made it a complex methodology to put into practice, and it was decided to develop a computer model that would do the necessary calculations. It was also believed that this would be an important pedagogical tool to assist teaching of the methodology. The first version of COMFAR was ready in 1983. Since then, the software model has gone through a number of revisions to adapt to general changes in computer technology, and in response to changes in demand and development priorities.

There have been three major revisions since 1981, with the latest edition called COMFAR III. It can be found in three different versions. The main difference is in what modules are incorporated, with the smallest (COMFAR Mini Expert) only including the financial model, while the most substantial (COMFAR Expert) includes the full range of modules and functions. The following figure illustrates schematically the development of COMFAR.

Figure 1: COMFAR through the years



The latest version of COMFAR is now available in 19 languages, and for 6 different sectors (industrial, agro-industrial, tourism, infrastructure, mining and environmental projects). While the major, third revision dates back to 1995, the latest update of COMFAR III (version 3.2) was released as late as March 2009. A more in-depth overview of the development of the COMFAR content can be found in Annex B.

However, COMFAR is not only software development. It also includes a set of guidelines and manuals. Some are no longer found as hardcopies, only as pdf files on a CD. Currently, these manuals and teaching materials include

1. Manual for the Preparation of Industrial Feasibility Studies – from 1991 ("Yellow Manual")
2. Manual for Evaluation of Industrial Projects – from 1986.
3. Guidelines for Project Evaluation – from 1972.
4. Guide to Practical Project Appraisal, social benefit cost analysis – from 1986. ("Green Manual")
5. Manual for Small Industrial Business: Project design and Appraisal – from 1994
6. Practical Appraisal of industrial project applications, case Pakistan – from 1980

7. COMFAR Manuals related to the software (Software Reference Manual/Tutorial Manual)
8. Teaching Materials: Investment Project Preparation and Appraisal – 7 different teaching modules on financial and business theory.

The two publications highlighted above represent the core methodological publications of COMFAR. The "Yellow Manual" includes the methodology for financial analysis, whereas the "Green Manual" covers the economic cost-benefit analysis.

Little methodological development has been done to these manuals the last 15 years. Focus appears to have been mainly on the software. It should be noted however, that an expanded revised "Yellow Manual" is now being prepared by COMFAR. It is a very extensive document that has taken a number of years to finalise.

This apparent shift in emphasis from methodology to software development within the COMFAR sphere probably has several reasons. One key is that the initial funding of COMFAR happened through a special fund, at that time paying for all staff and all COMFAR related expenditure. (In 2005, staff expenses were transferred to UNIDO regular budget). As perhaps could be expected, the marketing and the selling of the software became a core operational focus – which indeed was the initial intention behind the establishment of a separate fund.

A second reason for the relative demise of methodological development of feasibility analysis was the abolishment of the Feasibility Studies Branch itself. Staff were dispersed to other parts of UNIDO and the lack of a central unit to drive methodological thinking was probably quite detrimental to further innovation in this respect.

An additional dimension of COMFAR is capacity development, with training materials being developed to facilitate the teaching of the use of the COMFAR model. Much of this documentation is focussed on the theoretical underpinning of the model, i.e. financial and economic theory. COMFAR is used directly and indirectly in a number of different UNIDO activities and projects. Interestingly, operational figures imply an increased level of activity the last 2-3 years (see chapter 2.2.) which indicate that demand is still strong for the COMFAR products.

UNIDO and COMFAR

COMFAR is uniquely organized in UNIDO. The original developers established an innovative scheme where the proceeds from the sales of COMFAR licences and training were accrued in a special fund – the COMFAR fund. This was a novel idea to ensure sustainability of the software in an organization that was

otherwise dependent on recurrent donor funding. It was recognised that the software would have to be continuously updated to stay relevant, and this would require a steady flow of funds.

The particular status of COMFAR as a self-financing operation probably protected it from some of the distinct changes that UNIDO as whole has gone through during the last 30 years. It is unlikely that it would have survived had it been part of the regular budget due to the financial constraints placed on the organization, as remarked in an internal report to the DG dated 2004[7].

COMFAR has been moved a number of times internally in the UNIDO organization, but has basically had the same mandate and the same operational core as it had in 1995. In that year it reported to the Investment Services Branch in the Investment and Technology Promotion Division. It has mostly remained under that same umbrella and reports in 2010 to the Investment and Technology Promotion Unit in the Business, Investment and Technology Services Branch under the PTC.

Besides the use of COMFAR by external clients (license-holders), it is also used in UNIDO technical cooperation (TC) projects. The most frequent way of using COMFAR in TC is the inclusion of trainings and licenses in projects that aim at strengthening the capacity of local institutions dealing with investment analysis (e.g. Investment Promotion Authorities, Ministries of Industry). In some cases COMFAR has also been used to assess the feasibility of industrial operations that were the subject of TC (e.g. rehabilitation of a dairy plant in Iraq or the construction of a biomass plant in Tanzania). Last but not least, many UNIDO staff have received basic training in COMFAR.

COMFAR has never been directly evaluated before[8]. However, it was positively commented on by the Joint Inspection Unit (JIU) in an evaluation of UN income generating activities from 2002[9]. In particular the ability of raising money to ensure further software development and marketing as well as the close linkage to UNIDO mandate was emphasised. The evaluation says that “UNIDO ingeniously applies the market positioning technique of periodically adding new versions (very much like Microsoft’s Windows operating system) to maintain its market position and relevance to the evolving needs of its differentiated clientele.” And further “One major advantage of COMFAR is that it promotes a single global standard for formulating, appraising and evaluating industrial development projects of any size, whether in the public or private domain. This activity lies at the heart of the UNIDO mandate.”

[7] ”Report to the Director general on Review of the COMFAR”, S. Ajmal, UNIDO Comptroller General, 12 March 2004.

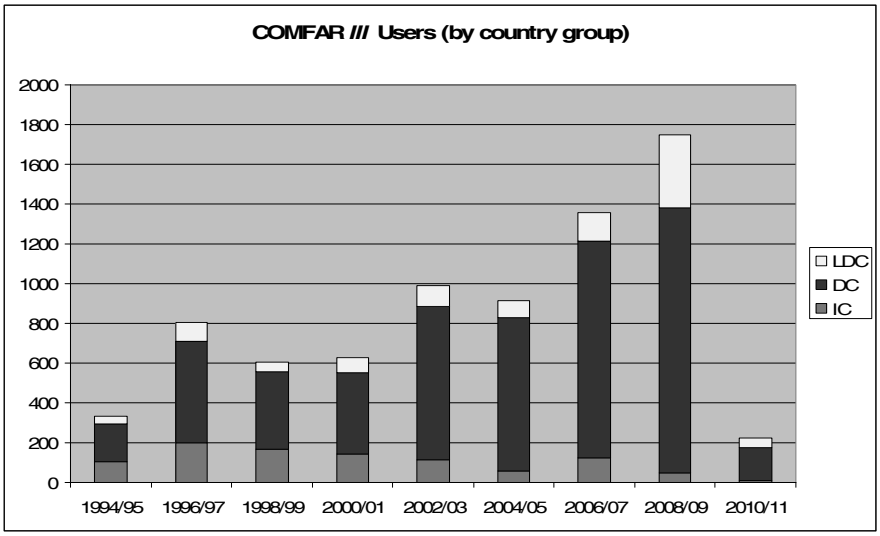
[8] A review report was prepared by the Comptroller General of UNIDO in 2004. The review focused on operational aspects and was carried out to determine the future of COMFAR operations within UNIDO.

2.2 COMFAR Clients: Who are they?

- How many COMFAR clients do exist and how has the number and type of clients evolved over the years?

A total of 7612 licences have been sold from 1995 – when COMFAR III was first introduced – to March 2010. The figure below shows number of licenses sold per bi-annual year (budgetary period), and there has been a steady increase over the period from about 800 in 1997/98 to almost 1750 in 2008/2009. The number of licenses is split according to the development level – Least Developed, Developing and Industrialised.

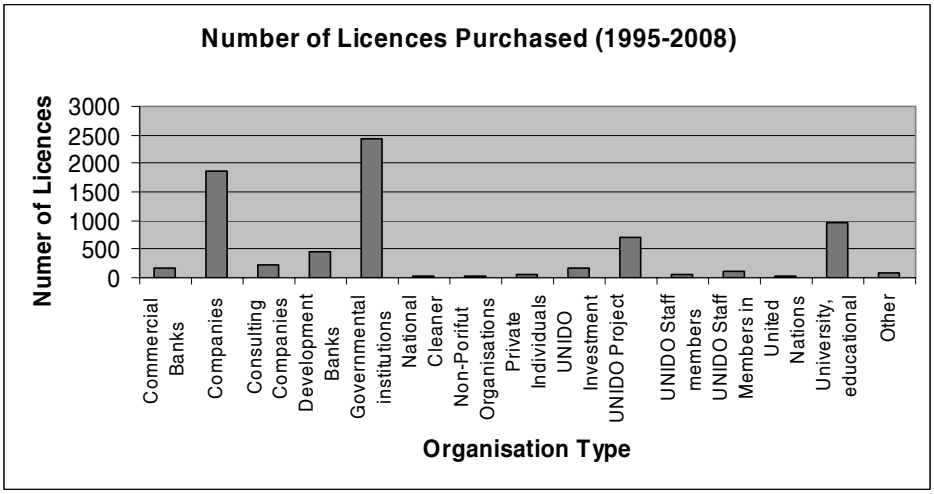
Figure 2: COMFAR III License by country group



Relatively fewer licenses are now bought by the customers originating in the most developed (industrialised) countries, with increasing share of sales going to the least developed. Sales increased markedly in 2006/07, possibly as a result of the reduction in price that happened that year.

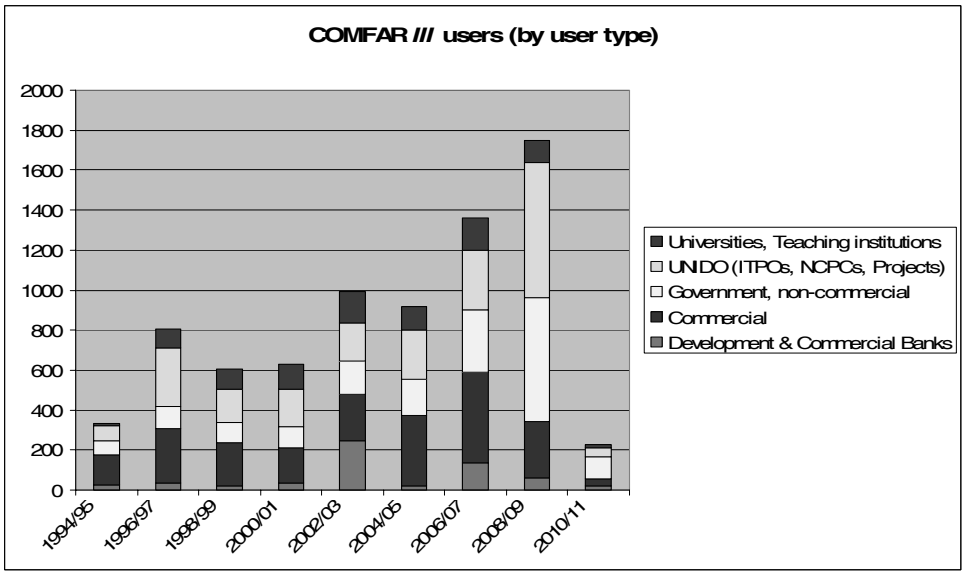
Sales data shows substantial variations in type of customer, and in what type of institutions they come from. Seen over all 15 years since 1995, government institutions appear as the major purchaser of COMFAR III.

Figure 3: COMFAR III License by type of user



Over time, and when grouping the main categories of buyers together, it appears that there has been a relative shift towards more government and UNIDO related buyers in the last 2-4 years.

Figure 4: COMFAR III License by user category



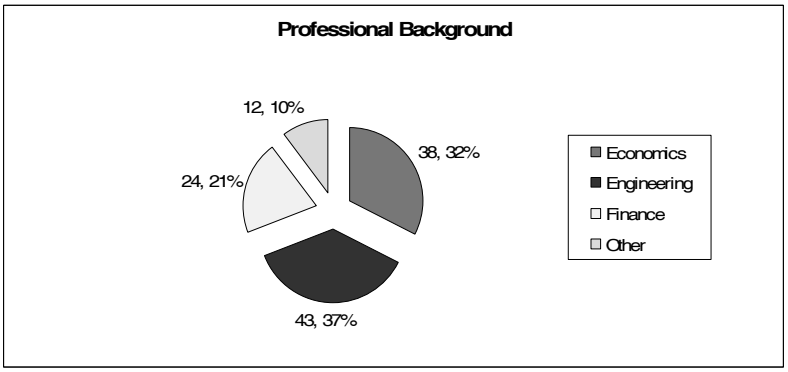
It is impossible to know how many of these clients would still be active users. The response to the client survey (117 answers out of 1044) may indicate that not all have continued with COMFAR after the first purchase. On the other hand, among the survey respondents there are a few that bought their license in the 1980s – loyal customers indeed. The majority - 62 per cent - had bought their license in 2006 or later.

The survey shows that few use any other model than the Expert version of COMFAR, with only 12 per cent using the "Business Planner" and 7 per cent using the "Mini-Expert". With regard to COMFAR versions, over 80 per cent use the standard version 3, but only 30 per cent say they use the latest edition COMFAR 3.2.

The client survey gives some other indications as to who the main users are – assuming that the survey gives a reasonable average of those that are active users. As much as 38 per cent come from private companies, while over 21 per cent have consultancy background. This emphasis on "power users" (those who prepare larger numbers of pre-investment studies, see also chapter 4.1.2) is further reflected in the statistics for the private company participants, where another 29 per cent say they work in engineering and technical services. The second largest group is manufacturing with 23 per cent.

The respondents are generally highly placed in the organization they come from with 23 per cent stating they are the owner/proprietor, and 29 per cent coming from senior management.

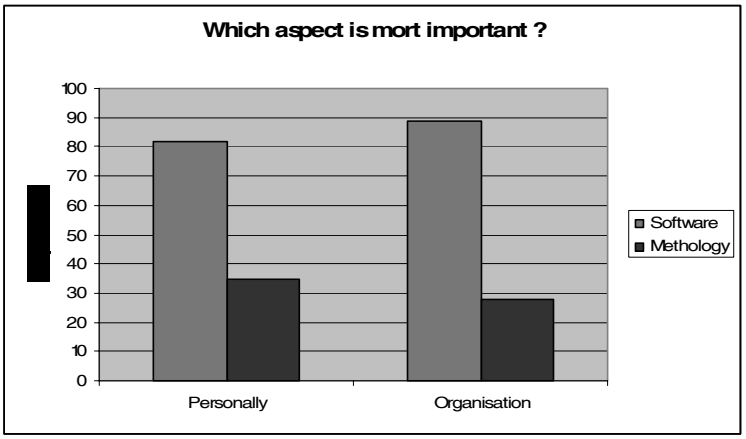
Figure 5: COMFAR III Survey: Respondent Background



Regarding background, it is interesting that finance is not the main professional background for most, both engineering and economics are more typical as an educational background of COMFAR users. This demonstrates that the preparation of pre-investment studies is typically team-work, combing engineering, economic and financial skills.

In the survey, respondents answered the question of what aspect of COMFAR they personally considered most important – either software or methodology. Most users find the software most important - almost 80 percent and this was even more pronounced when they were asked to assess the question from the organization's point of view.

Figure 6: Which aspect of COMFAR is most important?



Far less users think the methodology is more important than the software. However, the software cannot be separated that clearly from the methodology, as the software reflects structure and content of the methodology reflected in the most important methodological publication, the yellow manual.

This is further confirmed in another survey question where 19 per cent say that the combination of methodology and software was a "very important" reason for buying COMFAR, and 47 per cent as an "important" reason. For these clients, other pure software like Pro Business Planner, would not meet their need.

2.3 COMFAR theory of change

- A logical model will be developed to describe the cause-effect linkages by which UNIDO COMFAR activities intend to achieve their objectives.
- What are the main expected results of COMFAR activities, in particular in the field of pre-investment studies and institutional capacity building?

No project document or anything similar describing the expected overall results or objectives of the COMFAR intervention exists today[10]. Thus, there is no traditional hierarchy of objectives with linked indicators to use as a basis for the analysis.

[10] COMFAR project documents existed until 2004. But also these documents did not contain sufficient information regarding objectives, outcomes, outputs and the relevant indicators and assumptions.

However, the basic theory of change that lies behind the development intervention of COMFAR can be deducted from the COMFAR methodology documents. The "Manual for Preparation of Industrial Feasibility Studies" phrases it as follows: "Developing and developed countries alike are increasingly in need of properly prepared feasibility studies for taking sound investment decisions. In the past, too many investment projects did not produce the outputs for which they were originally designed or their actual construction costs exceeded those that had been envisaged".[11] In the manual's own words, it was designed to provide developing countries with a tool for improving the quality of investment proposals, and to contribute to the standardization of industrial feasibility studies, many of which had been found to be both incomplete and ill-prepared.

While more manuals were prepared and a computer model established, during the next 30 years the basic rationale remained basically the same, namely to improve the quality of investment proposals in the developing world.

The question of quality

Today, "quality" of investments would be subject to a varied set of interpretations, and some would only include environmentally friendly and socially responsible investments in such a category. Others would see any investment in a developing country that is commercially viable as "quality", assuming that investment leads to employment generation and foreign exchange earnings, both main concerns of many developing countries. Thirty years ago, the emphasis was probably more on the later interpretation than the first. In the meantime, many development institutions have moved on to recognizing that economic growth by itself is not necessarily pro-poor.

The relationship between economic growth and poverty reduction is more complex than old development theory allowed for. While there is no example of any nation being able to reduce poverty without economic growth, not all which experience growth are able to transform it into reduced relative or even absolute poverty. The quality of growth also matters, as for instance exploitation of a country's natural resources may deplete a nation's capital if not managed carefully, leaving everyone eventually poorer in the long run. Fishing stocks is a case in point. In other cases, labour conditions may enforce cycles of perpetual dependence among the poor on local elites, leading to conditions resembling semi-slavery.

This has led to an understanding that not all investments may be good for poor people. A development organization has particular responsibility for ensuring that any investment it directly or indirectly contributes to, at least does no harm.

[11] "Manual for Preparation of Industrial Feasibility Studies", UNIDO, Vienna, 1991. p iii.

Preferably, it should have a positive development impact, according to agreed criteria.

COMFAR did include a methodology to improve the “quality” from the overall society’s perspective, namely the cost-benefit method. Non-financial priorities could here be taken directly into account by adjusting parameters in the calculation to reflect true costs and benefits. The oldest manual in the COMFAR collection – Guideline for Project Evaluation from 1972 – says as follows (page 1): Projects should, therefore, be formulated and evaluated in such a way as to single out for implementation those that contribute most to the ultimate objectives of the country. It follows that the Government requires a methodology for comparing and evaluating alternative projects in terms of their contributions to these objectives. While these are clearly words from a different era where Governments’ role in industry was more active than it is in most part of the world today, it spells out the necessity to take social and political considerations into account in addition to the financial, when investment quality is to be determined.

However, the model reflects the optimistic view prevalent at the time, that econometric type models could provide useful decision making tools for almost everything. As a result, priority of the “non-market effects” of projects was given to adjust distorted prices (e.g. through shadow pricing and adjusted “social” discounting). Issues like environmental impacts, displacement of people etc. were only reflected if they were assigned cost and benefit values.

Paradigms may have changed, but the need for analytical tools to ensure developmental quality of projects has not lessened. Environmental and poverty challenges may be of a different character now, but they are still there as main targets of development policy. In reconstructing the basic theory of change, a key ingredient of COMFAR is that it tries to improve both, the financial/business and the socio-economic aspects of investments.

COMFAR: A tool

At this stage, it is important to emphasize that COMFAR has never been more than a tool – a good tool perhaps - but not one that by itself creates and generates quality investments. It structures an analysis and helps the practitioner to take all relevant aspects into account, but it does not make the investment decision itself. And, even more importantly, it crucially depends on the assumptions put into the “tool” – into the calculation. The “GIGO” effect is well known among investment analysts: Garbage in – Garbage out.

There are thus limits to what COMFAR can realistically achieve in terms of improved investment projects. A number of external factors are at play, and one investment input - as a sound feasibility analysis would be – can seldom be directly correlated with the expected impact, i.e. success/failure of that investment in financial and socio-economic terms. However, a comprehensive

and professional feasibility process can improve the chance of success, and decrease the risk of failure.

The challenge of measuring impact

The impact of COMFAR activities is difficult to determine based on hard facts or statistical analysis, as the counterfactual is almost impossible to determine and verify. Comparing investment behavior in countries and in companies with and without COMFAR is not practically possible. Recognizing this limitation, a theory-based approach is proposed, to get a better understanding of whether COMFAR activities are plausibly linked through a causal relation with expected impacts. This approach consists of three steps:

1. reconstruction of a theory of change (TOC) based on available information, documents, staff interviews
2. testing the critical assumptions and the causal steps (from activity to impact) by asking COMFAR users (survey), adjust TOC if necessary
3. comparing opinions of experts and evidence available in documents and studies with the critical assumptions and causal linkages of the TOC

What was COMFAR then expected to achieve? From the 30 year practice of COMFAR, there are two types of key development impacts that can be surmised:

- Classic investment benefits, like increased employment, technology spillovers, innovation, better environmental performance, growth effects through exports with dynamic linkages forward/backward, etc.

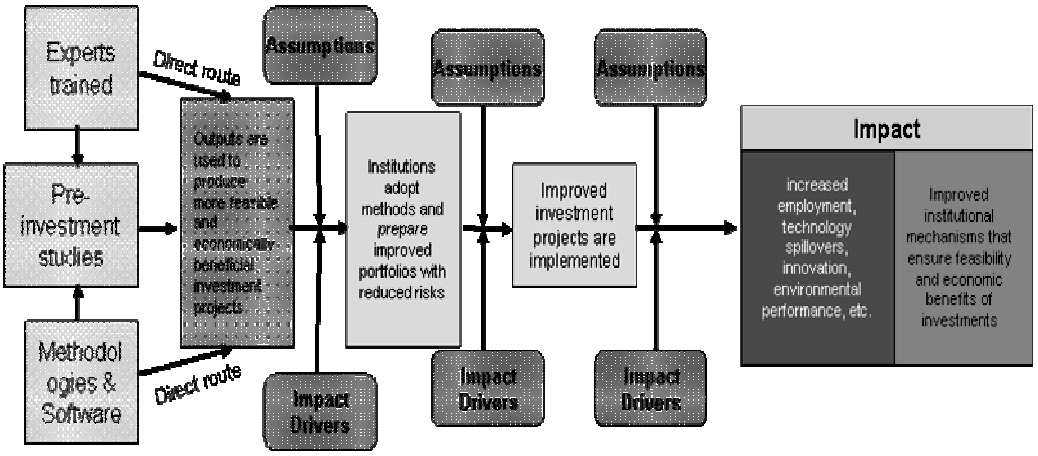
- Improved institutional capabilities (Capacity strengthening), which are better able to ensure feasibility and economic benefits of investments in developing countries. Successful promotion of industrial investment projects rests to a large extent on the availability of capable national institutions.

When deconstructing the relation between these planned impacts and COMFAR, there are three apparent activities through which COMFAR can be said to work. These are:

1. The training of experts in these same methodologies, that will build capacity in relevant investor milieus
2. High-quality pre-investment advice, directly or through UNIDO technical services, leading to better investment projects among its many clients. This is the possibly most direct avenue to impact for UNIDO as an organization.
3. The provision of the software and the methodologies to external stakeholders, that in turn assists them in making better investment projects.

The basic Theory of Change is illustrated in the figure below:

Figure 7: COMFAR Theory of Change



The main logic behind the ToC is that the COMFAR training, the software and pre-investment studies would lead to a) improved institutional capabilities to prepare investments, and b) better investment projects per se. The impact of this would be more sustainable investments and investment assessment capacities in the developing world. In the absence of clearly quantifiable and objective indicators, the best source with regard to the hypothesized development impacts are the users of COMFAR. A key source for the evaluation is thus the client survey. To what degree do they believe that the COMFAR TOC and its implicit assumptions are valid and to what extent has COMFAR a) provided better investments in terms of development impacts, and b) improved the capability of investment related institutions and organizations.

It should be recognized at this stage that we simply cannot say that an investment or its effects on employment etc. are the result of COMFAR, as there are so many other factors at play. As in many other development interventions impact is not attributable to a single intervention. Instead, what is important to find out is whether COMFAR has contributed to the development results.

2.4 Methodology practice: feasibility and investment analysis

- Review of current trends and practices regarding industrial feasibility studies and their application

The so-called UNIDO methodology is the sum of the 6 methodological manuals listed in the preceding chapter. This is indeed very extensive material, which covers project analysis from a financial and an economic perspective in minute detail. For most readers, it is an exceedingly dense body of work that is rather academic in nature. This is particularly so with regard to the economic and cost-benefit parts of the methodology. The academic flavour is clear even in the newest of the manuals, the one for Small Industrial Businesses from 1995. It is the product of a project carried out jointly by the Feasibility Studies Branch of UNIDO and the Vienna Institute for Small Business Research, which is affiliated with the Vienna University of Economics.

Investment analysis theory

The basic investment analysis theory that these 15-30 year old manuals are based on, is essentially the same now as it was then.[12] External academic experts confirmed that principles behind defining cash flow, calculating internal rate of return and net present value, and preparing profit and loss and balance sheets have not changed significantly since COMFAR's inception. The Yellow manual remains even today a useful compendium of project preparation and appraisal techniques.

Some areas have seen more developments however, particularly the theory of financing. There is now a larger and more sophisticated spectrum of products, services and advanced portfolio management methods of financing than there was in 1980. Other areas that the manuals touch where the world has changed are in marketing, to some degree in functional areas like logistics, and in risk management. "Competitive strategic planning" is another current buzz word that is less emphasised in the Yellow manual than what it would be in a current textbook. Those new issues ought to be considered in the new revision of UNIDO "Manual for the Preparation of Industrial Feasibility Studies".

While the basic theory remains the same, the economic world of 2010 looks different from the one in 1980. Globalisation with increasingly open markets, and free flow of capital and nearly all factors of production have changed the game of all but the most isolated projects. The economic environment now changes rapidly and often unpredictably. Ability to adapt is more of a competitive factor for a business today, than it was 30 years ago.

One additional dimension of the current investment analysis theory is that it can now all be found on the internet in any complexity one might wish.[13] Wikipedia or any number of resources will tell how to calculate a net present value, and that it

[12] Compare for instance the 1981 and the 2007 editions of a standard work in investment analysis: "Principles of Corporate Finance" Brealey & Myers.

[13] See for instance: http://www.investopedia.com/ ; http://www.toweringskills.com/docs/0010.htm; https://www.cfainstitute.org/; http://www.toolkit.com/small_business_guide/; http://www.bized.co.uk/, to name just a few.

is in many cases a more reliable indicator than the IRR. The theory as such is thus more transparent and accessible than it used to be. In developed markets, like the US, many European and some Asian ones there is now a large body of investment analysts employed at different types of institutions supplying an ever increasing amount of analysis of companies, of their projects, and of the sectors they work in.[14] There is now an increased level of analytical knowledge about even the smallest companies in these markets.

Financial globalization

The general liberalisation of global financial markets has been one of the major drivers behind this, for good and for bad. While the transparency in financial markets has increased, the sophistication of some products has reached a level where nobody any longer apparently understood the basics behind it. The sub prime crisis is the unfortunate example.

For the developing world, this liberalisation has had benefits by allowing them easier access to international capital. A case in point is microfinance, where a substantial number of capital funds of all colours now invest directly in organizations that work with poor people. For instance, in their survey for the year 2008[15], Consultative Group to Assist the Poor (CGAP) reports that 61 donors and investors committed all in all USD 14.8 billion to microfinance, of which $3.9 billion were new commitments in 2008. While the basic theory for investment analysis remains much of the same, its practice has changed. More liberal global markets have increased the reach of investments – and by extension – investment analysis, and the sophistication of financial products has paradoxically made investment analysis both more transparent and more complex at the same time.

By implication, globalisation of capital markets has also led to involving more stakeholders in any investment project. These do not always share the same view of a given project, or indeed of the assumptions that should be used in assessing its viability. There is perhaps a stronger recognition now than there was 30 years ago that there is no “one-truth” forecast, as investors, banks, development agencies, local governments, central governments, regulatory authorities, labour unions, local interest groups, plus more, all may have particular interests in an investment. Investments are bargaining processes where there are often few truly objective assumptions to use for a forecast. As a consequence, to be able to participate effectively in such a process, stakeholders must have skills to do financial analysis, and to be able to challenge those assumptions that one may find in contrast to one’s own interest.

[14] A search on google will give an idea of how extensive this body of analysis now is. Or http://en.wikipedia.org/wiki/Financial_analyst

[15] 2009 Microfinance Funder Survey, CGAP, 2009

Risk and uncertainty

Another trend that can be read from the increased focus on risk analysis and management techniques[16], is that there is less belief in the ability to forecast something with certainty in international business today. “You cannot predict the future, only prepare for it”, as a scenario analyst would term it.[17] This is a somewhat different way of approaching a feasibility study, than the 1980s technocratic attitude that everything can be planned – one has just to follow manuals carefully.

Investors and operators have to learn to live with uncertainty through all project phases, and feasibility thinking is a continuous project condition. Risk management techniques have become relatively more important in investment analysis compared to the pure forecasting discipline. In ideal risk management, a prioritization process is followed whereby the risks with the greatest loss and the greatest probability of occurring are handled first, and risks with lower probability of occurrence and lower loss are handled in descending order. In practice the process can be very difficult. Literature is explicit[18] in stating that “…today’s business, project, and operational environments are becoming increasingly complex. People often struggle to make sense of this complexity, which places many critical projects and processes at risk of failing”.[19]

This increased focus on the handling of uncertainty and risk weaken the technocratic approach that the UNIDO methodologies are founded upon – namely that there is “a true plan” that everybody will subscribe to if just everything is taken into account.
As a result, much of current investment analysis and feasibility studies tend to be dynamic and fluid affairs, where flexibility as to assumptions and how assumptions interact is a key characteristic.[20] Traditional forecasting with simple extrapolation from the past has proven to be poor guides to project success. Industries as a rule tend to experience unwanted surprises – like unanticipated competitors, sudden technological obsolescence, unprecedented customer demand and unforeseen regulatory pitfalls.

Needs differ

However, the apparent financial sophistication in the globalized market place should not obscure the fact that the needs in terms of financial analytical capacity differ for different companies and stakeholders. It would probably not be worth it

[16] See for instance: http://en.wikipedia.org/wiki/Risk_management
[17] “Learning form the Future”, Fahey & Randall, 1998.
[18] “*The Professional Risk Managers' Handbook: A Comprehensive Guide to Current Theory and Best Practices*”;Alexander, Carol and Sheedy, Elizabeth, 2005,
[19] While many articles say the same, this quote is from: “*A Risk-Based Approach for Assessing the Potential for Success”, Carnige Mellon University, 2008.*
[20] Ref expert opinion 1, annex C

for a company making bicycles in Niger to make different scenarios for future bicycle markets. But it would need a simple method to calculate whether it should buy another tooling machine or not. Many small companies would probably not need anything more than rather simple calculation tools. Other stakeholders like government offices, investment promotion agencies, NGOs, etc would likely not need the most sophisticated tools either.

While COMFAR would be sufficient for these players, it would be of small assistance to the typical venture capitalist that looks for brand new business opportunities. One of the experts contacted to assess the COMFAR methodology[21], describes this search as a nimble assessment of many different business models. In developing countries it often involved scouting for existing operations in need of growth assistance. This involves questioning the currently assumed causal relationships between for instance input factors and production. Maybe we can now do it differently than what we used to? The methodology described in the UNIDO manuals gives little guidance to this type of feasibility processes.

COMFAR is a general tool that allows for some specialization, but it is basically not directly tailored at particular niches or segments.

Software

COMFAR is basically a tool that ensures correct calculation of financial results, based on a certain input following standard financial practices and methods. Businesses in industrialised countries usually have a similar tool of some kind to do these types of basic calculations

There used to be a number of commercially developed generic packages on the market, but these are becoming rarer. Accounting and budgeting software packages will often still have modules for business planning and forecasting. An indication of this limited market of generic models, is the fact that only 25 per cent of the client survey respondents said they had ever used an alternative package to COMFAR. Of these, some 5 per cent say they tried a package called Business Planner Pro, another 5 per cent different other packages, while the remaining 90 per cent has used self defined excel models.

Based on the feedback from the survey and several interviews with experts and investment analysis practitioners the trend in software use is towards:

- Self developed models based on excel, that is particularly modelled to the business in question. There are also a number of sector specific models available.

[21] See expert opinion 1

- Free, open or very cheap software from the internet – again often based on excel. These models can be further refined by the user. They can be combined with web-based platforms, potentially freeing the end user of having to be proficient in software installation and upkeep. It also allows for data to be stored offsite.
- A third trend that cuts across all types of models is that they are integrated in other financial software a company is using. Forecasting models should be able to fetch data from accounting, provide data to budgets, and automatically update the 3 year business plan. This, for instance, facilitates monitoring of actual results as compared to the forecast, and can immediately signal whether the project has been a success.

The survey, interviews and experience from the private sector indicate that most companies and organizations in the developed world would not look for a COMFAR type of generic model - they would want one that is perfectly tailored to their own business without having to go through complicated training exercises. As phrased by one of the peer reviewers of the COMFAR methodology documents: "I come from the internet age, however, I can say that any tool requiring several hundred pages of documentation, substantiated by several thousands of pages of economic theory, is probably going to be out of date very fast. To be clear, I am not commenting on the legitimacy of the models built into COMFAR, but rather the process of implementing with practicality".

The issue of "practicality" is an important feature of current financial modelling, and tend to reinforce the need for specialization and flexibility that follows the trends described in the chapter above – rapidly changing business conditions and stakeholder driven investment processes. A model must be able to reflect the business and the market relations as well as possible and can lose authority if it does not.

This requires a high degree of flexibility in terms of modelling features. General and black box[22] based models like COMFAR have limitations in this respect. COMFAR is built in a manner where there are limited internal dependencies between the different input modules. The rationale is to minimise the risk for getting circular references – with one value ending up being dependent on itself. This is a very real risk in any modelling, and the black box of COMFAR ensures that it is avoided. The downside is that you then cannot model more sophisticated dependencies that are often the aim of much of the specialized modelling. The dynamic relation between different elements of the operation is often what an analyst would want to explore, and in COMFAR this would only be possible to do through manually inputting new data for all elements involved.

[22] COMFAR III, unlike e.g. Microsoft Excel solutions, offers a strict Input-Output model to the users, i.e.: the calculation rules may not be altered and thus wrong results may only be a function of wrong assumptions/input data.

As one illustration of the trend towards Microsoft Excel models, there is now even a European Spreadsheet Risk Interest Group (EuSprig) that according to themselves is the world's premier site for information, action, conferences and dialogue on Spreadsheet Risk Management. Their theme for their annual conference in July 2010 was 'Practical steps to protect organizations from out-of-control spreadsheets'.[23]

What each business and each company need varies, however, and as will be illustrated by the survey results referenced later, for some the COMFAR type of model appears perfect. They do not want a troublesome excel model running out of control.

In sum, a multitude of software investment models exists today. Most of them are specialized, internally developed models, operated by professionals skilled in financial analysis. Internet plays an increasingly important role as both a provider of models, and as an interlinked resource for data and market information.

Capacity gap

The prerequisite for usage of the internally developed excel-type of models is a thorough understanding by the operator of financial theory and modelling. In the COMFAR type of models this basic relationship modelling is done for the user, while with a Microsoft Excel model the user has to do this himself. Using and adapting these later types of models is thus a capacity challenge.

In Europe, bachelor courses in business administration and most technical disciplines would introduce students to cash flow analysis, IRR and NPV, and a range of other investment analysis techniques and financial issues. In much of the developing world and in particular in LDC, however, these academic skills are as rare as other categories of higher education skills are. There are fewer Universities providing adequate courses and there are fewer resources available, and thus implicitly less capacity to make and handle excel-sheet based models for the "run-of-the-mill" company. In the public sector you would perhaps not find such skills at all, as such professionals will be quickly hired by the top private companies, including commercial banks. These types of skills follow the money even more than what other professional categories may do.

While the supply of such skills may be less, the demand is perhaps lower too. As remarked above, the needs of users for financial planning models differ substantially, not only between developed and developing world but as much between for instance small and large companies.

In financial analytical skills, as unfortunately in many other professional areas, there is an apparent capacity gap between the developed and the developing

[23] http://www.eusprig.org/index.htm. Exploring the site gives an idea of the extent of excel spreadsheet modelling – and its dangers.

parts of the world. It is difficult to quantify the extent and the seriousness of the gap, as little research has been done. A recent OECD/WB report on general financial literacy says unequivocally that "Developing countries have especially low levels of financial literacy" (page 4)[24], and it is likely that this is the case not only at the consumer level, but also among professional groups. There is little doubt that the pool of qualified financial analysts is relatively smaller[25]. This point was stressed and reinforced by two of the professors that have been most involved in the updating of the manual. They had found that knowledge on financial concepts was rudimentary in many developing countries, and that misconceptions abounded at all levels - private as well as public. This capacity gap is probably becoming more of an issue as globalisation exposes poor countries to global capital.

2.5 What other development organizations do?

- Positioning of the UNIDO COMFAR activities vis-à-vis other relevant institutions and commercial products, in particular Development banks
- How do other international agencies (such as Development Banks or IFC) organize feasibility studies for investment projects and how does their approach compare to UNIDO?

UNIDO cannot be compared to Development Finance Institutions (DFIs), as it has a very different mandate within private sector development, and no initial funds to invest. Processes, tools and methods in DFIs would thus not be the same as those UNIDO employs. Further, there is no activity comparable to COMFAR in other development organizations. The combination of investment analysis, methodologies, training and software is a unique feature of COMFAR. However, a lot can be learned from understanding how institutions with similar overall objectives as UNIDO deal with investment analysis.

Life cycle approach

Most development agencies tend to see their projects as an integrated whole, and not as separately phased processes split in feasibility, appraisal, implementation stages etc. There are thus systems in place that check a project ex-ante (measures parameters at time of approval) and ex-post (after several years of operation.)

In practice this means that the tools that are used in preparing a project, calculate a number of indicators that are then monitored all through preparation, investment and implementation stages. Emphasis tends to be on performance

[24] "*The Case for Financial Literacy in Developing Countries",* OECD/WB/DFID, February 2009.

[25] See also: "Human resource and skills requirements in the banking, financial services and insurance sector – a study on mapping of human resource skilss gaps in India until 2022", National Skills Development Corporation, India, (www.nsdcindia.org)

monitoring, and not on the initial feasibility phase as such. Tools for this purpose are tailor made and try to take into account a number of relevant variables – not only financial or even economic. The tool employed by one major Development Finance Institution (DFI) namely the Deutsche Investitions- und Entwicklungsgesellschaft (DEG) is called Corporate-Policy Project Rating (GPR) and may illustrate this type of approach.

The GPR system

This GPR applies a numerical scoring system for all DEG investments at all stages of the project cycle, starting from 2002. The system gives points in four main categories[26]:

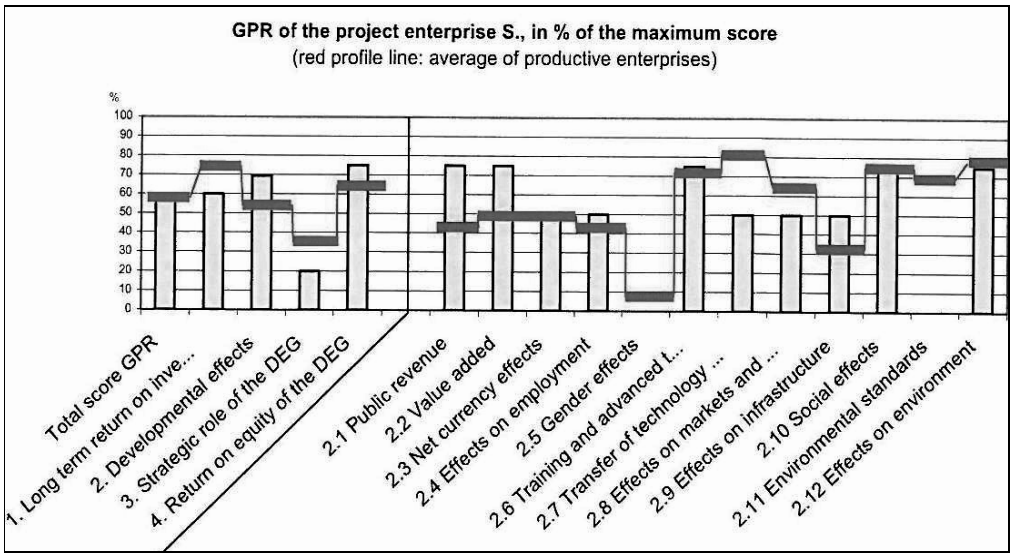
1. long-term project profitability (max. 150 points),
2. development effects/sustainability (max. 150 points),
3. special role of DEG (max. 100 points), and
4. return on DEG's equity (max. 100 points).

The first is the indicator of the financial sustainability of the project company, as that is normally required for the other developmental effects to be present. *The second*, developmental effects/sustainability, is dependent on what sector the project is in. In case of a manufacturing enterprise, these are quantitative effects like governmental revenues, net currency effects, contributions to employment and qualitative effects such as, for instance, technology and know-how transfer, environmental standards, social benefits. *The third* - strategic role of DEG - is to assess to which degree DEG fulfils its role as a development finance and consultancy institution in the respective project. *The fourth* regarding return on DEG equity concerns the degree to which a project contributes to sustainability of DEG's own growth.

For each of the four categories, sub-indicators are used to calculate the final score. These four benchmarks are then combined into a total index, and depending on the results, project are categorised into six quality groups, which allow for the categorisation of the projects from 'very good' to 'obviously insufficient' (grades from 1 to 6.) As an example the figure below shows the score for a typical productive enterprise. It includes the sub-categories of indicators for the second main group, namely the development effects.

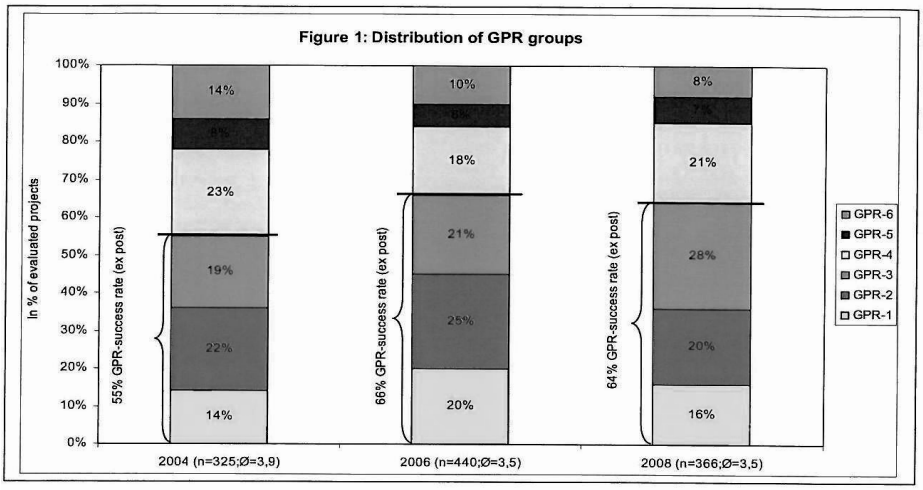
[26] See for details: http://www.deginvest.de/EN_Home/About_DEG/Our_Mandate/Development_Policy_Mandate/Corporate-Policy_Project_Rating_.jsp

Figure 8: GPR Rating Example



This system is then used to not only provide ratings for individual projects, but for overall portfolio assessments. DEG publishes an annual GPR Evaluation Report. For 2008, for example, they show the following comparison of status for 2004, 2006 and 2008. (The yellow GPR-1 projects are the best). This can also be done for projects ex-ante and ex-post.

Figure 9: DEG Portfolio summary using GPR



DEG has an excel sheet that enables GPR assessment for all projects, handbooks and manuals that explain how to use it, and its own experts ready to assist users. The GPR system is possibly the most consistent over the project

cycle of all DFI systems, and is now according to the homepage of DEG used by as many as 15 European DFIs. Key advantages of GPR include its transparency, its integration of all project phases, its user friendliness, and its aggregation potential. COMFAR cannot be compared to GPR, as it is a financial analysis method, covering only part of what GPR sets out to do. While COMAFR is a project tool, the GPR is a development institution tool.

Result oriented methodologies

This type of integrated result-oriented measuring methodology is relatively recent for the private sector projects. A study that compares methodologies for measuring and reporting of development effectiveness across DFIs says that 9 out of 10 established such systems between 2001 and 2005[27]. The report says that most of these systems aim to apply the same indicator ranges and rating or scoring standards over the full project cycle. This means that they look to consistency from appraisal and approval via monitoring to post-evaluation.

All of these employ a combination of financial, developmental and strategic indicators. European Bank for Reconstruction and Development (EBRD) was one of the first with its Transition Impact Monitoring System (TIMS), with particularly good monitoring and quality review practices. IFC with its Development Outcome Tracking System (DOTS) allows tailoring to different types of investments and environments. DOTS include:

- An overall development outcome rating, that is assigned to every project in the IFC portfolio at least once a year.
- Industry-specific standard indicators that measure the development reach of IFC investments on stakeholders.

The overall assessment of a project's development outcome is based on four performance components: financial, economic, and environmental and social performance, as well as broader private sector development impacts. As with the GPR, the overall development outcome rating is rated on a 6-point scale from Highly Successful (1) to Highly Unsuccessful (6), which is a synthesis of each of the four performance components. The components in turn receive a rating from "excellent"' to "unsatisfactory," largely depending on whether they have achieved the IFC standards for each performance dimension.

There appear to be some differences between the multilateral banks and the mostly bilateral DFIs. The multilaterals tend to employ more sophisticated and more resource intensive systems than the DFIs. For instance, DFIs commonly put less emphasis on economic internal rate of return calculations than what IFC and ADB do. The Dutch Nederlandse Financierings-Maatschappij Voor

[27] "Review Of Development Effectiveness Measuring And Reporting In IFC And Its Comparator Organizations"; IFC, June 2007.

Ontwikkelings Landen N.V (FMO) focuses on approval scoring supplemented by post-evaluation. In FMO, investment officers complete first a Rapid Risk Screen using a special FMO Sustainability Toolkit. This first screening includes:

- Application of the FMO Exclusion List;
- Preliminary Categorisation (based on transaction, client, location, nature of business);
- Review of FMO Role (i.e. where co-financing, coordinated Environment & Social Due Diligence (E&S) possible); and
- Determination of appropriate scope of E&S and E&S Resources, based on the preliminary categorisation and the FMO Role.

The process after that follows particular procedures for indicators and project monitoring, depending on the scoring in that first Rapid Risk phase

The research done by the evaluation team suggests that there is no DFI or similar organization that uses anything that resembles the COMFAR tool. Rather, tailored tools like the GPR based on in-house priorities, focussed on development aspects of investments, is clearly the current standard.

Feasibility analysis

The classic type of feasibility study that COMFAR can be used for is still part of this process, providing for instance financial inputs to the rating system. However, no DFI or any other international development organization that we have been able to identify uses COMFAR for this. Normally, an investment proposal is prepared by an investor who tends to use an excel-based model to calculate financial results. The DFI then does its own due diligence of the project and the calculations.

In addition to the general trend of applying tools that apply to the whole life of a project, there is also a few more particular reason why the COMFAR type of feasibility tool is seen as less relevant in today's DFIs:

- The financial assessment capacity in these organizations is normally very high– they know what NPV and IRR are. Most DFIs and similar organizations have staff with intimate knowledge of investment analysis that can readily make and operate excel based models.

- Other aspects than the financial have become relatively more important to measure. Today, there is much more focus on proving development impact, and likewise avoiding negative environment and social effects.

- There is a clearer distinction between the private and the government role in such projects, with the private investor having the responsibility of project preparation. The DFI controls and checks, but does not go through projects in every intimate detail – private investors should have every incentive to do the feasibility properly themselves.[28]

In cases where DFIs prepare projects from scratch, they adapt/develop their own models, and none that we are aware of applies a requirement for projects to be run through "black box" type of standardised software. Doing a proper financial analysis is a self evident aspect of such project preparation.

Developmental aspects: Cost-benefit analysis

While a few of the big multilateral banks like the World Bank and the Asian Development Bank still do classic cost-benefit analysis, this is very seldom done among DFIs and bilateral development agencies. Indeed, within private sector development projects it has become more of a rarity also in WB and ADB – for big public sector projects it is still considered important. . However, according to the World Bank the use of Cost-Benefit Analysis appears to be declining, as indicated by the percentage of investment operations that contain an estimate of the economic return in their appraisal document. From a high of nearly 70 per cent in the 1970s, it was down to about 30 per cent in the early 2000.[29] The DFIs on their part tend to apply numeric scoring and standard weights, as in the GPR system of DEG discussed above.

Indeed, a clear trend is that development aspects are taken into account through scoring, checklists and performance benchmarks of projects, and not through economic analysis. IFC – that also does the occasional cost-benefit - applies the following Performance Standards to "manage social and environmental risks and impacts and to enhance development opportunities in its private sector financing". Together, the eight Performance Standards establish standards that the client is to meet throughout the life of an investment by IFC:

Performance Standard 1: Social and Environ. Assessment and Management System
Performance Standard 2: Labour and Working Conditions
Performance Standard 3: Pollution Prevention and Abatement
Performance Standard 4: Community Health, Safety and Security
Performance Standard 5: Land Acquisition and Involuntary Resettlement
Performance Standard 6: Biodiversity Conservation and Sustainable Natural Resource Management
Performance Standard 7: Indigenous Peoples
Performance Standard 8: Cultural Heritage

[28] Which is where COMFAR can play an important role, as a training and capacity building tool. Few if any of DFIs train their counterparts in this type of analysis.
[29] "Evaluation of Cost Benefit Analysis in Bank Projects. Approach paper", World Bank.

Through discussion with academics and practitioners four key reasons for the relative demise of classic cost-benefit analysis for private sector projects can be indicated:

- Resource intensive, costly and slow method to apply, as it requires special knowledge and comprehensive background analysis to do correctly.
- Difficult to identify a correct social discount rate – that lies at the heart of an economic model.
- Difficult to take into account "new" development challenges within for instance technology spillovers, working conditions or pollution prevention and other non-quantifiable effects.
- Extremely difficult to communicate and use as basis for discussions with stakeholders. An NGO that enquires about why the project does not allow labourers to form unions, will hardly be satisfied by assurances that this is properly taken into account through shadow pricing of labour cost.

As one of our interviewees said, cost benefit was a time waster as it grinded projects down into long winded theoretical discussions that in the end had no practical impact. "*We had to find better ways of assessing development impact*."

Classic cost-benefit analysis, however, is still being applied frequently to measure specific economic effects of non-commercial projects and interventions. Examples are cost-benefit analyses carried out to assess the value of eco-systems or the social returns of education programmes[30].

For industrial investments, however, the non-commercial effects are far too diverse (see IFC performance standards above) to allow a comprehensive econometric-like cost-benefit analysis to be carried out at reasonable cost, especially if the investment is at a small- or medium scale.

Comparisons with multilateral finance institutions, while important, need to take limitations into account that these institutions face in applying their own methods. A recent report by the NGO SOMO of multilateral financing to the private sector in developing countries found that "the MDBs' (multilateral development banks) project selection, monitoring and evaluation procedures have tended to prioritise commercial rather than social and environmental returns." The study maintains that "Internal evaluations have regularly found that MDBs have failed to demonstrate sufficient 'additionality' for their financing – meaning that they run the risk of merely replicating the activities of private financial institutions. "[31]

[30] An Econometric Cost-Benefit Analysis of Argentina's Youth Training Program, IADB, 2004

[31] Bottom line, better lives – rethinking multilateral financing to the private sector in developing countries, Several NGOs, March 2010

Training and technical assistance for feasibility studies

None of the institutions interviewed offers training courses for feasibility studies at a regular basis, nor do they have a software model that can be readily used for training purposes. Most have methodological documents of some kind or other, particularly the large multilateral institutions[32]. The DFIs in general appear to assume that stakeholders in their projects are able to acquire the required financial skills without the assistance of the development organization.

The situation of DFIs in this regard is very different from UNIDO. While DFIs expect to be confronted with investment projects the feasibility of which has been analysed by the investor, UNIDO, as an agency specialized in technical assistance for industrial development, deals with potential investors and authorities who support these investors.

[32] HANDBOOK ON ECONOMIC ANALYSIS OF INVESTMENT OPERATIONS, Operations Policy Department Learning and Leadership Center, World Bank, 1997

III

Assessment

The major challenge for the assessment of COMFAR is the fact that expected outcomes and impact had never been defined and reported on. As a result there has been a lack of a clear mission, which led to sometimes divergent views on what COMFAR is supposed to achieve. The following assessment thus concentrates on the context analysis and the theory of change mapped out in chapter 3 and on the analysis of surveys, interviews, expert opinions and other data sources used for this evaluation (see also chapter 2). The starting point for the assessment is that UNIDO does have a working investment model and that it does have a set of core capacities in investment analysis.

3.1 Relevance

The issue of relevance is the key question in the evaluation. The world has changed in the 30 years since COMFAR saw daylight and due to its financial autonomy the "instrument" has during that time been relatively little affected by main UNIDO policy changes and reforms. Is it still relevant for current development issues, and a natural component of UNIDO operations?

COMFAR does not necessarily need to be the most modern of products to be relevant for the development challenges that UNIDO is to address, but it needs to be accurate and be based on broad "best practice" principles.

3.1.1. Is COMFAR state-of-the-art?

- Are UNIDO COMFAR activities based on- and consistent with state-of-the-art approaches in the field of pre-investment studies, especially in relation to UNIDO technical cooperation services?

- Does the COMFAR software meet the standards of state-of-the-art software products? Is there a need to improve the software tool technology wise?

After examining current practice, COMFAR cannot be said to constitute state-of-the-art approaches in the field of pre-investment studies, or in software

development. While the theoretical foundation is solid, the practical application aspects leave something to be desired. The COMFAR package is for external experts not sufficiently adapted to current business environments and their market challenges to be useful in practical investment analysis.[33] There is nothing quite like it in the market, but that is not necessarily an indication of utility or excellence.

But COMFAR calculates the needed variables and it does so correctly. Further, the model may "use a sledgehammer to hit small nails" according to a UNIDO staffer, but it does hit them – and that is infinitely better than not trying to hit at all. For some users it is likely the perfect tool – a good combination of generality and specificity - and with software that is right for their company and the market environment.

This does not make COMFAR state-of-the-art in either feasibility or investment analysis. However there is one use of COMFAR where the COMFAR package does have advantages, namely as a training tool in financial analysis. The combination of training and software appears as quite unique, and we have not identified any other package with same features. The same person that criticized COMFAR as being too complicated for the layman, added that "The learning effects achieved with COMFAR are tremendous. Personally, the programme helped me a lot to better understand financial analysis."

Basic methodology

- Is there a need to modify/improve the COMFAR methodologies (yellow and green books)?

The success of the yellow and the green book cannot be expected to be copied the same way a second time. There are infinitely more resources available on investment and feasibility analysis now, than there were 30 years ago. The internet has made every textbook on this subject ever made in the world in every language, accessible by the hit of a button.

While the two methodological books may theoretically cover areas that no other book does, there is a need for a completely new platform for users to access this knowledge. It has to be web based, it must be searchable, and it must be at least semi-interactive.

The process of modification of these two books has already started, with the intention to merge[34] and modernise them. The first draft - a 500+ page book - has

[33] Both expert opinions collected for the evaluation make this point, albeit in different fashions. See Annexes C and D

[34] Also expressed by one of the experts evaluating the UNIDO publications on project preparation and appraisal. See Annex D, expert Opinion 2.

been delivered by the consultants. We will comment further on this first draft in the next section. Whatever the outcome of that modernisation process, the final product should be streamlined, make use of state-of-the art technology and be fully integrated into COMFAR 4.

A final comment that needs to be incorporated into the training of COMFAR as well as in the manuals is that the internet has changed the way an analyst works with assumptions for a calculation. There is now so much more information available, that training of analysts should include training in how to critically examine the plethora of resources available.

Development effects

One point coming out of the context analysis is the apparent aging of the classic cost benefit type of model. Decision makers today require tools that can give quick, targeted answers as to whether a project is developmentally sound. For many on the development finance side of the business, it is key to avoid doing harm and to be in accordance with basic principles of environment, social conditions, labour relations and protection of vulnerable groups. For this, most use checklist type of methodologies, while the more systematic stakeholders use scoring and rating.

On the investor side, since COMFAR was introduced, a new class of "responsible" investors have come to the fore as active players in the developing world. They talk of triple bottom lines: Financial, developmental and environmental. There are numerous ways now to evaluate multiple returns on investment beyond traditional business inputs and outputs. (See Acumen Fund's "Pulse" tool, the "Impact Reporting and Investment Standards (IRIS), SVT Group's "Manage to Impact™" process, the Global Impact Investing Network (GIIN), etc.).

In its capacity training role, it is especially important that students are taught via COMFAR that there is more to investment than pure financial profit. There is always a social, environmental and political context to take into account, and the market prices do not tell the whole story. As such, the CBA method is a valuable portal to present and discuss these broader issues in a training setting.

One of the experts who reviewed the COMFAR methodology formulates this as follows: "In my experience, as investment mindsets change for everyone from the IFC to individuals, greater emphasis is being placed on the 'so what?' of social investing. It is easy to show if the investment returned a profit, but did it help anyone move away from poverty? UNIDO methods do not currently account for a) the 'expected' social change from an investment (greater personal income, health/education access, environmental protection), and b) whether or not those goals were met. Rather, the assumption appears to be that the investment passes the feasibility tests and ultimately is a financial success, the social and

environmental benefits automatically result. This, of course, is simply not the case"

In conclusion, COMFAR is probably most out of tune with "state-of-the-art" when it comes to measurement and calculation of development effects of projects. As a development organization, this should worry UNIDO. This evaluation does not allow sufficient space to assess precisely what UNIDO should do in this area, but two alternatives are

1. Internally focussed methodology development, to be used in technical cooperation projects to assess development effects and impacts in accordance with current standards.
2. Externally targeted methodologies, for particular segments of users. The existing COMFAR with its network of users and institutions, training capacities and good reputation, provides a good vehicle to carry this additional element to the clients.

The two could be combined, but the first step is recommended to be an in-depth study of the external market for such a development type of project assessment methodology. One may even find that existing models could be tied on to an improved version of a new COMFAR – or indeed be made the core of a future COMFAR.

Software

The functions that COMFAR performs - calculation of financial and economic results, based on certain inputs - are what most projects would need to calculate in any process of financial analysis. This is confirmed by survey results showing that most of the users consider COMFAR to be a relevant and useful tool in the plethora of available alternatives. It all depends on your needs.

The following table summarises what the survey respondents said about the quality of different aspects of the COMFAR package.

Table 1: Survey results: quality of COMFAR package

	Quality of attributes of COMFAR Package (in per cent**)**				
	Very high	***High***	***Low***	***Very Low***	***Don't know***
Aesthetics	17.9	55.6	20.5	0.9	5.1
Multilingual	25.6	53.0	15.4	0.9	5.1
Functionality	30.8	56.4	10.3	0.0	2.6
Cost	17.1	50.4	23.9	2.6	6.0
Service/support	20.5	46.2	15.4	4.3	13.7
User friendliness	23.9	53.0	13.7	4.3	5.1

The attribute that scores the worst is the cost, but despite this COMFAR's service/support is considered by more than 67 per cent to be of "very high" or "high" quality. Functionality of COMFAR get very good rating, supporting the notion that COMFAR is an effective tool for many clients.

However, the software cannot be considered state-of-the-art. Technically UNIDO COMFAR experts strongly maintain that the current software development platform on which COMFAR is based only has a short period left before it is completely outdated. Developments in computer operating systems and new Windows versions are the biggest threats. There is danger that COMFAR III will not be able to run on future PCs. The same UNIDO COMFAR experts thus recommend an immediate migration of COMFAR 4 to a new software development platform.

On the model software itself, it suffers under its intention of being a general software applicable to many industries, many markets, many countries and to many uses. For every effort to tailor it to a particular demand, choices have to be introduced in the model that makes it more complicated. At the same time it cannot be precisely adapted to a situation – like country specific depreciation rules - without becoming overly complex.

A former trainer of COMFAR that was contacted in connection with the survey, said as follows after having joined a private company in the construction sector in Germany: "I tried to use COMFAR. For different reasons, the software was not accepted by clients and banks. For example: In Germany, investment costs of buildings have to be defined according to a specific DIN-norm. If you don't adhere to this norm, your study - how good it may ever be - lacks credibility. There are other reasons why COMFAR's use for investment studies in the construction sector is restricted. If I had to summarize my long-year experience in one sentence, I would say: COMFAR is too complicated for laymen and not flexible enough for professionals." When this professional refers to COMFAR as complicated, it may be due to the fact that COMFAR was designed to teach people financial analysis – going step by step. This means that the model follows the progression of how a course in financial analysis would present issues and data analysis. The paradox is that learning the model then requires that a teacher teaches you how to do it. As COMFAR is supposed to cover all aspects of a project, it may then feel cumbersome for a user that does not need all the options of COMFAR III, and that a training course takes you through

But whereas some experienced financial analysts find COMFAR lacking in terms of flexibility and opt for a more "open" model, others, operating mostly in the DCs and LDCs, consider its "black box", closed structure very useful exactly for the reasons mentioned above. One interviewee, however, associated the black box with a transparency problem, as it disguised the formulas and the relationships from the user, thus implying that the user did not really know what he was doing.

To summarize, the software could consider improvements in several general areas:

- It needs to get the possibility to integrate with other software, like Microsoft Excel. Making it possible to connect with other analysis and be able to export results into for instance a budgetary programme, would improve the usability considerably.
- It needs a greater degree of logic and clarity as to inputting data, as understanding this inputting is possibly the main barrier for many users.
- Connected to the above, a greater degree of modulation is probably required to stay state-of-the-art in the future. Instead of one model for everybody, where choices inside this model determine the extent and scope of the analysis, there should rather be a number of smaller models where choices are pre-made for the user. It could even include open spreadsheet based templates, which the users could tailor to their specific needs.
- It may need a lighter, quicker type of financial calculator mode. No major options, no major interface, just a few clicks and you have an IRR. This type of feature is likely to appeal to broad groups of users- even though it will be 'quick and dirty' and will need to be used with care and due guidance to avoid drawing wrong conclusions from approximate results.

One possible option would be to make COMFAR accessible directly on the internet, with a client just logging in, inputting data and getting results immediately. No user key and no software distribution. It would require a different operation at source – i.e. in UNIDO – and may face challenges with regard to - for instance - confidentiality. However, this may be the technological platform for the future, and should be considered.

A higher degree of specialization and tailoring would improve the demand orientation of COMFAR further. The modulation of COMFAR has already been suggested by the COMFAR unit itself , that recommends that the future COMFAR is one with a number of specialized versions (e.g.: COMFAR 4 Industry, COMFAR 4 Agro, COMFAR 4 Energy, COMFAR 4 Environment, COMFAR 4 Labs, COMFAR 4 MSME etc.). Whatever the choice, the key issue is to be consistent with the strategy chosen for COMFAR. If it is to be used as a capacity strengthening tool, it must be tailored for that purpose. The same is true if it is to be used as a decision making tool for private business. If it is to be used for both purposes – probably two versions are needed. There cannot be a one-size-fits-all package.

The new manual

This "Manual for the Preparation of Industrial Feasibility Studies" is a modernized update of the former "yellow" and "green" manuals, and is planned to constitute

the foundation for the further development of COMFAR 4. The process of updating has been under way for several years.

Basically, it is quite similar in structure - and even content - to the old manual. To some degree this reflects the fact that basic investment analysis theory has changed little in 30 years. However, it is also because the task for the reviewers appears to have been to update, and not to redo. The result is a manual that essentially is the same book as the old Yellow manual, with some added concepts, some new formulas and added definitions.

It is thus still a compendium of investment preparation and project appraisal techniques, and one that is theoretically very sound. It starts with contexts and strategies, goes on with forecasting techniques, then marketing, technical design, organization, location, implementation, financial and finally economic analysis. Each subject is explained from scratch, to a degree that might seem superfluous to more experienced readers. As an example, the Manual discusses issues like what determined consultant fees.[35] No real surprises, as the book says it depends on the scope of work, complexity of sector, fee structure of the consultant, consultant work load, and a few things more. There are quite a lot of similar, rather obvious statements on most of the subjects, and it gives the book a feel of being written for undergraduates. This is combined with rather advanced subjects like statistical probability analysis and exponential cost estimating, thus moving onto Master levels during the course of a chapter.

This begs the question of who the users of this manual are going to be. In 1980, there were fewer textbooks around, there was no internet, and investment analysis was a comparatively new field in many developing countries. A broad based compendium clearly had a market, as shown by the extraordinary sales numbers of the Yellow manual.

As remarked under the discussion of "state-of-the-art", the context is now completely different. Is there really a need for a new compendium covering highs and lows of project assessment techniques? According to one of the reviewers of the first draft, there is no academic subject - or textbook - that includes all the aspects covered by the Manual.[36] So from an academic viewpoint, one might perhaps be tempted to say "yes", there is demand for this type of overall summary of everything involved in investment preparation.

However, it is difficult to see which private company would spend time to consult the manual as it appears today. Most private sector companies and entrepreneurs can be assumed to know the basics of running a business operation, and do not need to be told how consultants are to be hired. An investor

[35] Section 2.2.7.2
[36] "Revision off a version of Manual for Preparation of Industrial Feasibility Studies", A. Sulejewicz, 2005.

does not just get money from somewhere, and then starts reading from page 1 to learn how to invest - most have done so already and know the basics. On the other hand, for most small or medium enterprises, it is much too theoretical to assist in practical business decisions.

This is not to deny that there is a great amount of constructive and interesting information in the manual that analysts within a company may find useful. To some degree it works best for a private analyst as a type of encyclopaedia within investment subjects, where you can get ideas for analytical techniques and assistance in how to interpret results. But its current format makes it impractical to use.

For the reasons stated above, the manual is better suited for a capacity development setting than for business decision making. If you run COMFAR courses for people that have no or little background in investment analysis, the manual can potentially play a vital role in the teaching. It can also serve as "a useful summary of financial and economic aspects for engineers and the engineering aspects for financial specialists[37]."

The manual is not particularly targeted at investments in developing countries. It generally covers investments, but does not address some of the particular problems one meets when investing in Africa, for instance. Information in these countries is often much harder to come by and is less reliable, the political and economic context is more uncertain, regulations and business legislation often rudimentary, and practical difficulties abound, for instance with regard to logistics, to power supply, to availability of skilled labour, etc. While it is understandable that the manual intends to be applicable all over the world, from a development perspective it might have had more relevance if it was more specifically targeted at poorer countries.

Two areas that have been given more emphasis in the new manual are "forecasting, uncertainty and risk" and "economic analysis". In both areas the manual has been substantially expanded. These additions are considered very relevant as they are in line with the critique of external experts that the old manual was not meeting current standards of risk analysis and with the views expressed here about a need to emphasise more the non-financial (developmental) aspects of investments.

In conclusion, the Manual is a good academic summary of project preparation issues, but it is in its current form neither particularly practical nor user friendly. It does not have a clear client orientation and is not an obvious companion of the future COMFAR 4. Therefore the final product has to be streamlined (as comprehensive as necessary but as simplified as possible), and be electronically

[37] Quote from an interview with one of the reviewers of the original draft of the "new manual"

searchable and accessible, maybe also through internet. A greater degree of adaption to specific client groups is necessary for this manual to be relevant in today's business environment. The key decision to make is to decide if the manual is to be primarily:

- a training manual,
- a practical manual for the performing analyst, or
- a reference compendium for "all" - as today.

The next question is how closely linked it should be to the possible COMFAR 4. Limiting the manual to only the techniques used in the software model would restrict the scope of the manual seriously, and it would lose the compendium characteristic. It should thus still be a book in its own right that can be accessed by customers that do not want to use the software package. On the other hand, the COMFAR software should have an interface to relevant text in the manual.

The authors and reviewers involved in the making of this new manual express divergent views as to what should now happen with it. One maintains that only minor changes are needed, while the other suggests it should be completely rewritten to be targeted particularly at capacity building.

The Evaluation Team has most sympathy with the latter view, and believes that the whole manual needs to be looked at again when UNIDO has taken the strategic decision of where COMFAR is to move in the future.

3.1.2 COMFAR and developing countries

- In how far are UNIDO COMFAR activities addressing existing needs in developing countries?

It is safe to assume that the needs of developing countries to effectively analyse foreign direct investment (FDI) inflows are expanding fast. After a short period of reduced net FDI inflows at the beginning of the decade, the trend reversed in 2003. Since then the total volume of net FDI inflows in developing countries has more than tripled (from 181 billion USD in 2003 to 599 billion USD in 2008)[38]. The institutional capacities to appraise financial soundness and developmental relevance of investment projects are an essential prerequisite to ensure that FDI benefits the society at large.

However, there are substantial differences in needs and demands among different client groups, but COMFAR as a general tool makes no effort to specialize. Thus, all categories of business stakeholders are found among the license users as shown in figures 3 and 4 in section 2.2.

[38] Global Development Finance – charting a global recovery, the World Bank, 2009

It is noteworthy that commercial users have decreased in importance, and only constituted 16 per cent of all licenses sold in 2008/09, while it was more than 38 per cent in 2004/05. This re-orientation towards UNIDO technical assistance activities was requested from UNIDO previous management. Therefore UNIDO technical assistance projects, and government and non-commercial players now constitute the main clients group, with 38 per cent and 36 per cent share respectively. This would seem to support the notion that COMFAR works with development-relevant initiatives. At the same time there has been a noteworthy shift in the origin of clients. In the last 3-4 years, buyers from the industrialised countries have been dwarfed by customers from developing countries and least developed countries. In 2008/09, there where 3 per cent from industrialised countries (IC), 76 per cent from developing countries (DC) and 21 per cent from least developed countries (LDCs). The LDC share has increased significantly in 10 years, from only 8 per cent in 1998/99.

One type of group that is prevalent among all types of countries is the so-called *"*power users*"*, often being independent consultants, advisors or brokers, that come from small firms and that a) need generic models that can be applied to a number of different projects, and b) does not have the time nor resources to make specific models for every project that is analysed.

Needs in developing countries

The implication is that COMFAR does appeal to a number of users in the developing world, and that it thus does address existing needs in these countries. COMFAR is not free – there is a price to be paid for a license (EURO 1600 for a commercial licence in developing countries, half the price for public sector and universities), and a number of users apparently find this price acceptable in relation to their need (according to the COMFAR database 68 per cent of COMFAR licenses were bought without a UNIDO TC project covering the cost).

While speculative, two aspects of COMFAR probably have particular appeal in DCs and LDCs:

- It is often the "only" generic model easily available. Even if there are alternatives, they are likely to be expensive, and may lack support structure in the local market. With COMFAR you get not only a model, you also get training in how to use it. Developing own excel sheet is an alternative, but many companies would lack basic skills in making and maintaining these. These effects are even more pronounced for non-commercial organizations.

- The black box combined with the UNIDO stamp gives it credibility. Some DCs and almost all LDCs struggle with difficult business environment, and the "black box" increases credibility in a market where nobody otherwise trust anybody. The World Bank "Doing Business" ratings provide ample example of

the lack of basic trust between market participants, summing up to very high transaction costs. There is often a deep mistrust towards figures presented in a business context. Companies with triple set of accounts are not uncommon, so who would trust a self-made spreadsheet?

The relatively limited number of good models available in particularly LDCs combined with lack of sufficient skills makes project communication between stakeholders especially difficult. Excellent project ideas with trustworthy partners may never reach banks or other financiers simply because companies are not able to properly prepare projects in the right terms, supported with the right tables, and with the right graphs.[39] COMFAR can assist in bridging this communication gap, and examples from among others Iraq, Egypt and India tend to support this.[40] In this context, it is less important whether the model is the latest state-of-the-art, than that it can produce and present the necessary figures in the right "language".

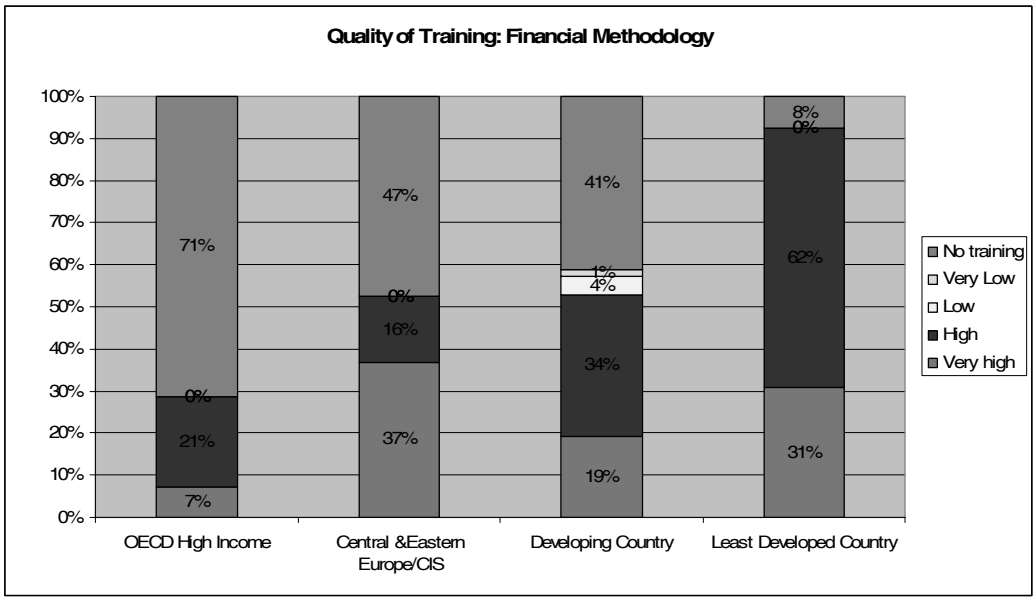
In addition to the pure financial calculation aspects of COMFAR, a key development feature of COMFAR that seems under-communicated is its capacity strengthening effects. As commented in section 3.4 above, there is an apparent capacity gap in financial analytical skills between the developed and the developing world. COMFAR with its origin in a manual is organized in a pedagogic manner, and the software is structured to gradually take a user through the different phases of financial project analysis.

In the survey, there is one revealing question that hints at this effect as possibly the most important for many users in developing countries. Users were asked to rate the quality of the training in financial methodology. In the total figures, also users that did not do training are included. It can be assumed that these believe they have the necessary skills to use COMFAR without any particular training course. If this training rating is cross referenced with the region where users come from, a very interesting picture emerges.

[39] This effect was apparent in a project UNIDO assisted in Egypt – investors became interested first when projects were presented in a "bankable format" – made by COMFAR.

[40] Based on information from interviews with COMFAR users in relation to UNIDO projects

Figure 10: Quality of financial methodology training according to region



Users from high income countries tend to skip UNIDO organized training – they believe they have the necessary capacity within financial methodologies. It is also the region where the least users find the quality of the training "very high". But at the other end of the scale, clients from least developed countries almost all do UNIDO training, and they are very positive as to its quality. Developing countries show much the same pattern, with Eastern Europe/CIS countries being the most satisfied.

These findings indicate that COMFAR does have capacity strengthening effects in LDCs, which would support the notion that it is a relevant UNIDO intervention in the context of developing countries

Target groups

- To what extent do COMFAR activities reach target groups in developing countries?

Neither the background documents nor the ToR specify who these target groups are. In an investment there are several stakeholders, including investors, banks and government authorities. As seen from the list of customers, all are represented as clients of COMFAR, and this indicate that COMFAR has a good reach in relation to the Theory of Change.

One question asks who the end clients of the analysis supported by COMFAR are. This would give an indication of whether the tool reached real decision

makers. The survey results appear to answer this in the affirmative. Asked to rank who the final clients of the COMFAR pre-investments study would be – out of 8 different alternatives – the top ranking was as follows:

Table 2: End clients of COMFAR analysis: Top rank (per cent)

Financial Institutions	37
Foreign Investors	11
Government Ministries	8
Investment Promotion Authorities	10
Local Investors	28
Other	6
Total	100

The results indicate that COMFAR is used directly in investment processes, to potential donors and to investors. It is noteworthy that local investors are a more pronounced target group than foreign ones, indicating that the model does have local anchorage,

Whether target groups are reached is, however, to a large extent a function of how COMFAR is marketed and sold. As seen from the table above, a substantial number of customers have background in UNIDO technical cooperation projects, and this constitutes a key channel for new users. Logically, one would then assume that COMFAR also reaches the target group that UNIDO intends it to reach.

However, as a capacity building tool it might be spread wider than what it is today, but with the given reliance on very limited human resources at UNIDO HQ and a small number of certified trainers this will be difficult to achieve. Thus, extending COMFAR's reach to target groups might require decentralizing training and training resources, supporting and building institutions around the world to run courses and teach COMFAR (see also the example in the box below). This could be done also directly in cooperation with Universities, or other training centres. Indeed, given that a software programme is the core component, it may even be developed as an e-learning tool.

An example of successful institutional uptake and decentralized training of COMFAR – the EDI in India

The renowned Indian Entrepreneurship Development Institute (EDI) in Ahmedabad had its first contact with COMFAR in 1991. Since then it has introduced its own "Industrial project preparation and appraisal (IPPA) programme. Using COMFAR always in its most current version the IPPA has been delivered to approximately 400 officers from around 35 developing countries. The EDI reports that lately the demand for COMFAR courses and software has been growing. Interestingly, a UNIDO project for SME development has used the services of EDI to provide COMFAR training to selected staff of counterpart organizations (chambers of industry, development banks, etc.). The local implementation allowed the users to go beyond the training and organize regular "COMFAR practice round tables" to discuss projects. EDI has tried to assess the institutional effects of COMFAR and reports that most of the institutions who had participated in trainings subsequently introduced formats for project submissions and templates for project validation, mainstreaming COMFAR criteria into their operations.

While a strategic decision, one option would be to tailor COMFAR further to capacity building per se. This would for instance require restructuring the training to include a pre-module on principles of financial analysis. Thee better versed the trainees are in financial concepts before they start using the software, the more effective the training is likely to be.

There are thus several issues that need to be assessed, analysed and clarified before a possible new COMFAR 4 is designed. For example, license policy and pricing strategy need to differentiate between "training COMFAR" as compared to "business COMFAR". Further, a new COMFAR 4 based on more open software solutions may dilute the whole concept of a central software provider anyway as users are able to change and adapt the model to their own uses, irrespective of what UNIDO have planned for. Past performance indicates that to increase the relevance in developing countries, COMFAR needs to include capacity building as a more prioritised objective.

Relevance in different socio economic contexts

- Are COMFAR interventions relevant and effective in the different socio-economic contexts found in different countries (LDCs, Middle Income countries)?

The evidence from the survey and feedback from interviews indicate that relevance of COMFAR is highest in countries and environments with relatively more difficult business environments, and where there is a relative shortage of professional skills in financial analysis.

It is illustrating that as much as 79 per cent of the survey respondents say that political interest is important or very important for an investment decision. To some degree this may reflect the 20 survey respondents from Iran, but it still illustrates the importance of politics in investment decisions. The transparency of the investment climate is considered important by 91 per cent of the respondents, and supportive legal framework by 90 per cent.

When asked to rank factors responsible for the success of investment projects, the top ranking was distributed as follows among the different factors:

Table 3: Top factors responsible for project success (per cent)

Economic cycle	15
Economic stability	20
Political stability	44
Reliable legal system	3
Sound project planning	17
Other	2
Total	100

Political stability scores by far “best” as the top factor that explains project success. The most surprising answer is that only 17 per cent believe that sound project planning is the most important factor. That would seem to indicate that they believe project preparation does not play a hugely important role in whether a project becomes a success or not. This is not exactly “state-of-the-art” within project processing in neither private nor government development spheres, but may simply illustrate the fact that many work in very unpredictable business environments.

Users generally rate COMFAR highly in its contributions to reduce project risk. Given that investments in developing countries in general are perceived as being more risky than in developed and industrialised countries, this is a valuable feature. As much as 86 per cent of the respondents state that high risk of investment projects and resulting investment failure is a serious problem in their country.

As a final observation, it seems that COMFAR is valued particularly in so-called transformation countries, that go from state managed to liberal economies. In these countries, like Iraq and much of the Eastern Europe/CIS countries, there is

a particular demand for learning the new skills of assessing projects with regard to financial results, and not as political decisions.

3.1.3 COMFAR and UNIDO

While COMFAR has several external users who have no other relation to UNIDO, a substantial number have come to COMFAR through UNIDO initiatives of some kind or another. Indeed, as one UNIDO staffer said: "The first thing they [potential UNIDO partners] ask for is training in COMFAR". It is thus worth stressing the capacity building nature of COMFAR, as that is central to UNIDOs overall mission as a technical cooperation partner with the developing world.

Technical Cooperation Framework and ITPOs

- Does the COMFAR concept fit well into the overall technical cooperation framework of UNIDO? How do COMFAR activities relate to other UNIDO interventions in general and to investment promotion (ITPOs and others) in particular?

- What is the value-added of COMFAR for UNIDO Field Offices in general as well as to the spezialized field representations (ITPO's) in particular?

- What are the different roles of UNIDO and of counterpart organizations? Does UNIDO add value through COMFAR?

"Poverty reduction through productive activities" is one of the three core themes of UNIDO current programme and budget[41] and "investment and technology promotion (ITP)" is one of the 7 programme components of this theme. ITP has played an important role within UNIDO TC portfolio for a long time. The cornerstone of UNIDO ITP programme is a network of 13 investment and technology promotion offices (ITPOs). Other important activities in the field of investment are capacity building to national investment authorities and investor surveys for developing countries.

In terms of financial volume of the ITP activities COMFAR plays a minor role. The Investment and Technology Unit of UNIDO had a portfolio of ongoing projects amounting to approximately USD 60 million[42] in June 2010 whereas the COMFAR work programme for 2008/2009 reports a total volume of less than USD 500,000. It is thus clear that COMFAR, does not show prominently on the UNIDO balance sheet.

[41] UNIDO, IDB 36/7, PBC. 25/7, Programme and Budgets, 2010-2011
[42] Comment: Figures taken from UNIDO Infobase, June 2010.

However, COMFAR's relevance for UNIDO should be be measured by more than its contribution to financial turnover of the organization. First, as a tool COMFAR is used in many UNIDO projects: a rough screening of the COMFAR database shows that approximately 200 UNIDO TC projects aquired COMFAR licenses and included training activities since 1995. Second, based on the response from the client survey COMFAR does have an influence on larger financial flows related to direct investment in developing countries (approx. USD 295 million in 2009, see chapter 3.2.2.). Moreover, 25 per cent of survey respondents of the UNIDO survey have received COMFAR training and 50 per cent consider COMFAR important for their respective organization (UNIDO, ITPO or NCPC). According to the UNIDO survey and to a number of interviews with UNIDO representatives many field offices assign particular importance to COMFAR. With regard to the survey, 7 out of 8 field offices found COMFAR important or very important for their daily work. This share is significantly higher than it is for HQ, ITPO or NCPC respondents.

Several UNIDO evaluations of integrated programmes in different countries refer to COMFAR. Mostly it is mentioned that COMFAR is appreciated by trainees but that nothing is known about the use of COMFAR after the trainings and even less about possible effects on the quality of investments or to what extent such investments are done. This indicates that COMFAR lacks results orientation and an appropriate monitoring system that can be readily applied by those using COMFAR for capacity building and TC projects.

There are several good examples of successful inclusion of COMFAR in UNIDO supported activities. One such example is the "The Agri Fund" in Egypt that aims at raising investments in the entire post-harvesting value-chain. UNIDO role is to provide some project sponsoring and technical assistance to the developmental agency of the Fund. In this context COMFAR has been used to make investment profiles for possible projects, and UNIDO staff report that this has been very useful in discussions with local venture funds and other potential financiers. Indeed, "-.. *we finally talked the same language"* as a UNIDO staff member formulated it.

Another example is reconstruction projects in Iraq, where the financial calculations are done with COMFAR, and where the software has proven very useful in not only the purely financial analysis, but also in highlighting the important assumptions for the projects – and led to ".. excellent discussions about project possibilities..", It was also considered as a very useful introduction to market economics, for decision makers that came from more government oriented economic environments.

A somewhat different example of the use of COMFAR is found in the South-South Global Assets and Technology Exchange (SS GATE) System, an umbrella program, operated jointly by UNDP and UNIDO. The SS-GATE project aims at the identification of feasible investment opportunities through local SME support

organizations and their subsequent promotion through a common transaction platform. UNIDO implements capacity building programmes on project preparation and appraisal, based on COMFAR, running training through local SME organizations. This training has been very well received according to evaluation forms from the courses - with a few exceptions.

These are all examples where the use of COMFAR has served several objectives, and where there does not appear to have been any comparable model/methodology in use already. It shows that in the hands of experienced analysts, COMFAR is a solid tool that can be used for a number of purposes.

The common characteristic these projects do share, is that they were initiated based on individual knowledge of COMFAR among UNIDO staff. There was no overall strategy or procedures in effects that in any way systematically involved the COMFAR. While COMFAR clearly does not fit everywhere, it has not been used as a conscious tactical tool by UNIDO in developing particular strategies. There has been no screening system in place that would appraise projects with a view to possible inclusion of COMFAR "components" in order to test financial/economic feasibility of proposed initiatives.

It may also be that in UNIDO the inclination to develop and implement projects with a departmental attitude (i.e. tools and approaches used outside one's department are often ignored) is more to blame than the lack of overall strategies, but the fact remains that COMFAR is a technical tool that can contribute to solid synergy effects in UNIDO projects. These effects are primarily obtained through improved project preparation.

Interviews and project evaluations indicate that UNIDO counterpart organizations in the field of ITP (e.g. Entrepreneurship Development Institute, Ahmedabad, India or University of Guayaquil, Ecuador) often find COMFAR a very useful tool and that UNIDO has employed it very effectively as a capacity building instrument that is now used by these organizations as a training package. This indicates the potential of COMFAR to generate lasting capacity building effects, as the methodology and the software can be easily applied without direct involvement of UNIDO, once staff has been trained.

COMFAR and private sector development

- To what extent are COMFAR interventions linked to other UNIDO initiatives, in particular those in the field of investment promotion and private sector development?

COMFAR is in principle relevant to most of UNIDO TC, as the promotion of private sector development is a basic foundation of all TC programme components.

For ITPOs COMFAR has been a tool that increases visibility and offers opportunities to provide services to private sector clients. The UNIDO meta-evaluation of ITPOs[43] confirmed that most of the ITPOs use COMFAR, some of them to provide services to clients. For example, ITPO Tokyo and ITPO Bahrain use COMFAR to organize COMFAR workshops for different companies. On the other hand, the low participation of ITPOs in the COMFAR survey (only 4 of 13 participated) indicates that COMFAR is not considered essential by all ITPOs but might also be explained by the fact that the internal capacities of ITPOs differ widely within the network. UNIDO evaluations have repeatedly highlighted that the promotion of project proposals prepared with the help of COMFAR through the ITPO network has not led to the expected results. The web-platform created for this purpose, UNIDO Exchange is not any longer in use.

Currently only 4 per cent of the UNIDO survey respondents use COMFAR themselves. This indicates that there is little room for using COMFAR in the typical TC project preparation process. According to a member of the UNIDO Quality Advisory Group (QAG), which screens all project proposals before approval, project documents in many cases are prepared at a stage when the data needed for feasibility calculation is not yet available. That suggests that COMFAR could be used rather at a later stage, when the project has initiated activities (or during a preparatory assistance phase) and data can be collected in the field. The exceptions from this are projects where most of the necessary data is already available during the project formulation stage (e.g. projects aimed at rehabilitating industrial plants or setting up pilot plants). However, such activities do not seem to represent a large portion of the UNIDO TC portfolio.

In several instances efforts were made by UNIDO to widen the use of COMFAR with a view to increasing the financial and economic soundness of its TC projects. Examples are the inclusion of COMFAR in capacity building activities for National Cleaner Production Centres (NCPCs) and ITPOs. However, there is no evidence that suggests an increase in COMFAR use within UNIDO (contrary to the rising number of COMFAR license holders).

Need for improved feasibility analysis

In interviews with UNIDO staff, there was one single argument that almost everybody stressed**:** UNIDO needs to improve the quality of its own feasibility work particularly in projects with a commercial angle. The implication was not necessarily that COMFAR had to be used everywhere, but that the analytical quality of investment analysis had to be improved. UNIDO is very seldom an investor itself, but is involved in a great number of projects with investment consequences. As formulated in the evaluation for "UNIDO projects for the Promotion of Small Hydro Power for Productive Use": "The analytical weakness

[43] Independent Thematic Evaluation of the UNIDO ITPO Network, UNIDO, 2009

is also reflected by the relatively superficial feasibility studies or the lack of such studies for the individual projects sites".

While it is difficult to determine exactly what fraction of UNIDO TC projects actually have a potential to benefit from increased COMFAR use, it is safe to assume that the following types of projects require feasibility analysis as part of the process:

- Capacity building for investment and technology promotion
- Capacity building for private sector institutions
- ITPOs
- Renewable energy projects (feasibility of proposed solutions)
- Innovative technology solutions, such as non-combustion technologies for Persistent Organic Pollutants (POPs) destruction
- Environmental investment projects such as ODS phase out investments or technology transfer project for cleaner production

From this list it becomes clear that a large share of UNIDO TC activities is concerned. For example, the recent evaluation of the UNIDO International Technology Centre for Hydrogen Energy Technology (ICHET)[44] found that "projects need to be designed in a way that they solve real development problems, have a realistic prospect of being cost effective for the recipient or host to keep the project operating post intervention". This, in other words, suggest that a more stringent focus on feasibility and developmental relevance be applied to ICHET projects. COMFAR might be one of the tools to be applied.

This is a thematic issue which reaches outside of COMFAR as such, as it is more a management question regarding project preparation procedures. Still, the basic methodological foundation of the COMFAR is a key resource waiting to be better utilised internally in UNIDO. This is actually a case where the software may have shadowed for the methods, as users may have tended to think about COMFAR purely in computer terms.

There is potentially much to be gained from reinvigorating the methodological aspects of the COMFAR "investment analysis" in UNIDO, meaning determining basic principles and methodologies for how projects are to be analyzed in relation to UNIDO overall objectives. This includes more forcefully employment of best practice tools and thinking in internal feasibility processing. Interviews with representatives of different international institutions as well as available documentation such as guidelines and policies of such institutions indicate that most other development organizations that develop activities with direct investment consequences assess projects in greater detail than UNIDO, both with regard to financial and developmental results.

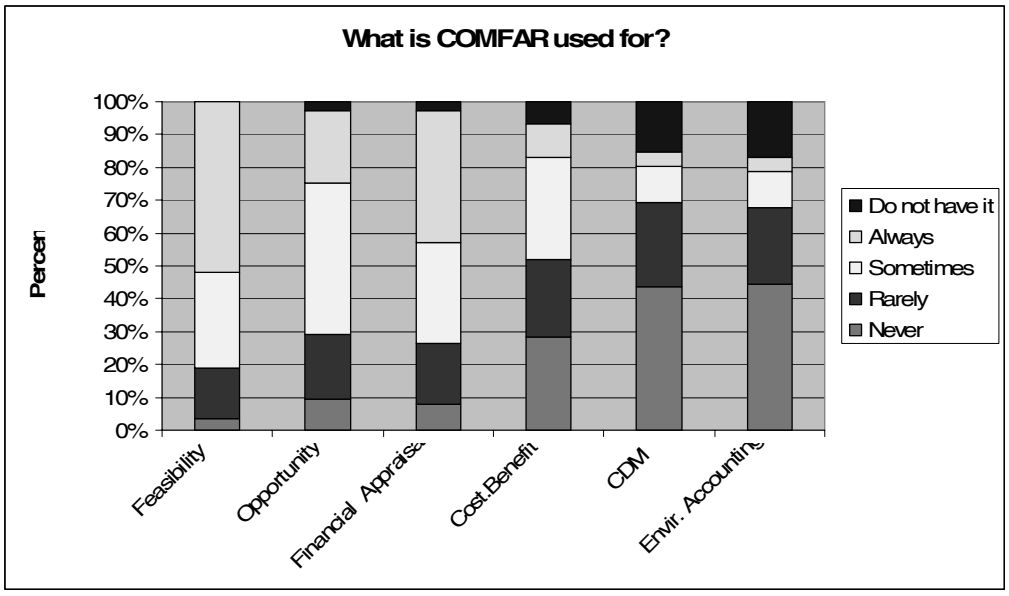
[44] Independent Evaluation of the International Centre for Hydrogen Energy Technology, UNIDO, 2010

3.1.4 General relevance

- Are all components of the COMFAR model (commercial feasibility, cost-benefit analysis, CDM module, EMA module) relevant?

Not all modules of COMFAR are used to the same extent. Survey respondents were asked to indicate how often they used COMFAR for different purposes.

Figure 11: What is COMFAR used for?



More than 50 per cent always use COMFAR for feasibility work, and almost 40 per cent for financial appraisal, while use is less for the earliest type of project analysis – opportunity study. Few "always" do cost benefit, but about 30 per cent say they do it "sometimes".

Of the total COMFAR package, the financial analysis module appears to be the most relevant for all users across all types of countries. The cost benefit module is the most complex, but is apparently still used by some. The high incidence of government customers among licensees may explain this phenomenon, as it is not likely to be used very much by private companies. Consultants and other advisors that work with development agencies are another group that may use this particular module. However, the cost benefit module is assessed as having low relevance for large parts of the customer group.

- Is there a particular need for the preparation of independent feasibility studies (as prepared by UNIDO)?

If the question is whether COMFAR brings independence into a feasibility study, the answer is a resounding "no". Only in few cases are COMFAR studies carried

out by (independent) UNIDO staff and COMFAR itself does not guarantee independence of any kind. It is just a tool, with no automatic quality assurance mode that kicks in if you put in skewed assumptions. It helps a user to take account of a number of relevant factors, but any analyst may contaminate any analysis as much as he/she likes at any time.

To most analysts, there is hardly such thing as an independent feasibility study. There is always a stakeholder and an interpreter behind an analysis, whether the person reports to UNIDO, Price Waterhouse, Uganda Ministry of Industry and Trade, or World Bank management. Some of these stakeholders may try to act more impartial than others, but this is not something COMFAR in itself can influence. There is no absolute truth embedded in an investment analysis and a forecasting exercise. An investor, a government, a bank and a labour union will all have widely different interests in an investment project, and this will guide their analysis and their interpretation of the assumptions and the results.

What COMFAR – and any other investment analysis tool that calculates correctly - can do, is to bring stakeholders to "the same table", where they can discuss the numbers on an equal basis. All would be able to see what assumptions are used. This is where COMFAR can play a role, namely as a transparent capacity equaliser for many stakeholders in the developing world.

However, if the question is if UNIDO in general should start to act more as an independent consultant to provide clients and partners with what it believes are independent feasibility studies, this is considered as outside of the scope of this evaluation. It requires an expanded analysis of not only COMFAR, but of UNIDO resources, skills and abilities in doing such analysis. Of course, a development organization as UNIDO would hopefully be in a more independent position than a private company. It should be noted, however, that the former UNIDO Feasibility Study Branch was actively involved in providing such independent advice. Nowadays the COMFAR group carries out feasibility studies for projects or clients only in rare cases.

3.2 Effectiveness and impact

- Are individual COMFAR interventions producing the expected results, in particular institutional outcomes in terms of capacity building and impact in terms of pro-poor investment?

There do appear to be capacity building effects. It is much harder to find tangible evidence for the pro-poor investment objective, and whether COMFAR has had any impact on pro-poor industrial development and generated growth and employment. There is relatively little known about how much the use of COMFAR impacts investments, and if the impacts would have been different if another model had been used. Even in those cases where a calculation on COMFAR may have been crucial to a project's success - like showing profitability to a

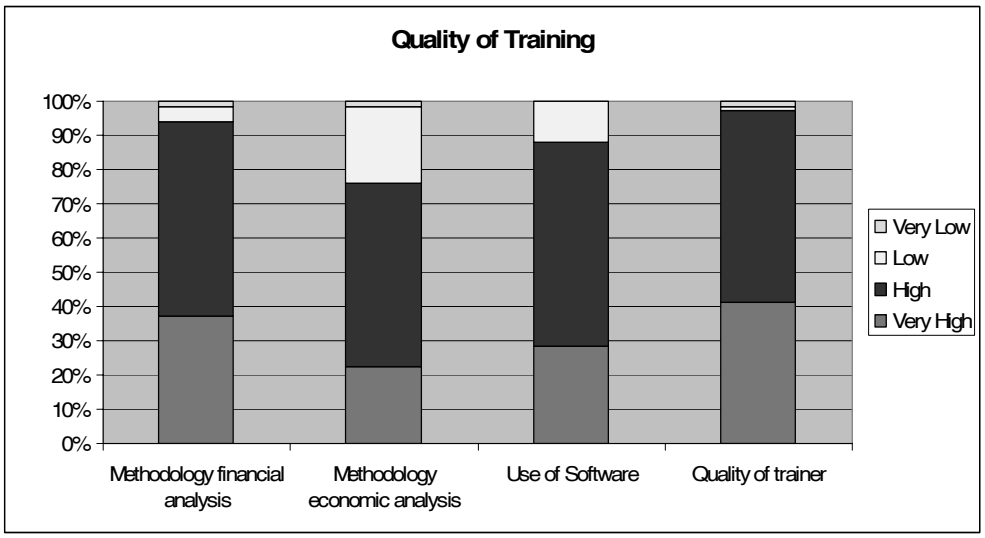
sceptical bank - it is exceedingly hard to prove that it actually did play that role without doing a detailed case study. We have to rely on the statements from the survey and from the individuals interviewed. Due to the many factors involved in an investment decision, we can at best say that "COMFAR contributed to", and not that "COMFAR resulted in." Most of the available evidence is thus at the “outcome” level, and less on actual “impact”.

In general, users and promoters of COMFAR as expressed in the two surveys consider the effectiveness of the package high. This is true for the direct effects on the quantity and quality of investment projects, as well as for the socio-economic impact that these investment projects have. However, it should be noted that the findings of several evaluations of UNIDO TC projects highlighted that no evidence on the actual impact of COMFAR on investments exists.

3.2.1 Effectiveness capacity building

In addition to the already cited statistics on training, the user survey provides further indications that COMFAR has been effective in building capacity in accordance with the Theory of Change*.* The survey respondents are overwhelmingly satisfied with the training provided through UNIDO basic and advanced courses. The training is considered to be particularly good with regard to the methodology in financial analysis. Economic analysis gets the “worst” score, but that is a challenging subject that often takes years to master, even for economists. Of the 68 that took UNIDO training, only two gave the trainers low or very low score.

Figure 12: Quality of training



Positive effects of training are further supported by the evaluation forms that every participant has to fill in after finalising a training course. Full summary forms from 2008/2009 are attached as Annex E, while a selected group of relevant questions from these evaluations are shown in the table below.

Table 4: Training course response 2008/2009 - Vienna courses

Basic Training								
Beneficial for professional work v1*	considerably				somewhat	Hardly		not at all
	19				6	1		0
Beneficial for professional work v2*	yes					no		
	27					1		
Usefulness of topics:	very useful			might be in future			of no use	
COMFAR	33			5			0	
Financial appraisal	32			7			1	
Economic appraisal	11			16			0	
Feel confident to apply COMFAR to:	Yes				No			
Financial Appraisal	28				12			
Economic Appraisal	9				17			
Advanced Training								
Beneficial for professional work v1*	considerably				somewhat	hardly		not at all
	21				7	0		0
Beneficial for professional work v2*	yes					no		
	15					0		
Usefulness of topics:	very useful			might be in future			of no use	
COMFAR	33			8			0	
Financial appraisal	33			7			1	
Economic appraisal	11			17			0	
Feel confident to apply COMFAR to:	Yes				No			
Financial Appraisal	29				14			
Economic Appraisal	11				16			

* As can be seen, there are two versions of responses for the question on usefulness for professional work - one for the 2008 courses and one for 2009)

The overwhelming majority finds the training beneficial for their work, and most also feel competent to apply COMFAR for financial analysis. The story is different for economic analysis, that most participants find difficult and also of less relevance to their work.

The evaluations done after training conducted by the UNDP/UNIDO SS-Gate project are especially interesting as they give clear indications of the demand for this type of skills in developing countries. The title of the training was "Training Workshops on Project Preparation and Appraisal and the Application of Comfar III Expert", and the countries covered included Nigeria, Tanzania, Uganda, Ghana, Cameroon, Mozambique, South Africa, China, Malaysia, Vietnam, Thailand, and Turkey. Table 5 summarises evaluations from the 288 respondents - out of 343 participants - that filled in the form.

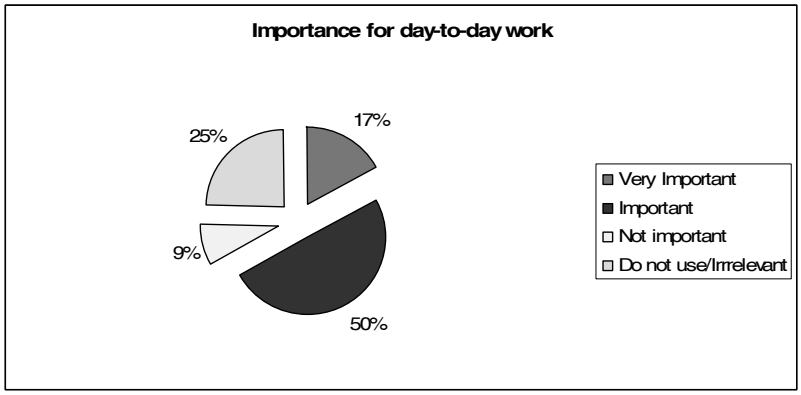
Table 5: SS-Gate training evaluation summary (percentage)

1. Profession	**Economist**		**29%**		
	Engineer		**16%**		
	Economist/Engineer		**10%**		
	Other		**45%**		
	++	**+**	**+ -**	**-**	**- -**
	more than expected		***as expected***	***less than expected***	
2. Expectations met ?	51%		47%	2%	
	considerably		***somewhat***	***hardly***	***not at all***
3. Beneficial for professional work	69%		27%	4%	-
4. More info/training wanted	97% YES		0 later	3% NO	
5. Duration of workshop	42% too short		55% adequate	3% too long	
6. Daily workload	22% heavy		77% adequate	1% light	
7. Substantive level (as expected)	39% higher		58% adequate	3% lower	
8. Usefulness of topics:	***very useful***		***might be in future***	***of no use***	
COMFAR	73%		27%	-	
Financial appraisal	79%		21%	-	
	excellent	***good***	***satisfactory***	***fair***	***poor***
9.A. Case study 1	34%	55%	10%	1%	-
9.B. Case study 2	36%	50%	13%	1%	-
10. Quality of presentation/instr.	43%	47%	10%	-	-
11. Didactic techniques	33%	56%	10%	1%	-
12. Ratio between:					
Lectures/discussions/practical work	25%	59%	16%	-	-
13. Training material	43%	47%	10%	-	-
	Yes, as is		***With improvement***	***Not at all***	
16. Recommended follow-up	33%		64%	3%	
	Yes		***Not certain***	***No***	
19. Confident to appraise projects	87%		3%	10%	

Almost 70 per cent answer "considerably" on the question of how beneficial the training was for their professional work. As the table shows, the general response to the COMFAR courses was quite positive. It is also noteworthy that 97 per cent want more training in these subjects, showing that there is an actual demand and need for improving financial analytical skills in these countries.

Active use of COMFAR in normal operation would support the hypothesis that COMFAR has capacity building effects. In the survey, on the question of how important COMFAR is for day-to-day work, 2 out of 3 find COMFAR important or very important.

Figure 13: COMFAR's importance for users



First, this indicates that the COMFAR activities mostly do adequately prepare and train people to use the tool afterwards, and secondly, it shows that COMFAR has relevance for the work clients do – and are thus presumably improving the organizations performance.

There is concrete evidence that points at a good potential for institutional effects of COMFAR. COMFAR has more than 40 institutional clients from developing countries (and a few from developed countries), most of which have been sending staff to COMFAR trainings and bought new versions of COMFAR repeatedly over the last 10 years. In only two of these cases (one institution in Nigeria and one in Tanzania) have UNIDO projects provided the funds for the trainings and software keys, while the vast majority pays for COMFAR directly. The type of institutions includes holding companies, public utilities, investment promotion agencies, entrepreneurship training institutes, pension funds, etc. This points at a remarkably wide spectrum of potential COMFAR clients in developing countries.

But does this prove that COMFAR really improves capacities?

Based on available evidence, we cannot unconditionally make that claim. Surveys and evaluation forms are only "paper", and does not necessarily reflect the true situation in each and every institution where these individuals work. It is also the great unknown of the 88 per cent that did not answer the survey. Thus, we do not know the actual uptake of COMFAR (whether the clients really apply COMFAR or at least apply the know-how on financial analysis).

However, there are important indications that COMFAR does have capacity strengthening effects, when triangulating four different sources of information:

- The evaluation forms from the training courses, that are mostly very positive as shown above.
- Interviews with staff in UNIDO, clients and the trainers, that mostly maintain that the COMFAR training has increased their knowledge in financial analysis.
- Continued demand for training course, including institutional clients who send new staff to trainings on a regular basis, indicate a belief among some of the customers that COMFAR has capacity strengthening effects.
- The survey, that is imperfect, but which does leave the impression of a rather well received product.

While this does not prove conclusively that COMFAR has capacity strengthening effects, it is at least a good indication that some of the clients feel they have learned useful skills. As a minimum, it indicates that COMFAR has good potential to play an important capacity strengthening role. To put the question on its head, given this information, can we conclude that COMFAR does not have capacity strengthening effects?

That we are certain that some do apply COMFAR can be illustrated by a recent email to the COMFAR department from a client working in a Turkish holding company:
"In our department, COMFAR is used for preparing feasibilities widely. In the years 2009-2010, feasibility of various projects are prepared and evaluated in COMFAR successfully. In most projects feasibility studies, I worked directly by using COMFAR and I assist the remainder. Preparing feasibility in former EXCEL format which was enhanced by [company name]'s personnel was quitted totally. We have an improvement in preparing feasibility process. As a result of using COMFAR, process became shorter and more reliable"

Potential for improvement

COMFAR could most likely be an even more effective capacity builder if that particular objective was more clearly emphasised. The training now focuses primarily on the software and the inputting of data. But the side effect is financial training, as clients are implicitly taught why they for instance have to take account of inflation when prices are inputted. This could be done better with a dedicated financial training session before starting the model inputting, or a different pedagogical method to better integrate the two. While we believe there are already capacity strengthening effects, they could be even better realized with a more targeted approach.

As it is now, COMFAR training can be said to be a "quick and dirty" method of teaching financial analysis - it cuts corners and does not sufficiently explain complex issues and exceptions to rules. But it does introduce people to the key concepts, and it forces people to actively apply them through the model. A pure

theoretical course in financial analysis would have done it differently, but COMFAR is for many clients the only realistic possibility to learn about these issues. The interaction between inputting and theory is the single unique feature of COMFAR.

As suggested by several of the UNIDO staff and COMFAR trainers, better capacity development effects might be realized by applying stricter criteria for those that participate in COMFAR training. Some knowledge of financial concepts beforehand is likely to enhance training effectiveness for the individual. There is also an argument about more tailoring of COMFAR to particular groups - it could be according to country, to size of enterprise, to sector or even type of project (rehabilitation, new construction, privatisation, etc).

In general, if COMFAR is to move in a capacity strengthening direction, it should consider development of different types of courses based on different client knowledge levels and needs.

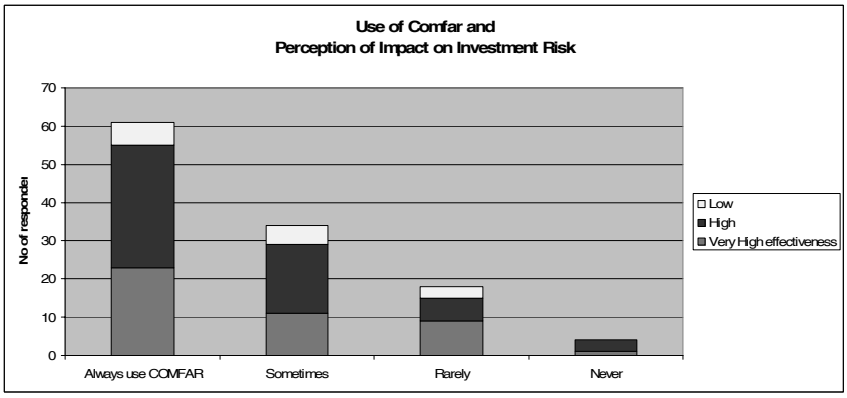
3.2.2 Effectiveness investments

Survey results apparently corroborate that COMFAR has contributed to improving investment projects, as intended in the theory of change.

Minimizing investment risk

In the survey, COMFAR users were asked about the effectiveness of COMFAR in "minimising investment risk". In the figure below, this is cross-referenced with the answers given for actual use of COMFAR in feasibility studies. The expectation would be that those that used COMFAR regularly would also be the most positive to its perceived impact on investment risk. While this hypothesis is supported by the numbers, it is interesting that most of those that use COMFAR only rarely and never, also find that it has high or very high effectiveness in reducing risk.

Figure 14: Effect of COMFAR in reducing investment risks

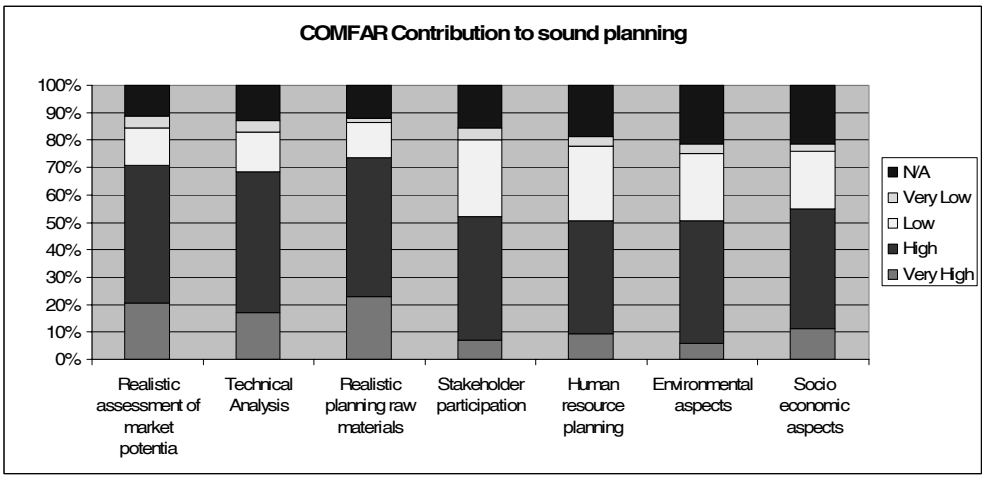


An indictor for COMFAR as an effective tool to improve investment projects would be if COMFAR contributes to rejection of bad project. More than 68 per cent of the users believe use of COMFAR "often lead to rejection of unfeasible project alternatives." The top reason cited for rejection is "limited market potential" that 37 per cent believe is the key barrier.

Sound project planning

Users state that COMFAR appears able to assist in a number of the processes involved in project preparation. On the question whether COMFAR as such contributes to good planning in some selected areas, respondents are overall very favourable to COMFAR's presumed role.

Figure 15: COMFAR contribution in particular planning areas



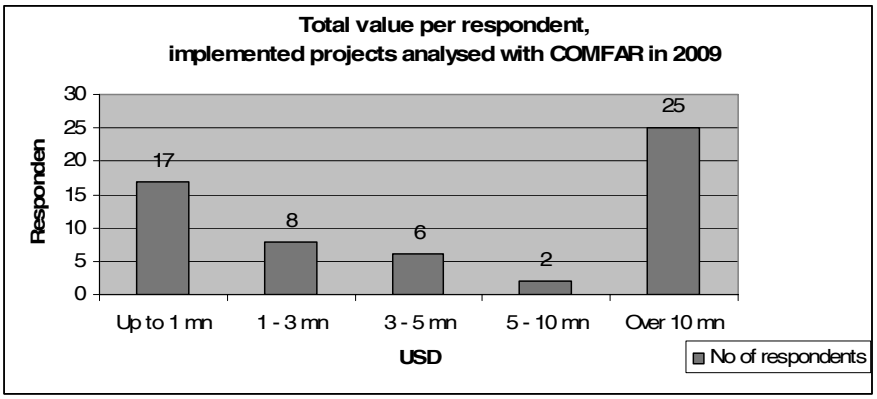
According to the survey, COMFAR plays a particularly important role in planning for markets, technical analysis and raw materials. The majority of users find COMFAR effective with regard to these processes.

Value of COMFAR analyzed investments

COMFAR does appear to be used in a substantial number of investment projects. 58 survey respondents said they analysed projects that were implemented during 2009. The total value of these investments per respondent is shown in the figure below. As many as 25 survey participants said they analysed projects of a total value of more than USD 10 million. Likewise, a substantial number were working with projects less than USD 1 million. This seems to imply that COMFAR is also applied to relatively smaller projects. If the lowest value is assumed in each range (except the first where an average is used), COMFAR was involved in the analysis of investments of about 295 million USD in 2009

It cannot be known with certainty if these numbers are correct, not all may have resulted in a final investment, and there is no way that we will know if the analysis would have been better or worse with another tool than COMFAR. What we can say is that COMFAR was used, and that it thus can be presumed to have made an impact – given that the users are rational in their choice of analytical tool and given that survey results largely confirm the validity of the COMFAR theory of change.

Figure16: Total implemented investments analysed with COMFAR in 2009



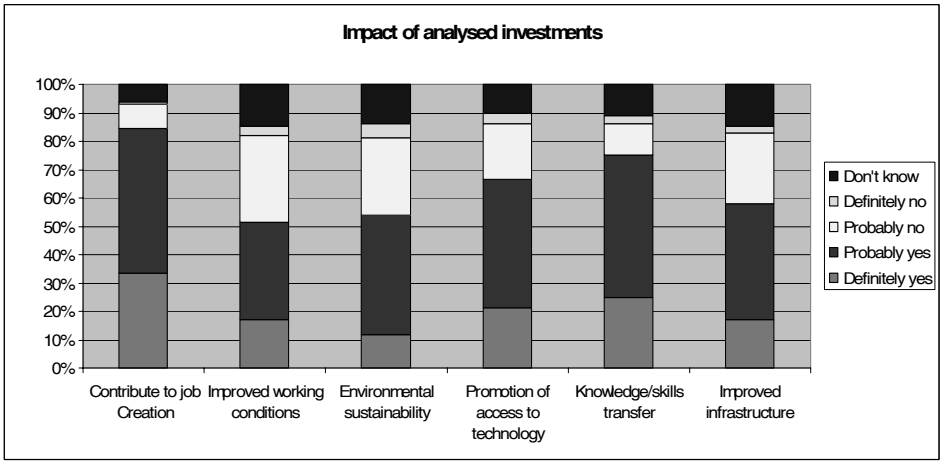
Based on these numbers, COMFAR does seem to have made a contribution towards increased investments in developing countries. Survey respondents say the model was used in investments totalling almost USD 300 million in 2009. As mentioned before, COMFAR probably only played a small role in the decision to invest, but it did play a role. It is, however, impossible to state categorically that COMFAR is more effective than alternative tools.

3.2.3 Effectiveness: Development impacts and pro-poor effects

COMFAR has no inbuilt feature that makes it more accommodating to pro-poor investments, and the economic module is not well suited to forward particular development principles. Still, the surveys deliver some findings on development effects from COMFAR.

One line of argument is that most investments by their very nature contribute to development by increasing jobs, by technological innovations and by generating economic growth. This line of thought is – perhaps not unexpectedly - shared by most of COMFAR users. Respondents to the client survey strongly believe investments analysed by COMFAR lead to positive socio-economic impacts.

Figure 17: Do COMFAR analysed investments contribute to development objectives?



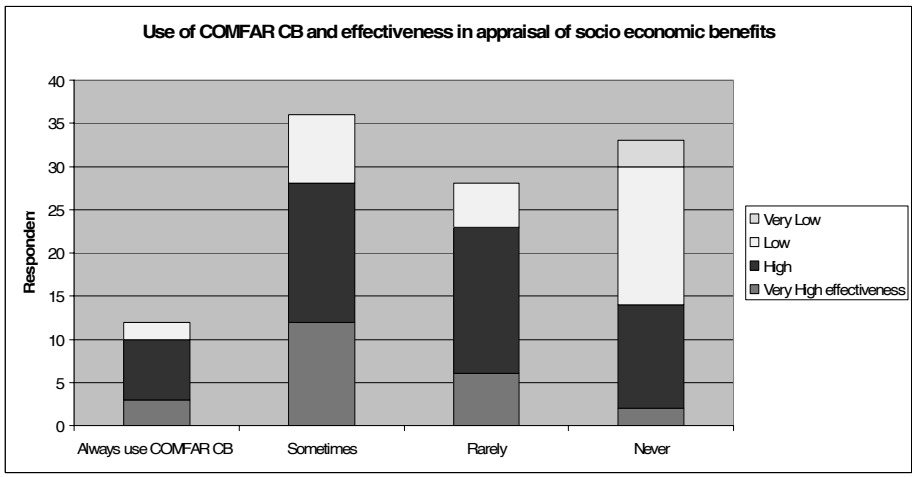
More than 82 per cent believe more jobs are created and over 70 per cent that it facilitates skills and knowledge transfers. More than 50 per cent even say investments "definitely" or "probably" contribute to improved working conditions and environmental sustainability.

It is quite likely that more jobs are created by an investment, but it is harder to substantiate the 58 per cent that maintain investments analysed by COMFAR contributes to improved infrastructure in the region. Some respondents to the survey may have a basically positive inclination towards COMFAR that leads them to judge most aspects of COMFAR favourably.

The UNIDO tool that does address development effects directly is the cost benefit module, even though this type of analysis is no longer very common in private sector projects. This is also reflected in the survey, where only about 10 per cent say they always use the COMFAR cost-benefit module, with an additional 30 per cent that say they do it "sometimes". Even this is surprisingly large numbers, as the interviews with trainers and COMFAR staff indicate that this module seems to be used very seldom.

The perception of users of the effectiveness of COMFAR in "better appraisal of socio economic benefits" is related to whether this module is used or not. (See figure below) What is surprising is that as many as 82 per cent of those that use the CB module only rarely, and 42 per cent of those that never use it, rate its effectiveness as high or very high in this regard. One would perhaps expect them to then use the module more intensively, if that is the case.

Figure 18: What do users say about the Cost Benefit Module?



The picture is the same with regard to whether the COMFAR Cost Benefit module contributes to avoiding negative socio-economic impacts, even though there is a slightly more negative view of COMFAR's ability in this respect.

A recent addition to the COMFAR package is the environmental accounting module that allows users to properly bring in environmental costs and benefits in their calculations. Perhaps a little disconcerting, but there are only 5 respondents that say they always use this module of COMFAR. Indeed, of the 97 that do have this module in their COMFAR license, as many as 52 say they never use it.

While there are thus indications that investments where COMFAR has been used have positive development effects, there is no evidence that COMFAR per se has led to more pro poor investment than what an alternative model would have done. This is an argument for strengthening the development aspects in COMFAR,

3.2.4 Differences of opinions: users and promoters

There are some important differences in how promoters (UNIDO staff, ITPOs, NCPCs) on the one hand and users (COMFAR license holders) on the other, perceive COMFAR effectiveness. First, users are generally more positive than promoters. Second, there are some areas where this trend is very pronounced:

<u>At outcome level</u>
- easier access to finance
- increased transparency of appraisal
- doing more pre-investment studies

<u>At impact level</u>
- contributions to job creation

Is COMFAR effective in facilitating access to finance? Approximately 84 per cent of the license holders think so, while "only" 52 per cent of the UNIDO respondents agree.

Table 4: Effectiveness of COMFAR - Part-1

How would you rate the effectiveness of COMFAR in facilitating the following (accumulated per cent of ratings as “High” and “very high”)		
	UNIDO respondents	License holders
Minimising investment risk	66	88
Easier access to financing	52	84
Increased transparency of appraisal	66	96
Expansion of project portfolio	52	74
Avoiding negative socio-economic impacts of investment projects	41	61
Avoiding negative environmental impacts of investment projects	52	54
Doing more pre-investment studies	48	91

The evaluation results indicate that COMFAR is not just used to rubber-stamp existing project ideas using a UNIDO logo to sell a project. This is, for example, confirmed by the surveys: A very similar, high share of respondents from promoters (60 per cent) and users (70 per cent) consider that COMFAR often leads to the rejection of unfeasible project alternatives. This is a strong indicator of COMFAR effectiveness.

There is also a strong belief from promoters and users that COMFAR can reduce the risk of investments, increases speed and efficiency of analysis, that you can appraise more projects than without COMFAR and that pre-investment studies are used for monitoring. There is significantly less confidence about COMFAR’s contribution to socio-economic and environmental improvements in the investments analysed.

The UNIDO respondents express less faith in the ability of projects that were analysed by COMFAR to create jobs (53 per cent), than the license holders where 85 per cent said that the projects probably or definitely contributed to more jobs.

Table 5: Effectiveness of COMFAR - Part 2

To what extent do you agree with the following statements? (accumulated per cent of responses "agree" and "strongly agree"		
	UNIDO respondents	License holders
COMFAR improves speed, efficiency and flexibility of analysis	95	94
The COMFAR package allows you to appraise more projects than without COMFAR	90	88
COMFAR calculated projects perform better than average in terms of socio-economic benefits	68	78
COMFAR calculated projects perform better than average in terms of environmental standards	70	73
The application of COMFAR analysis reduces the risk of an investment project	95	88
Pre-investment studies are also used for monitoring the progress of investment projects	95	90

Taking into account the bias towards positive responses (see methodology chapter), this indicates that COMFAR is mostly a useful tool for commercial/financial feasibility. The validity of the idealized theory of change with regard to positive socio-economic and environmental effects of COMFAR is less clearly confirmed by survey respondents. This has been further confirmed by focus group meetings and other interviews and coincides with the expert opinions collected, which indicate that the economic analysis aspects of COMFAR may not be very practical.

3.2.5 Key factors of effectiveness

- What are the main factors that influence the effectiveness and efficiency of COMFAR interventions (e.g. institutional anchorage, operational anchorage, access to finance, exit strategy and counterpart contributions)?

Findings tend to indicate some level of "effectiveness" in relation to the outcomes of COMFAR activities. Key factors that influence effectiveness include:

- Level of determination, quality and professionalism in training.
- Combination of methodology and software. Training on real business software increases realism and applicability
- Level of professionalism in user organization with regard to project analysis. The better the more effective COMFAR as an analytical tool will be.

- For capacity strengthening, development impact is inversely related to the availability of tools and skills in the business environment. The less skills and tools are available (as, for instance, in most LDCs) the more COMFAR is likely to have a positive outcome in terms of closing the capacity gap.
- Self evident, but the more user friendly and easy-to–employ the COMFAR tool is, the more effective it is likely to be.

3.2.6 Theory of Change

- Are individual COMFAR interventions implemented in line with the underlying theory of change?

The theory of change described in chapter 3 is defined very broad, and none of the COMFAR activities can be said to be outside the basic logic of it.

When results are compared to the theory of change, there appear to be differences in effectiveness between those activities that target classic investment impacts, and those that aim at capacity building. While there seem to be several positive outcomes with regard to both objectives, the findings on capacity development appear somewhat more solid than for investments. The key reason is that there is a more direct relationship between training and the capacity development, than there is between COMFAR and the actual investment. There are so many other factors that influence an investment decision, and one cannot know whether the use of COMFAR led to a better decision than if another calculation method had been used.

Further – and this is a key point in relation to development impact – there is nothing intrinsic about COMFAR that leads a promoter to choose a project with better development effects than another with less developmental emphasis. COMFAR is just a tool. It does not lead you in one direction or another, and does not "guarantee" that this is a good project – or that it is particularly developmental friendly. It could be used to make a business plan for an opium refinery as well as for an ecological egg-plant plantation, and for both it can be used to manipulate external stakeholders by using fake data or assumptions[45].

Is this a realistic Theory of Change?

The ToR asks directly whether the COMFAR activities are based on- and consistent with a coherent and realistic theory of change. The short answer to that is no. The theory itself is coherent in its logic, but it cannot be described as realistic.

[45] In an interview a COMFAR user mentioned that he was using COMFAR to calculate the feasibility of coal-power plant as this was a project that would not benefit from the feasibility assessment normally done by the World Bank for energy projects, as coal-energy did not meet WB criteria for funding.

COMFAR has not been effective in terms of development effects, since the logical link (TOC) between activities and development objectives is not very strong. It would only be strong if cost-benefit was a widely used feature of COMFAR, which it is not for several reasons already mentioned.

Does that mean that COMFAR has no potential developmental investment benefits? No, because not all stakeholders have access to knowledge to the same level of investment analysis. Thus COMFAR can assist in bridging the widening financial knowledge capacity gap that exists between resource strong and resource weak stakeholders.

3.3 Efficiency

- How do implementation modalities affect efficiency and effectiveness? Is the implementation of COMFAR activities interventions in UNIDO organized in an efficient manner?

There are several factors that play a role with regard to the efficiency of the delivery of COMFAR. The key issues are the administrative organization, the financing structure, and business model.

It is perhaps useful to keep in mind that efficiency is normally measured based on a given size of inputs – or resources. For COMFAR, activities have been run by an input of about 3 staff-years annually, and some administrative costs, mostly directly linked to delivery of the services – and recovered through fees. With about 850 new licenses sold every year (average 2008 and 2009) this in itself indicates a certain level of efficiency.

3.3.1 Administrative organization

COMFAR is organized unlike any other activity in UNIDO. While staff is fully integrated in the organization, funding of its operational activities is done through a special fund. This special fund is likely a key reason for COMFAR's existence for 30 years, protecting it from fluctuations in UNIDO fortunes. A report of the UN Joint Inspection Unit says that "had COMFAR depended on the UNIDO regular budget, it probably would have ceased to exist by now."46

This organization with COMFAR staff being self-responsible for generating the necessary financial resources has been important for the long term efficiency of COMFAR:

- The unit has enjoyed a great deal of flexibility as to the development of the software and the training package, being able to specialize in one particular

[46] UN System revenue producing activities, JIU, 2002

professional area This has contributed to the client efficient services delivered from the unit as stated repeatedly in client surveys and course evaluations.

- The unit appears as un-bureaucratized and less driven by compartmentalized thinking than some other units in UNIDO. Interviews with UNIDO staff maintained that COMFAR was easy to call on, and a good - perhaps underutilised - resource for the organization.
- Having to live off the sale of licenses in the first 15 years made the unit business like and adaptive to changes in demand. This has likely contributed to the making of a client responsive service.

On the downside, the relative isolation of the COMFAR unit may have led it to concentrate too much on the continued development of a given computer software. If the unit had been managed according to a somewhat broader mandate within tool development for project analysis, it might perhaps have worked with a wider variety of different tools, particularly within the measurement of development effectiveness. The cost benefit module of COMFAR has been outdated in this respect for some years. However, this is also a function of resources, and not only of management.

Available information gives few clues as to the efficiency of each individual activity that the COMFAR unit has performed. What can be said is that COMFAR has balanced the different activities in what seems to have been a reasonably sound mix - given the available budget. Again, the fact that they cover the costs - and more (staff costs have since 2005 been covered by the regular budget) - each year by sales in an open market is a reasonable indicator that the activity has been reasonably efficient.

In sum, the administrative organization of COMFAR is considered to have contributed to efficient delivery of services.

Monitoring and evaluation

- Is the information on COMFAR interventions and their results sufficient and relevant (M&E)?

There have been no systematic M&E efforts with regard to COMFAR outcomes and impacts throughout its history. COMFAR activities and outputs are reported on a regular basis to the Office of the Director-General, capacity building activities are included in UNIDO annual report and the COMFAR Fund is reported in UNIDO financial statements. The COMFAR unit now makes a bi-annual report that presents the different activities and different projects that can be linked to COMFAR.

This is not an analytical document however, and there is for instance no comparison of actual results with expectations. Indeed, COMFAR does not have particular targets established on an annual basis, and the work plan for the next year only indicates the type of activities to be done – not the expected outcomes

and impacts of those activities. Thus, the information on COMFAR interventions and their results cannot be considered as "sufficient and relevant" – as the question is phrased in the ToR - from an overall Monitoring and Evaluation perspective.

However, COMFAR has a few vital internal mechanisms to ensure client feedback, of which the Evaluation Forms from workshops and training sessions are key. They also do occasional client surveys, and have a technical service operation that handles maintenance and user-support (complaints, questions, etc.). COMFAR themselves thus have a sound understanding of what goes on among its clients, and what their demands and needs are.

This type of information should be part of an overall results-framework that spells out targets for the next period, and for the overall attainment of development goals.

3.3.2 Costs and income of COMFAR

- Is the income from the sale of COMFAR licenses covering the total cost incurred?

Until 2005, the COMFAR fund was expected to cover all costs of all COMFAR activities, including project staff but excluding the backstopping officer[47]. The fund managed to achieve this, with income exceeding costs in all years, except in 1992/1993 when the market was waiting for the introduction of the COMFAR III. The decision in 2005 to transfer budgetary responsibility for the core COMFAR staff – two professionals and 1.5 administrative assistants – from the fund to the regular budget was driven and justified by the intention to reduce the license fee of COMFAR (mainly for UNIDO TC activities). This would then lead to more customers, and further spreading of the UNIDO model and methodology. The number of clients did also increase markedly in 2006/07 and further in 2008/09, after the reduction in prices.[48]

Since 2006, the total cost of COMFAR has thus not been covered by the income. Sales of licenses and training fees still cover all operational costs besides staff costs, but leave a deficit compared to the total expenditures of operating COMFAR.

[47] When the UNIDO Feasibility Branch existed there was one senior UNIDO staff member backstopping the COMFAR activities and operational staff was recruited as project staff.

48 As an example of these price reductions, before 2005 UNIDO TA projects had to pay US$2,400 for the first license (= non-commercial developing country) and for each additional runtime/user US$500. After 2005 COMFAR charge a flat fee of Euro150.- per runtime/user and provide COMFAR III Expert, BusinessPlanner and MiniExpert.

Table 6: COMFAR income and expenditure (2006 – 2009)

	2006	2007	2008	2009
Gross Income				
Training Fees	89,730	90,050	103,646	288,618
Software License	220,866	210,395	220,155	179,369
Publications (Est)	6,687	4,254	2,394	0
Total Income	*317,283*	*304,699*	*326,195*	*467,987*
Costs				
Support staff	0	0	0	33,956
Consultants	31,031	28,971	60,676	142,177
Promotion	13,484	10,965	19,568	14,935
IT non-staff	19,601	26,004	27,270	15,868
Other	13,800	24,598	24,421	36,802
UNIDO support costs (13 per cent)	10,081	12,054	18,260	31,168
Total Expenditure	*87,997*	*102,592*	*150,196*	*274,905*
Net income COMFAR	**229,286**	**202,107**	**175,999**	**193,082**
Staff costs (covered by reg. budget)	*289,854*	*298,228*	*290,744*	*282,750*
UNIDO support costs (13 per cent)	10,081	12,054	18,260	31,168
Net income UNIDO (=net income COMFAR – staff cost + support cost)	**-50,487**	**-84,066**	**-96,485**	**-58,499**

The above calculation is provisional, as for instance sale of publications is only tentative. The reduction in staff costs in 2008 and 2009 is due to the reduction of one-half man year from March 2008.

A particular cost item that has risen lately is consultant fees, which is mainly linked to increased capacity building. One other noteworthy feature is that income from license sales actually decreased from 2008 to 2009, while training fees increased. More of the licenses are now sold at the discounted UNIDO price.

The relation between training and sale of licenses throws light on the capacity development aspects of the COMFAR activities. One can just purchase the COMFAR software and try to teach oneself the use through the manual and the supporting material. However, it is much more common that clients buy both software and training as a package. Indeed, since the change in pricing policies in 2005, a conscious strategy has been that clients who request (and pay for)

training workshops are offered the software at the same discounted conditions as UNIDO projects.

The idea behind is not only to sell more but to ensure that through the training COMFAR and thus the methodology is applied - from the very beginning - more correct than through self-learning. As commented above, there is a clear synergy between the software and the training. The model effectively supports the training of quite dense and difficult financial subjects, while the training ensures that the model is more correctly applied.

The relation between licenses and training courses are shown below.

Table 7: Training and new COMFAR clients

	Toal new COMFAR users	New users through self-financed training	New users through UNIDO projects	Total new users through training	New users through training (per cent)
1994/95	332	*72*	*55*	127	38
1996/97	805	*88*	*217*	305	38
1998/99	607	*108*	*134*	242	40
2000/01	630	*116*	*161*	277	44
2002/03	992	*360*	*189*	549	55
2004/05	915	*257*	*262*	519	57
2006/07	1358	*295*	*298*	593	44
2008/09	1748	*473*	*767*	1240	71

The table shows the two basic types of training that is done on COMFAR, namely either as stand alone self-financed, or through UNIDO projects. The difference between the total of new users, and those doing training, are those that teach themselves. With some variation, there has been a steady increase of users that also do training (last column). While it is difficult based on these numbers to say whether training led to purchase or purchase led to training, there appears to be a solid shift towards buying the integrated COMFAR package.

With regard to the overall development goals in the Theory of Change, such a move towards integrated COMFAR delivery is assessed as contributing to both efficiency and effectiveness. It is more effective with regard to capacity building and ensuring correct application of the software with regard to investment analysis. It improves efficiency of delivery through linking promotion, marketing and teaching of the use of the software. It is also likely to be a more efficient method of ensuring benefits from the model, for the client. (For UNIDO, this would rather count as effectiveness).

3.3.3 Outsourcing and future business model

- Is COMFAR a product that should be managed by UNIDO itself or could it be outsourced? In this context, is independence of COMFAR related pre-investment studies an important feature of the UNIDO COMFAR activities?

Alternative options for organizing the administration of a software tool exist in UNIDO. One model is the so-called PHAROS model – software for SMEs – where development and sales of the model are outsourced to a private company. It is part of a particular business model where PHAROS software and training is delivered almost fully through the private company. Sources in UNIDO maintain that the initial agreement was unclear and possibly not sufficiently specific to allow UNIDO the required leverage over the model, and, while evaluation evidence exists[49] that PHAROS has had a similar useful effect as combined training-cum-software approach, the current usage of PHAROS is very low with little likelihood of developing into something similar to COMFAR.

The contract issue is a key variable for any discussion of outsourcing. It is in principle possible to make an agreement that regulates almost anything, for instance with regard to future changes in content and structure of the software, to how and where it should be sold, and indeed how any operational decisions should be taken. UNIDO can transfer as much – or as little – of business decisions as they wish to a private provider. However, normally, the more control you want to keep over the outsourced business, the more it will cost you in terms of remuneration of the outsourcing – and in own staff-time to manage the agreement.

For a private firm to accept a very controlled outsourcing agreement, there ought to be a very attractive product that is easily sellable and with a substantial market. It should also fit into existing marketing channels, making it unnecessary to establish a new marketing regime for this particular product. The more it will cost a company to sell the product, the less willing they will be to accept restrictions on the development.

While COMFAR is a solid model, it is perhaps a typical niche product in a rather specialized business sector. One may possibly find a number of smaller companies willing and eager to take on a COMFAR outsourcing agreement, but they are not thought to be many. (The best alternatives may actually be found in some of the bigger developing countries like India). At the same time, if COMFAR is to survive, one would need a strong private provider of sufficient financial health to take a long term interest in developing and protecting the tool.

The question of outsourcing is to a large degree a question of what priority UNIDO attaches to COMFAR. Part or full outsourcing is likely to be good

[49] Independent evaluation of the UNIDO Integrated Programme in Colombia, UNIDO, 2005

alternatives if UNIDO decides to downgrade COMFAR, and where the future development path of COMFAR is considered less important. A simple agreement about a yearly license fee to be paid, and some clearly phrased sentences about the use of “UNIDO” as a trademark would probably suffice. COMFAR can also be sold “on root”, transferring all rights etc of the software as such for a one-time fee – but then without the UNIDO stamp as you would have no control of where COMFAR will then end up.

However, the evaluation team does not recommend outsourcing of COMFAR for three particular reasons:

- COMFAR has strengths in capacity building of business stakeholders in the developing world. This is a key development justification for continued UNIDO delivery. It will be much more difficult to develop this capacity building package outside of UNIDO, than within it.
- It can potentially play a visible role in the strategy to strengthen UNIDO image as a professional provider of up-to-date facilitation methodologies. COMFAR is a reasonably well known brand name, and can be used for more broad based UNIDO efforts than it is today. Outsourcing the brand name in any way will limit this possibility.
- COMFAR can play a more direct role in internal project preparation and management. Again, while it is possible to use COMFAR as such also if it is outsourced, it is likely to be a much more complicated relation. Furthermore, the development of COMFAR towards a more tailor-made, modular package that keeps changing continuously, requires to be close to clients. An outsourced company would have difficulties to be as close to clients as UNIDO staff.

There is one additional development aspect that supports the strategy of keeping COMFAR in UNIDO, namely that a private provider may concentrate COMFAR activities on other and more profitable markets, than the poorest countries

In general, the key reason is that having full control over the COMFAR software and methodologies gives more adaptive flexibility, and is better suited to a future where COMFAR is actively tailored to particular development challenges.

Independence and transparency

The survey respondents tend to believe that COMFAR has advantages as a neutral tool, because it is provided by UNIDO. About 40 per cent find that this neutrality is “definitely” a distinct feature of COMFAR compared to other programmes, and another 43 per cent find this feature “probable”. This was also strongly confirmed by the focus group of COMFAR users and is supported by COMFAR trainers and expert opinions.

There is even greater agreement that the standardised UNIDO methodology increases the transparency of appraisal, with 97 per cent saying either “definitely” or “probably”. The clear methodological foundation for the software is likely to be a key reason for why users feel this strongly about transparency. There is nothing very “transparent” about the financial theory that COMFAR is built on, but the model is transparent in how assumptions are put into the model in accordance with theory. This is where generic models score well compared to more specialized models – it is relatively easy to see how assumptions interact to produce the final result. This is valuable in complex project discussions with many stakeholders.

While these two findings are important in themselves, their importance is in their combination – the tool is transparent and it is provided by a neutral organization thus making it a trustworthy companion for a stakeholder in investment discussions.

The issue of independence should not be overstated, however. As mentioned in the discussion of effectiveness, COMFAR itself does not guarantee independence of any kind. It is just a tool, whether this tool is delivered by UNIDO or a private outsourced provider does not matter for the quality of the analysis.

Market considerations

- Is there a need to provide COMFAR through UNIDO or are commercial products satisfying the demand? Is the provision of COMFAR on a commercial basis distorting the market?

Commercial business models do not cover the demand for capacity strengthening within financial analysis that COMFAR seems to contribute to. As many models for financial analysis today are created and managed in-house, demand is a function of skills. These are unfortunately limited in many developing countries. The combination of software and training is considered to be unique, particularly in that it is focussed on developing countries

COMFAR cannot be said to contribute to distorting the market, even though it is to a certain degree subsidised through the UNIDO regular budget. There is no evidence that COMFAR has substituted other models in the market among users due to its price. Indeed, many of the survey respondents say they have never used any other model, and many find the price the least acceptable characteristic of COMFAR. The Joint Inspection Unit came to a similar conclusion recommending that “the (UN) organizations should adopt to the extent feasible United Nations Industrial Development Organization’s (UNIDO) Computer Model for Feasibility Analysis and Reporting (COMFAR) in the development and

marketing of software programmes that promote their mandates and generate income in the process"[50].

In the broad market picture, COMFAR is too small to make any major difference either way. For most users, the alternative is making your own Microsoft Excel sheet based model, or adapting a downloaded excel version from the web. This is normally quiet cost-free – the requirement being that one actually has skills to handle a model.

Future business model

Being a business like operation is likely to have been a contributor to the efficiency of the delivery of COMFAR. There are several options as to future development of the business model within that framework.

The survey put this question to both users and promoters. The most favoured changes in the COMFAR business model coincide largely between users and promoters. The distribution through private companies, the provision of support services over the web and the establishment of networks of COMFAR users are the preferred options.
The possibilities to provide COMFAR as freeware or open source are not conclusively rated as positive.

Table 8: Survey responses on Business Model

How do you think the following changes to the COMFAR business model would affect the usefulness of COMFAR? (accumulated percentage of responses "positive" and "very positive")		
	UNIDO respondents	License holders
distribution of COMFAR through private companies	63	70
product development through private companies	48	66
provide COMFAR as a freeware to everybody	39	54
provide COMFAR as open source software	52	55
provide support services through a dedicated support website	92	85
Establishment of network of COMFAR users	100	90

When the survey users were asked about alternative business models for the future, as many as 80 per cent said that UNIDO association with COMFAR was important for getting stakeholders interested in COMFAR pre-investment studies. At the same time, 70 per cent wanted COMFAR to be distributed through private

[50] UN System revenue-producing activities, JIU, 2002

companies and 65 per cent wanted product development to happen privately. Thus, the implication seems to be that clients want the UNIDO stamp, but not necessarily UNIDO delivery and development. It is a slight challenge to reconcile those two views – unless it is the blue mark of UNIDO that is primarily the demanded item.

However, it is recommended to first decide on a strategic target for "what" COMFAR is to be in the future, and then decide on the "how", i.e. the business model. Two basic alternatives can be indicated:

- COMFAR as a purely financial calculation tool for external users (without linkages to TC, capacity building and internal UNIDO use): Outsourcing some or all parts of the COMFAR activities, including training, could make sense, given that a suitable partner could be found. Control over development, maintenance, marketing and sales would be less important.
- COMFAR as a capacity development tool, plus playing a larger internal UNIDO role: Keep control over development and maintenance, but possibly outsource more of the dissemination to increase the outreach of COMFAR.

While COMFAR has reached an increasing number of users, the potential in developing countries is likely to be much greater, particularly if UNIDO can increase the extent of training. There are many ideas for how COMFAR could be more widely disseminated:

- On-line versions to get potential users introduced to COMFAR
- On-line training (eg. as part of an e-learning platform)
- On-line support through certified experts
- Certification programme for trainers and institutions that can front COMFAR in regions or in countries.

Devising a good payment structure is a challenge for all of the models, but it is considered important that some sort of fees is paid for both training and software. If external companies are to market and operate COMFAR, it is important for sustainable delivery that they can also earn money in doing so.

This means that COMFAR needs a pricing policy both in the first and second markets, i.e. out of UNIDO and out of an external deliverer. This will need a more in-depth assessment than this evaluation allows for.

3.3.4 Key factors

- What are the main factors that influence the effectiveness and efficiency of COMFAR interventions (e.g. institutional anchorage, operational anchorage, access to finance, exit strategy and counterpart contributions)?

There are three key findings as to efficiency

- The COMFAR fund is an efficient model for maintaining the COMFAR "tool box" alive; this has been proven by the simple fact that COMFAR has been around for a long time and is still alive and kicking with a growing sale of licenses.
- The sale of licenses establishes a link with the market that acts as an "efficiency safeguard", as too high prices or too low quality of the product would be punished by the market through diminishing sales.
- The limited use of COMFAR within UNIDO indicates that the full efficiency potential is yet not realized.

The last issue is possible to address, but it requires more than forcibly tying COMFAR onto UNIDO projects. It rather requires a different processing of UNIDO project proposals to take financial and developmental calculations more seriously, and to integrate the feasibility methodology into the mindset of project officers.

3.4 Sustainability

- Are COMFAR interventions producing sustainable results?

Perhaps, but there are only indications and few hard facts to prove it. Better quality investments – whether they are pro poor or not – would assumingly survive longer, but there are no available statistics that could substantiate such a claim. On the global scale, foreign direct investments in developing countries have increased tremendously the last decennium, but one would have to be very courageous to try to explain this with COMFAR.

There is more evidence on capacity development, in particular from the users of the COMFAR. Most report great satisfaction, and this can be inferred to imply that both the individual and the organization have become more skilled in the handling of project analysis. Basic investment analysis theory has not changed much during the last 30 years, and if you learn to calculate and understand net present value, it is a sustainable knowledge.

Other indications of sustainability include:

- The combination of software and training is good for sustainability, as the software package allows trainees to use their skills more readily after the training (as compared to a training without a software package).
- A substantial number of clients appear to update their COMFAR model to new versions, indicating that they have continuous use for COMFAR - thus the skills and knowledge of COMFAR are sustained.
- If COMFAR is rigorously employed in the planning of a project, it will improve the quality as compared to an alternative without any investment model.

COMFAR is by design a tool that aims at more sustainable productive investments. According to clients, COMFAR is effective in this regard.

For a future COMFAR 4, sustainability in terms of capacity development will increase the more user friendly the programme is – and the same can probably be said about investment impacts. From a more principle development perspective, investments to be supported by COMFAR would benefit from a tool that could better indicate development impact than the current cost benefit module. Lastly, an improved COMFAR more integrated in UNDO project processing, could make a difference for those UNIDO projects that need better planning.

One aspect of sustainability is COMFAR's own live-span. UNIDO has delivered COMFAR for 30 years, and improved the model in broad accordance with user wishes. This stamina has likely been a factor contributing to the positive outcomes and impacts that are visible, and to sustainability for those users that have been faithful clients. The current business model should get the deserved credit.

IV

Conclusions and recommendations

4.1 Overall conclusions and recommendations

In relation to the limited net resources spent on COMFAR, the indications are that COMFAR for 30 years has done a good job in facilitating improvements in investment projects in developing countries. As a “mere” tool, its application cannot guarantee such an outcome, but COMFAR gives the user every opportunity to plan projects better. Having said that, there may be other tools that are as effective, there may be more specialized methodologies that better address particular sector issues, and therefore most likely better incorporate the whole project cycle from feasibility to final closure, but as a general application COMFAR appears quite unique.

One of COMFAR’s advantages is its penetration of markets that normally are not that well served by similar models and planning software. One of the main development benefits of COMFAR is its inbuilt pedagogical features in teaching and building capacity in financial analysis. The combination of training and software is in this connection crucial, as few other financial investment models offer the same type of combined package in developing countries.

Today, the most common competitor to COMFAR (and other off-the-shelf-models) is in-house developed excel models, that are particularly tailored to the business at hand. COMFAR cannot, and will find it hard with a generically based model, to compete with these types of in-house solutions. Many companies in the developed world want a model that is perfectly shaped to their own needs, and one where they have full control over its development and its decision making criteria.

Basic project and financial analysis skills are in short supply in many developing countries, in private companies as well as in government agencies. This capacity

gap is likely to become more accentuated, with globalization increasing the number of foreign investors and business players in local markets.

There are a number of stakeholders to any investment decision, and an investment is normally a negotiated process between the investor (foreign and local), the bank (plus any other financier), the government (local and central), labour, and any other non-government interest group (environmental, indigenous people, etc). All will have different views as to assumptions to use, and interpretation of results.

It is important for a fair process that sufficient skills and capacity are present among all stakeholders, but that is unfortunately not always the case. Skills to critically examine and understand an investment forecast are apparently in shorter supply in developing countries than they are in developed.

A software model plays only a small role in a "financial capacity toolbox" – it is the analytical skills of the operator that matter – and the unique aspect of COMFAR is that it combines training and software precisely for stakeholders in developing countries.

COMFAR does thus address existing needs in developing countries, and the capacity building effects are considered important. COMFAR has reached out to a wide array of clients that can all be termed as target groups. However, we do not know precisely how well COMFAR is integrated in real decision making in individual institutions, and the extent of the capacity strengthening is thus unclear. But it is clear that COMFAR through its particular methodology at least has proven excellent potential to improve capacities in financial skills in the developing world.

A general conclusion is thus that COMFAR is more than software, and this has been key for development relevance for the last 30 years.

The internal use of COMFAR in UNIDO has been limited so far. Furthermore, the strategy to link COMFAR with the ITPO network as a tool to fill a data-base (UNIDO Exchange) with assessed profiles of investment projects has proved to be ineffective, not least due to the weak performance of the UNIDO Exchange. However, several concrete applications of COMFAR in connection with industrial development projects supported by UNIDO as part of its technical cooperation activities (e.g. some projects in Iraq, Sisal project in Tanzania, etc) have demonstrated that COMFAR can be an effective tool to enhance UNIDO value added in support of sustainable industrial development. This has been confirmed through the staff survey and several in-depth interviews with relevant UNIDO staff.

The institutional uptake of COMFAR was not evaluated in-depth here. However, several cases have been identified where COMFAR has been successfully institutionalised. Recognizing that UNIDO has never utilised COMFAR strategically to promote institutional uptake (e.g. through tailor made trainings for local institutions or through provision of on-line services for institutional clients) the successful cases demonstrate a good potential of COMFAR for institutional uptake.

COMFAR has not developed into a standard tool for investment analysis as was originally intended by the inventors. This is not surprising as through most of its time, COMFAR has not been equipped with sufficient resources to allow activities beyond training and software maintenance. Based on interviews with representatives from other agencies there might be a potential for COMFAR to develop into a more widely recognized and applied tool.

Other main conclusions include:

- COMFAR cannot be considered state-of-the-art, but it is a trustworthy tool that is based on solid financial principles. Since it is presently based on a software toolkit that is no longer maintained, a new major release is essential if COMFAR is to survive.
- The cost benefit module is somewhat more outdated for private sector projects, and probably needs a considered replacement.
- Clients generally find COMFAR useful, and the generic nature of the model appeals to a number of users, among the so-called power users (consultants, advisors, brokers etc).
- However, in an increasingly specialized business world, COMFAR is likely to benefit from a greater degree of tailoring and modulation to stay relevant in different market contexts. Effectiveness and impact are in general hard to prove, but there are indications of positive outcomes from the COMFAR activities, particularly with regard to capacity development. There is limited effectiveness in terms of contributions to development goals like pro-poor or socially responsible investment, and very few clients use the socio-economic tools.
- UNIDO has not sufficiently utilised the expertise and knowledge embedded in the COMFAR activities. The organization could benefit from a closer integration of COMFAR-related analysis in its project preparations.
- The business model has served COMFAR well, and contributed to the continued development of a demand responsive product. As a capacity strengthening tool, it will make sense to retain a high degree of control over it also in the future.

Changes in the financial environment and in the practice of investment analysis have left COMFAR less relevant for some of the stakeholders in an investment process. A major weakness in this context is COMFAR's limited capacity to assess investments from a developmental perspective in a comprehensive and practical way. As a result, COMFAR's relevance to UNIDO as an organization committed to poverty alleviation, to donors and to public and civil society organizations in developing countries, with their interest in ensuring societal benefits of investment projects, is reduced.

Fine, but what now?

COMFAR finds itself at a crossroad, and there are both operational and strategic issues involved. While the extent of COMFAR's development impact so far can be debated, the basic operations with the feasibility methodology, the software and the training have important potential to play a more active role in UNIDO work.

At the strategic level, the question is if COMFAR can be made a more forceful part of UNIDO wider strategy for private sector development. There are three particular aspect of COMFAR that constitute strategic opportunities for UNIDO:

1. Externally, with clearer focus on its role in capacity building in financial analysis for stakeholders in developing countries. The COMFAR package could be tailored as a generic, or a more sector specific instrument.
2. Developmental, introducing better methodologies for measuring and ensuring development effects of private sector projects in general.
3. Internally, as a general basis for improving UNIDO own feasibility and planning processes. This involves establishing core competences in financial analysis of industrial investment projects within the organization, based less on new software than improved analytical skills.

It is tempting to recommend that COMFAR in the future should be used to address all of these issues. That, of course, is simply not possible given the resources realistically available in UNIDO. And even if those resources became available, it is not obvious that they should be used for COMFAR activities as compared to all other projects and programmes UNIDO wants to run. The current COMFAR is but a small cog in the large machinery of investment promotion and private sector development. Why spend anymore on a tool like this where the impact is hard to prove and measure, and which works more in the shadow of the large processes than in the visible daylight that donors and governments presumably prefer? It is not difficult to understand that COMFAR may not get prioritized in a resource strapped environment as UNIDO.

However, this evaluation would still forward the case that COMFAR should be a part of UNIDO long term strategic plans. One of the key reasons is the need to improve UNIDO own feasibility processes (No. 3 above). Without exception, there was a core message from all staff interviewed, irrespective of position, sector or profession. If the quality of the projects does not improve, UNIDO would undermine its long term status as a provider of relevant development assistance.

This, of course, involves far more than COMFAR, but to improve project feasibility processes, the COMFAR assets are clearly good resources. This implies that these could be much better utilized for the benefit of improving UNIDO overall programming. Exactly how this is to be done should be subject for further consideration, but it would involve a combination of prioritization of areas and methodological developments within those same areas.

This is where the second issue mentioned above becomes important, as UNIDO misses a good framework from which to assess development impact of projects and programmes. While this may not seem like a useful thing in the short run, it will in the longer run be important for an institution like UNIDO to show development outcomes and impacts to its donors and other stakeholders. Result based donor aid will hit UNIDO sooner or later, as it has most other development organizations. Systems to safeguard and measure these results will become important.

That leaves the third issue, namely the capacity building in investment analysis. While less spectacular, it is nevertheless an activity that a good number of core UNIDO clients appreciate. Having already established itself, it can be run as-is without much ado. It has potential to reach much wider, however with a more dedicated capacity building focus. It can be untied from possible efforts within UNIDO internal feasibility processes or the search for systems to measure development impact. However, its methodological foundation would likely provide synergy to both of the two other processes.

Three options

Thus, while the evaluation understands the resource limitations that face any future efforts within COMFAR, the core recommendation is that COMFAR should be continued in one form or another. Most importantly, COMFAR harbors a good potential to increase UNIDO contribution to private sector based development. More pragmatically, with its current self-financing structure, it is hard to see what can be gained from closing it down. (The net financial outlay per year for UNIDO is now about USD 60000) The development benefits are as of today considered to outweigh these costs.

There are several options for how COMFAR can be brought forward, given the strategic opportunities mentioned above. It depends crucially on future priorities of UNIDO, and whether extra resources can be made available. As archetypes, three basic options for future direction of COMFAR can be suggested:

1. Continue as-is COMFAR, but with an upgraded COMFAR 4. The basic business as practiced today simply continues with a new software development platform.
2. Internally focused COMFAR, by redefining COMFAR to concentrate on UNIDO internal demands to improve project preparation, already during UNIDO project screening, appraisal and approval process. This implies a broader mandate within financial analysis processes in UNIDO, and new software development is concentrated on making dedicated tools for internal uses.
3. Capacity building COMFAR, redefining the COMFAR package to target capacity building within financial analysis in developing countries per se. This would involve conscious efforts to design a package with training at its core, and likewise identify marketing strategies that support this aspect in particular.

While option one can be pursued with the existing level of resources assigned to COMFAR by UNIDO, this option forecloses the opportunity to exploit the full potential of COMFAR. Each combination of the options 2 and 3 will require dedicated human resource to be added to the existing COMFAR unit; depending on priorities they could be pursued separately or in parallel. The real choice is between as-is, and a more proactive COMFAR that includes both the second and the third option. These two could be combined in a reinvigorated COMFAR, but with different sub-products. An internal tool and a capacity building tool would likely have different product characteristics, based on a common core. The key difference is between one of specialization and one of generalization. With a real modular based approach, both aspects could potentially be successfully addressed.

Such a revived COMFAR would potentially fit very well in UNIDO technical cooperation activities, such as Private Sector Development, Agribusinesses, Energy & Climate Change or Environmental Management. Furthermore linkage of COMFAR with UNIDO ICT partnership program would lead to mutual benefits from each other. It would be beneficial to UNIDO, as no other development organization has such a product. It also meets the demand for a sound business oriented approach of UNIDO technical cooperation.

One aspect should be carefully considered and integrated into both the internal and the capacity building concepts, namely better systems to ensure COMFAR's

contribution to development impacts. Whether as a weighted rating system, as a set of environmental and social safeguards, or even as a simplified cost benefit calculation, UNIDO additionally would improve markedly if it was made part and parcel of any COMFAR investment analysis.

If UNIDO decides to invest more resources and make COMFAR not only more relevant but also more effective in contributing to UNIDO objectives, it would need rethinking of the business model. A key principle should be to continue as a self-financed activity. However, there will be up-front investments in design and development where a donor – or strategic partner - might be interested in funding such a development project.

A scenario based on a vision of an expanded COMFAR would require a comprehensive business plan for a COMFAR 4.While the preparation of this business plan for the future COMFAR 4 development is a matter of UNIDO strategic priorities, it is recommended that COMFAR activities are not disrupted in the meantime. Months, if not years may elapse by the time a longer time strategy for COMFAR is developed, approved and the corresponding package finalized. Suspension of the "as is" activities in the meantime may be detrimental to the UNIDO image and COMFAR credibility.

4.2 Detailed recommendations

In addition to the general recommendations above, the evaluation would add the following more detailed recommendations. These would be valid under most future COMFAR scenarios – except of course where COMFAR is to be closed or fully outsourced. The actual implementation of some recommendations would depend on the strategic choices made.

Methodology

- For future methodological development, it is recommended to await the strategic decision of where COMFAR is to move in the future. Whether COMFAR is to be targeted at particular enterprises, at particular sectors, at particular development challenges or indeed at being primarily a teaching tool, will determine the need to design new methodological material. A new methodological toolbox based on an easily accessible web platform should be considered.

Software

- To reiterate a highly important recommendation: COMFAR must as early as possible migrate to a new software development platform This technical necessity of remodelling opens up a number of possibilities for COMFAR 4.

The final development would depend on what UNIDO decides as strategic priorities.

- The software could consider improvements/upgrading in several general areas:
  - It needs to get the possibility to better integrate with other software, like Microsoft Excel.
  - It needs a greater degree of logic and clarity as to inputting data (streamlining and simplifying the user interface), since understanding this inputting is possibly the main barrier for many users.
  - A greater degree of modulation is required to stay state-of-the-art in the future. Instead of one model for everybody, where choices inside this model determine the extent and scope of the analysis, there should be a number of smaller models where choices are pre-made for the user.
  - It needs in addition a lighter, quicker type of financial calculator mode, applicable during the initial stages of investment analysis.

- A future model needs to be better integrated with the internet, giving greater possibilities for interaction with users and developers.

- The "Mini-Expert" version should be discontinued, as there are very few active users

- Different clients have different needs, and COMFAR should consider developing more tailor made solutions, possibly through a more modularized approach.

- While the two environmental and CDM modules appear to be used by a minority of users, they should be continued as they are very relevant tools for some groups. They constitute important niche products with good relevance for what many consider to be key global challenges in the future.

- New models and tools should make it possible to check projects not only ex-ante, but also ex-post.

<u>Development effects</u>

- A new model – in particular for UNIDO internal use - should consider other aspects than the financial. There is much focus on proving development impact, and likewise avoiding negative environment and social effects.

- An in-depth study of available tools for assessing so-called multiple returns on investments is recommended, to extend or maybe substitute for the current cost benefit module. A tool would need to be easy to use, and cooperation with other, external providers could be assessed

- The cost benefit module is basically not recommended to be continued in its present form in a COMFAR 4. New methodologies should be considered, with scoring, checklists and performance benchmarks of projects, allowing improved methods for assessing development impacts. The exact look of this model can only be determined as part of a broader business plan for the future of COMFAR, given the priorities set by UNIDO. Several relevant examples are provided in the report as references.

Capacity building and dissemination

- To increase direct relevance in developing countries, capacity building should be emphasised as a prioritised objective for a new COMFAR 4.

- COMFAR trainings should be even better tailored to clients existing capacities, beyond the distinction between basic and advanced trainings. Alternatively a more stringent filtering of trainees should be applied for UNIDO Technical Cooperation activities.

- To spread COMFAR wider and further than what it is today, it is necessary to decentralise training and training resources, supporting and building institutions to run courses and teach COMFAR. Possible ideas include making on-line versions, on-line training, on-line support through certified experts and certification programmes for trainers and institutions that can front COMFAR in regions or in countries.

- In this context, tailored TC activities ("COMFAR Desks") should be developed that incorporate COMFAR activities into both, the commercial as well as the socio-economic planning efforts of government institutions and private sector development support organizations in Developing and Least-Developed Countries.

Operations and business model

- COMFAR should be managed by UNIDO in a more integral and strategic way. To achieve this, a COMFAR steering committee or management group could be established, including representatives from (institutional) clients and users as well as from other agencies involved in feasibility- as well as economic cost-benefit analysis.

- UNIDO COMFAR activities and their contribution to UNIDO outcomes and objectives should be described in a COMFAR programme document that includes overall results framework and allows monitoring and evaluation of developmental performance in the future. Such a document should include better monitoring routines than actually contained in COMFAR work plans.

- In addition to an improved monitoring system, independent evaluations of outcomes and impact should be carried out on a regular basis, providing inputs for continuous development and learning.

- It is not recommended to outsource core operational COMFAR activities, as it is important to keep control over the software to develop it as a capacity building tool, to have it play a more direct role in internal project preparation and management, and to strengthen UNIDO image as a professional provider of up-to-date facilitation methodologies.

- The exact business model should be revisited when a results framework for COMFAR has been developed.

- UNIDO management should make sufficient human resources available to COMFAR development, maintenance and training. This should not be less than was available at the inception of the evaluation to maintain efficiency of service delivery.

- COMFAR should continue to be based on a payment structure that aims at covering most of the costs. Fees should be paid for both training and software. If external companies are to market and operate COMFAR, it is important for sustainable delivery that they can also earn money in doing so

4.3 Lessons learnt

COMFAR is an extraordinary development intervention by UNIDO, having delivered a particular methodological product for 30 years at a fee for covering costs. This is perhaps the most important lesson:

- Basing such products on business like models with fees to be paid ensures continued focus on demand and clients, and acts as a check on the usability of the product. It contributes to creating efficiency in delivery, and effectiveness for the user.

However, a vital lesson is that COMFAR should have been given clearer operational objectives in tune with UNIDO overall strategies at an earlier stage, to a) ensure better integration in UNIDO general activities, and b) make it easier to measure performance in relation to these same development objectives. Another important lesson is:

- The 1970s technocratic approach to financial and economic analysis implying that everything can be planned, and that there is an objective independent truth to be found for forecasts is at best a fallacy. In a world of liberal and integrated markets, participants have to be able to live with continued uncertainty where parameters and assumptions change. Tools and

methodologies need to take this properly into account by allowing flexibility, specialization and integration (as currently provided to some extent by the sensitivity module of COMFAR). This in turn requires continued revision and updating in order to remain state-of-the-art.

Annex A: Terms of Reference

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

Terms of Reference

Evaluation of the UNIDO Computer Model for Feasibility Analysis and Reporting (COMFAR) Activities

5-4-2010

Contents:

I. Background and overview

Summary of UNIDO COMFAR Activities

The UNIDO Computer Model for Feasibility Analysis and Reporting (COMFAR) is a diagnostic and analytical methodology - developed and maintained by UNIDO since 1981 – that aims at reducing the risks of investment failures and increasing the quality of investment projects. The COMFAR methodology consists of a number of UNIDO publications for project preparation, formulation and appraisal (e.g.: UNIDO Manual for the Preparation of Industrial Feasibility Studies) and the related computer software COMFAR *III*. This software application permits the user to simulate the short- and long-term financial and economic situation of investment projects. It can be used for the analysis of industrial as well as non-industrial projects (e.g.: agro, tourism, mining or infrastructure projects), whether new investment, rehabilitation, expansion, joint venture or privatization projects.

COMFAR has been continuously upgraded to meet the changing needs of the clients, technology and software. The programme led to the release of COMFAR 1.0 in 1983 (for Apple III PC), COMFAR 2.0 in 1985 and 2.1 in 1987 (DOS version). The first version of COMFAR III (version 1.0) was released in 1995 for MS-WINDOWS. Since then, COMFAR *III* has been further developed and constantly upgraded by releasing 13 new versions. It is currently available in nineteen languages – Arabic, Chinese, Croatian, Czech, English, Farsi, French, German, Indonesian Bahasa, Italian, Japanese, Korean, Mongolian, Polish, Portuguese, Russian, Serbian, Slovak and Spanish.

Besides the general software tool, additional COMFAR modules have been developed, e.g. for the Clean Development Mechanism (CDM Module) that aims at facilitating the demonstration of additionality for CDM projects. Another additional module integrated into COMFAR is for Environmental Management Accounting (EMA), aiming at analyzing the financial and economic impacts of the continuous application of an integrated preventive environmental strategy to processes, products and services to increase efficiency and reduce risks to humans and the environment. Those modules are also based on the relevant UNIDO publications.

The COMFAR activities of UNIDO are coordinated by two professional staff members currently within the UNIDO Investment and Technology Unit (PTC/BIT/ITU) of the Business, Investment and Technology Services Branch (PTC/BIT). The activities comprise the following main elements:

- Continuous Development and Maintenance of the COMFAR methodology

- Management of the COMFAR Fund, including the income from the commercial sale of COMFAR licenses
- Training seminars for COMFAR users at UNIDO headquarters and in the field, both within UNIDO technical cooperation (TC) activities as well as through direct requests.
- Inclusion of COMFAR components in UNIDO technical cooperation projects (formulation of investment profiles for the promotion by the UNIDO network of ITPOs)

The objectives of the UNIDO COMFAR Activities

COMFAR – even if it is sometimes seen as a mere software tool - represents an integrated methodology developed with UNIDO in-house resources. The components of this methodology are:

1. Manual for the Preparation of Industrial Feasibility Studies - ID.372
2. Manual for Evaluation of Industrial Projects – ID/244
3. Guidelines for Project Evaluation – ID/SER.H/2
4. COMFAR Manuals (Reference Manual/Tutorial Manual)
5. Investment Project Preparation and Appraisal (IPPA) Teaching materials

The COMFAR activities are not outlined in an overall programme document describing the objectives of the UNIDO COMFAR activities but are approved by the Office of the Director-General, based on a biannual work programme. Furthermore, the role of COMFAR activities within the overall UNIDO strategy and programme is described in the current UNIDO Programme and Budgets document as follows[51]: "Capacity-building and advisory services will be provided to investment promotion agencies (IPAs) and local private sector institutions in developing countries and economies in transition on the analysis of new investments and the expansion or rehabilitation of existing enterprises. In this connection, the diffusion of the UNIDO computer model for feasibility analysis and reporting (COMFAR) will be promoted, as will the development of further applications of this tool to cover agro-industries, green industries and energy investments."

Thus COMFAR activities are supposed to contribute, together with other UNIDO technical cooperation activities, such as investment- and technology promotion, environment protection, agro services, etc., to the following objectives and outcomes:

- To facilitate responsible private investment and the adoption and diffusion of improved technologies in support of pro-poor industrial development.
- Industrial investment, partnerships and innovation systems generate growth and employment.

[51] PROGRAMME AND BUDGETS, 2010-2011, Proposals of the Director-General, IDB.36/7–PBC.25/7

- Public and private institutions support foreign and domestic companies and investors in investment projects and technology transfer on a sustainable basis.

II. Objectives and scope of the evaluation

The purpose of this evaluation is to

a) determine the relevance and usefulness of the COMFAR Programme almost 30 years after its introduction (including the relevance of COMFAR to promote the organization's objectives of sustainable industrial development and it's different sub-objectives),
b) determine the effectiveness of the Programme vis-à-vis its original objectives,
c) determine the quality of the methodology (UNIDO publications, software tools and training materials) developed under the programme as compared to other tools available in the market,
d) assess the business model used by UNIDO to develop, promote and deliver COMFAR to clients (commercial licensing, fee-policy, in-house maintenance and development, centralized distribution, etc.)
e) assess the actual application of the tools by clients when making investment decisions, and

assess the usefulness of COMFAR as integral part of UNIDO technical cooperation services, its potential to contribute to the quality of UNIDO projects and to determine the optimal set-up to leverage UNIDO activities.

With regard to activities and results, the evaluation will focus on the last 3 years. Concerning the relevance of COMFAR the evaluation will cover the whole period of COMFAR since its inception, in order to allow an analysis of the COMFAR context as it developed over time.

III. Methodology

The review will consist of five main components:

1) Review of documents and UNIDO staff interviews

- Review of UNIDO COMFAR related documentation: work programmes, progress reports, reports on COMFAR trainings, self-assessment survey, financial reports of the COMFAR fund, etc.
- Review of methodological documents, tools and training kits, reference documents and guidelines.
- Review of different versions of the COMFAR software, including additional modules

- Review of UNIDO evaluation reports that include findings on COMFAR activities
- Interviews with UNIDO project managers and responsible line managers

The document review will encompass:
- Analysis of UNIDO implementation modalities for COMFAR activities
- Review of the UNIDO COMFAR activities in terms of cost and inputs (including consultants and experts used)
- Compilation of information that allows to describe the COMFAR theory of change and to compare it with those of other similar interventions in- and outside of UNIDO
- Review of existing evidence on results of COMFAR activities

2) Re-construction of the COMFAR theory of change

Based on the findings from the document review and the discussions with project managers, a logical model will be developed to describe the cause-effect linkages by which UNIDO COMFAR activities intend to achieve their objectives.

To validate the draft theory of change, it will be shared and discussed with UNIDO project managers. Also, opinions of COMFAR users regarding the key elements of the cause-effect chain will be collected through a survey (see below).

3) Survey of COMFAR clients and assessment of COMFAR training

In order to obtain information directly from COMFAR users a survey will be carried out (using a web based format). The survey will in particular aim at determining in how far COMFAR is being applied by users. Furthermore the survey will be used to validate the draft theory of change (see above). For the purpose of the survey different user groups will be identified (institutional users, individual consultants, companies, etc.).

Complementary to the client survey, a member of the evaluation team will participate in one of the COMFAR training courses, using this opportunity to obtain first-hand insight into the training materials and methods, as well as to liaise with COMFAR clients on the spot to obtain feedback and information on their motivation, expected use of COMFAR skills, etc.

4) Review of the COMFAR software and its clients

Based on the available software products and information from UNIDO PTC/BIT/ITU the evaluators will review the quality of the methodology (publications, software products and training materials) and analyze the patterns of its application (“mapping of comfar

clients": who are the users? where are the users? long-term users or one-time clients? trends in license sale over time, etc.). This review will also take into account alternative software products and compare them to COMFAR using a SWOT analysis.

5) *A review of current trends and practices regarding industrial feasibility studies and their application*

The review will be based on expert interviews (by phone or email), available literature and web-based information. It will produce findings with regard to the relevance of the UNIDO COMFAR approach and the positioning of COMFAR activities vis-à-vis other international initiatives in the field of pre-investment studies in particular and activities related to UNIDO technical cooperation services, such as investment promotion, environmental protection, energy, agro-services, etc. in general.

6) *Optional: Field validation mission to main COMFAR clients*

In case the methodological steps described above lead to the conclusion that an in-depth analysis of COMFAR in its application context is required, field missions will be undertaken to selected project sites. This will include both aspects: the capacity building dimension of COMFAR (institutional clients) and the direct investment effects of COMFAR (visit to industrial projects that applied COMFAR at an early stage). The field missions will concentrate on one, maximum two countries.

In case no field missions are carried out, semi-structured interviews with COMFAR users will be used to obtain an in-depth understanding of COMFAR related issues from a client perspective.

The different methodological components will involve different stakeholders, information from different sources and present different views and interpretations of the relevance, effectiveness, efficiency, impact and sustainability of UNIDO COMFAR activities. This will allow triangulating findings and lead to more robust conclusions.

IV. Key evaluation questions

The key evaluation questions are:

Regarding the design, intervention logic and the underlying theory of change:

- Are UNIDO COMFAR activities based on- and consistent with state-of-the-art approaches in the field of pre-investment studies, especially in relation to UNIDO technical cooperation services?
- Is there a need to modify/improve the COMFAR methodologies (yellow and green books)?
- Are UNIDO COMFAR activities based on- and consistent with a coherent and realistic theory of change?
- What are the main expected results of COMFAR activities, in particular in the field of pre-investment studies and institutional capacity building?
- In how far are UNIDO COMFAR activities addressing existing needs in developing countries?
- Does the COMFAR concept fit well into the overall technical cooperation framework of UNIDO? How do COMFAR activities relate to other UNIDO interventions in general and to investment promotion (ITPOs and others) in particular?
- What is the value-added of COMFAR for UNIDO Field Offices in general as well as to the spezialized field representations (ITPO's) in particular?
- Is COMFAR a product that should be managed by UNIDO itself or could it be outsourced? In this context, is independence of COMFAR related pre-investment studies an important feature of the UNIDO COMFAR activities?
- Are all components of the COMFAR model (commercial feasibility, cost-benefit analysis, CDM module, EMA module) relevant?
- Does the COMFAR software meet the standards of state-of-the-art software products? Is there a need to improve the software tool technologywise?

Regarding the implementation and results of ITC related interventions

- Are individual COMFAR interventions implemented in line with the underlying theory of change?
- What are the main factors that influence the effectiveness and efficiency of COMFAR interventions (e.g. institutional anchorage, operational anchorage, access to finance, exit strategy and counterpart contributions)?
- To what extent do COMFAR activities reach target groups in developing countries?
- How many COMFAR clients do exist and how has the number and type of clients evolved over the years?
- Are individual COMFAR interventions producing the expected results, in particular institutional outcomes in terms of capacity building and impact in terms of pro-poor investment?
- Are COMFAR interventions producing sustainable results?
- How do implementation modalities affect efficiency and effectiveness? Is the implementation of COMFAR activities interventions in UNIDO organized in an efficient manner?
- Is the income from the sale of COMFAR licenses covering the total cost incurred?
- What are the different roles of UNIDO and of counterpart organizations? Does UNIDO add value through COMFAR?
- Is the information on COMFAR interventions and their results sufficient and relevant (M&E)?

- To what extent are COMFAR interventions linked to other UNIDO initiatives, in particular those in the field of investment promotion and private sector development (e.g. PSD tool box)?

Regarding the context of COMFAR

- Are COMFAR interventions relevant and effective in the different socio-economic contexts found in different countries (LDCs, Middle Income countries)?
- Is there a need to provide COMFAR through UNIDO or are commercial products satisfying the demand? Is the provision of COMFAR on a commercial basis distorting the market?
- Is there a particular need for the preparation of independent feasibility studies (as prepared by UNIDO)?
- How do other international agencies (such as Development Banks or IFC) organize feasibility studies for investment projects and how does their approach compare to UNIDO?

V. Evaluation team and timing

The evaluation team will be composed of an international consultant (expert in the field of industrial feasibility studies and investment promotion) acting as team leader, one staff members of the UNIDO Evaluation Group (OSL/EVA) one research expert to carry out research and support the survey. The tasks of the senior international expert are specified in the job description attached to these terms of reference in annex 2.

UNIDO Evaluation Group will be responsible for the quality control of the evaluation process and report. It will provide inputs regarding findings, lessons learned and recommendations from other UNIDO evaluations, ensuring that the final report is useful for UNIDO in terms of organizational learning (recommendations and lessons learned) and its compliance with UNIDO Evaluation Policy and these terms of reference.

Members of the evaluation team must not have been directly involved in the design and/or implementation of the programme/projects.

The evaluation is scheduled to take place in the period of February 2010 to June 2010, with the following time line for the activities:

- February 2010: initiation, recruitment of junior consultant
- March 2010: recruitment of team leader, document review and survey
- April 2010: field missions, analysis of survey and findings, preparation of draft report

- May 2010: finalization and circulation of draft report, incorporation of feedback into draft report
- June 2010: dissemination of final evaluation report

VI. Reporting

The evaluation report should be brief, to the point and easy to understand. It should explain the purpose of the evaluation, what was evaluated and the methods used. The report should highlight any methodological limitations, identify key concerns and present evidence-based findings, consequent conclusions, recommendations and lessons learned. The report should provide information on when the evaluation took place, interventions covered and who was involved.

It should be presented in a way that makes the information accessible and comprehensible and should include an executive summary that encapsulates the essence of the information contained in the report to facilitate dissemination.

Evidence, findings, conclusions and recommendations should be presented in a complete and balanced manner. The report shall be written in English and follow the structure given in annex 1. For the field missions brief mission reports will be prepared as input papers for the main evaluation report.

A draft report will be shared with the corresponding Programme or Project Officers for comments and factual validation. They may provide feedback on any errors of fact and may highlight the significance of such errors in any conclusions. The consultation also seeks agreement on the findings and recommendations. The evaluators will take the comments into consideration when preparing the final version of the report.

Annexes

Annex 1 -Outline of the main evaluation report

I. Executive summary

- Must be self-explanatory
- Not more than five pages focusing on the most important findings and recommendations
- Overview showing strengths and weaknesses of the UNIDO COMFAR activities

II. Evaluation background

- Summary of UNIDO COMFAR activities ("fact sheet", including list of COMFAR activities, objectives, counterparts, timing, cost, etc)
- Information on the evaluation: why, when, by whom, etc.
- Scope and objectives of the evaluation, main questions to be addressed
- Information sources and availability of information
- Methodological remarks, limitations encountered and validity of the findings

III. The context of UNIDO COMFAR activities

- Brief description including history and previous cooperation
- Positioning of the UNIDO COMFAR activities vis-à-vis other relevant institutions and commercial products, in particular Development banks
- General practice of preparing "independent" feasibility studies

IV. Assessment

This is the main chapter of the report combining an analysis of the main evidence collected through the evaluation with regard to the key evaluation questions and the corresponding conclusions with regard to the review criteria.

Findings collected through the main components of the evaluation (document review, theory of change analysis, survey, trends & context review).

Conclusions regarding project implementation giving the evaluators' concluding assessment of UNIDO COMFAR activities against given evaluation criteria**,** providing factual evidence relevant to the key evaluation questions. This is the main substantive section of the report and should provide a commentary on all parameters described in the TOR. Apart from concluding on <u>what</u> the results of interventions were, the

conclusions should include detailed reasoning as to why and how they were achieved.

V. Recommendations

- Recommendations must be based on evaluation findings
- The implementation of the recommendations must be verifiable (indicate means of verification)
- Recommendations must be actionable; addressed to a specific officer, group or entity who can act on it; have a proposed timeline for implementation
- Should be commensurate with the available capacities and take resource requirements into account.

VI. Lessons learned

- Lessons learned must be of wider applicability beyond the evaluated project but must be based on findings and conclusions of the evaluation
- For each lessons the context from which they are derived should be briefly stated
- The formulation of lessons will follow the format provided by OSL/EVA

Annexes include Terms of Reference, list of interviewees, documents reviewed and other detailed quantitative information (list of COMFAR activities, evaluation framework). Dissident views or management responses to the evaluation findings may later be appended in an annex.

Annex B: COMFAR content

Main Functional Developments	1981 COMFAR *I*	1986 COMFAR *II*	1995 – 2009 COMFAR *III* Suite[1]
Financial analysis (enterprise level)	✓	✓	✓
Economic analysis (national level) – Shadow pricing		✓	✓
Economic analysis (national level) – Value added			✓
Start-up projects (new projects)	✓	✓	✓
Expansion/rehabilitation/modernization projects			✓
Standard (embedded) project types	Industrial	Industrial	6 [2]
User defined project types			✓
Joint venture analysis			✓
CDM/JI projects			✓
Inflation			✓
Escalation			✓
Analytical support functions:			
• Parametric analysis (initial risk assessment)			✓
• Sensitivity analysis (comprehensive risk assessment)			✓
• Project ranking (benchmarking project alternatives)			✓
• Incremental analysis (comparison of performance)			✓
Languages	English	4 [3]	19 [4]
Number of projects (for comparison, ranking, etc.)	1	1	5
Flexibility:			
• Periodic planning	yearly	yearly	User-defined [5]
• Construction phase	1 – 8 years	1 – 8 years	0 – 10 years
• Production phase	15 years	15 years	1 - 50 years
• Start-up phase			up to 24 months
• Products/Services	2	2	up to 20
• Currencies	1	2	up to 20
• Loans	2	2	unlimited
Supported hardware/software environment	Apple III	IBM PC/XT	MS-Windows

[1] COMFAR *III* Suite consists of 3 products: COMFAR *III Expert*, COMFAR *III Business Planner* and COMFAR *III Mini Expert*.
[2] Industrial, Agro-industrial, Tourism, Infrastructure, Mining, Environmental projects.
[3] English, French, Spanish, German.
[4] Arabic, Chinese, Croatian, Czech, English, Farsi, French, German, Indonesian, Italian, Japanese, Korean, Mongolian, Polish, Portuguese, Russian, Serbian, Slovak, Spanish.
[5] yearly, half-yearly, quarterly and/or monthly planning.

Annex C: Expert opinion 1

Epert Opinion COMFAR 1

UNIDO/COMFAR Goals:

1) Anayse the commercial profitability of investment projects
2) Analyse the socio-economic benefits and costs of investment projects

To provide some context on my responses, it should be clear that my background is in both technology and entrepreneurship in developing world contexts. In particular, I have worked for several years with a focus on social impact and ensuring development projects are designed such that they meet on-the-ground social and environmental needs in a localized context. My experience lies not with national and multilateral development banks and organizations (though I am familiar with them of course). From what I can tell, though, they too are moving towards an emphasis on entrepreneurial businesses in addition to, or instead of, large-scale capital-intensive projects. My responses will be written with that lens, but I believe it to be quite relevant as many institutions, small and large, are moving in this direction.

Questions:

- *Are the UNIDO methods and concepts based on- and consistent with state-of-the-art approaches in the field of pre-investment studies? If not, how is the state-of-the-art different from UNIDO methods.*

  The "state of the art" here breaks down into several categories- economics, investment planning and technology to name a few. I am in no position to debate the classical economic rationales of nobel laureates like Sen, so I will focus on the later two categories.

  Investment Planning.
  What strikes me here is that UNIDO's focus, apparently drawing largely from the Dasgupta/Sen paper, is largely based on the idea that strengthening a national economy via large scale, capital-intensive projects will directly benefit the citizens of these developing countries. With some notable exceptions, I have not really seen this to be the most effective means of helping people out of poverty. Those projects are often fraught with nepotism, staffed by nationals of the managing corporation's home country, are often mired in politics and at times, are in violent opposition to local communities. That is say there are not effective projects like this (especially in alternative energy production), but poverty alleviation, in my opinion and experience, must come from the ground up—understanding the contextual realties of a situation, social, environmental and economic, and then facilitating means of addressing those challenges with local people themselves at a scale that is manageable. More eggs in more baskets.

In my work, there are numerous investors (individual and institutional) looking to fund businesses that are starting small in a localized context, and who have already proved their models can work to address poverty, but need help scaling to a level where more people can benefit. To do this requires investment planning to not simply be top-down financial and technical analysis, though that certainly is a component, but to find models of success that are replicable at relatively low cost and expand them. The benefit of the world of social entrepreneurs is that a) they understand the local context in which an enterprise can succeed or fail, and b) they've often done much of the work already to prove they can be successful and profitable. Investment planning then becomes in large part scouting for projects with high levels of success based on an already existing track record, rather than relying solely on heavy economic modeling which often lacks contextual realities (cultural sensitivities, environmental issues, political realities, etc.). Risk, in that way, stops being a math problem and becomes on derived from experience.

The state of the art for investment planning, therefore, relies heavily on a venture capital type approach of scouting for existing operations in need of growth assistance, a focus on leadership of actual individuals often coming from the very communities they aim to serve and an expectation of measured results—both financial and social (more on this last point later).

From a technology standpoint, it is a bit hard to tell where COMFAR is on the spectrum without being a regular user. As I come from the internet age, however, I can say that any tool requiring several hundred pages of documentation, substantiated by several thousands of pages of economic theory, is probably going to be out of date very fast. To be clear, I am not commenting on the legitimacy of the models built into COMFAR, but rather the process of implementing with practicality.

Many software tools are in development right now that take processes like this and simplify them to make them easy to implement. There are two primary ways this is happening. First, most of the 'guts' of the tools are made transparent to users such that they merely answer questions in a linear path while the software does all the 'thinking.' You can think of this like tax preparation software—you don't need to know what the underlying forms look like. Just answer the questions and the software a) decides what it needs to know next and b) fills out the complex forms on its own based on your answers. While the substance remains, you are bothered only with inputs and outputs, and no knowledge of tax preparation is required. Second, investment tools are quickly moving towards web-based platforms. In areas where at least some internet access is available, this provides a tremendous benefit in that it relieves the end user of having to be proficient in software installation and upkeep. It also allows for data to be stored offsite, which is of great benefit in areas where PCs crash frequently and where people in remote locations often lack the skills of PC repair.

- *Are all components of the UNIDO method equally relevant: feasibility, cost-benefit analysis, software tool?*

  All three of these issues are no doubt important. I think the question here, though, is more about whether all three components are equally relevant 'at all times.' In practice, I think they are not. Given that I'm learning about UNIDO's process only now, it is possible you already have ways to determine primary areas of focus for any given investment. In my notes above, there are many scenarios where the feasibility aspect is already done by someone who has shown the business can work, at least at a small scale.

  Feasibility studies are often important, but it key to not place so much emphasis on the study that it prevents actual work from happening. The biggest challenge of feasibility studies, I think, is they assume a steady-state of operations and then calculate and often arbitrary risk factor that something might change. But what might change? What will you do if that happens? Feasibility studies often don't account for a flexible structure that would let an enterprise or investment remain nimble in times of change.

  Cost-benefit analyses are always critical, but the real issue for UNIDO's work is to make sure this goes well beyond the basic money in/money out type of accounting. Drawing from UNIDO's website, it's aims to provide "an enhanced role in the global development agenda by focusing its activities on poverty reduction, inclusive globalization and environmental sustainability." These are not purely financial issues and understanding success in these areas requires measures of social and environmental performance (see next question for more on this topic). There are numerous ways now to evaluate multiple returns on investment beyond traditional business inputs and outputs. (See Acumen Fund's "Pulse" tool, the "Impact Reporting and Investment Standards (IRIS), SVT Group's "Manage to Impact™" process, the Global Impact Investing Network (GIIN), etc.).

  As for software, it's hard to imaging going through an investment due-diligence process without some assistance. It is also critical to have a trail of data that allows investors to compare opportunities, understand why decisions were made, and most importantly, to 'learn' from past experience and make better investments each time.

- *Are important elements not being addressed by these methods?*

  I think there are two critical factors not being addressed by the purely economics approach to development investing: context and social impact. I think the methods employed by UNIDO and COMFAR are important, but not complete. Taking a pure economic approach to social investing requires many assumptions, the biggest being that building a successful company will feed the national priority (presumably making more money), and that will inherently be equally good for all impoverished citizens. There is no shortage of countries with relatively healthy or growing economies and

significant portions of the population who remain poor. This is similar to what in the US we call 'trickle down economics,' famous among conservatives with little interest in spreading wealth. It aggregates wealth in the hopes that rich people spend their money in ways that benefit the poor. Nice theory, but just doesn't work that way.

UNIDO should consider moving away from the national level of investment and look for more localized operations development by, managed by, and staffed by local people who benefit directly from the enterprise in financial and social ways (access to education, health, etc.). UNIDO's current methods are not necessarily in opposition to this, but could be augmented with other tools and process to ensure investments benefit people directly rather through government channels.

Relatedly, UNIDO does not appear to account for social impact anywhere despite it being a stated goal of the program (noted in the description sent to me). Presumably this is because of the premise of the aggregation of wealth for the national economy rather than the local or individual. In my experience, as investment mindsets changes for everyone from the IFC to individuals, greater emphasis is being placed on the 'so what?' of social investing. It is easy to show if the investment returned a profit, but *did it help anyone move away from poverty?* UNIDO methods do not currently account for a) the 'expected' social change from an investment (greater personal income, health/education access, environmental protection), and b) whether or not those goals were met. Rather, the assumption apprears to be that is the investment passes the feasibility tests and ultimately is a financial success, the social and environmental benefits automatically result. This, of course, is simply not the case.

For UNIDO and COMFAR to become 'state of the art' for me, they must address these areas.

In how far do the UNIDO methods respond to needs in industry and financial institutions?

This is a challenging question as these are two very large categories. For industry, I am less qualified to answer. My sense is that larger industrial operations tend to shy away from social and environmental impact goals and opportunities. As they tend to stick to more traditional economics, I imagine UNIDO methods suit them. That, however, is a fairly unqualified outsider's view.

For the financial institutions, I think they break into two (still general) categories: those with a primarily profit motive; and those with a primarily social impact motive. Most people and institutions say they want both—profit driven social benefit. That's great, but when one digs down, the actual decision-making processes differ greatly based on whether your goal is to get rich while hopefully doing something beneficial, or doing something beneficial by using a market-based approach. Given the heavy focus on

economic theory, cost-benefit analysis, feasibility, etc., the former group will be best addressed by UNIDO's methods. The methods, as best I can tell, are again well suited to assess the likelihood that a capital-intensive project will provide financial returns to investors. This says nothing to me, though, about whether any change in "poverty reduction, inclusive globalization and environmental sustainability" has been made.

Are COMFAR interventions relevant and effective in the different socio-economic contexts found in different countries (LDCs, Middle Income, Industrialised)?

Without significant familiarity of various COMFAR projects, it is hard to say. From the literature review, however (and as noted elsewhere in my response), it appears that much of the contextualization happens at the feasibility study stage. To have any utility, the feasibility studies must account for various contextual differences. However, under the current set up those differences are still of economic means (trade policy, etc.), but say nothing of the current social and economic realities of those who would be involved in the project locally. The context is primarily at the national level still, whereas enterprise happens a few levels down from that. And also as noted above, there doesn't appear to be any contextual understanding of the root causes of poverty and lack of sustainability in these areas but rather a focus on maximizing income to national economies as the primary means of alleviating problems.

Is there a particular need for the preparation of independent feasibility studies (as oppose to feasibility studies prepared by providers of turn-key plants and providers of equipment)? If yes, is the UNIDO model appropriate to address this need?

I think so, yes, as long as those studies go a step beyond what a provider might do on their own. This, again, involves an understanding of 'why' this investment is being made simply beyond profit. Will this project address social or environmental issues? Will it get support of local stakeholders? Does the local, regional and national political system enable or hinder projects like this? Will the project harm the environment in its effort to make money?

It is also important to make sure feasibility studies are not so cumbersome and rigid as to ensure a very narrow view of the situation and a minimization of risk.

Do you consider a software tool in general and the software tool COMFAR in particular an important component of UNIDO activates in this area?

Yes. I don't see how this work could be done without it. I would, however, suggest that technology tools maintain flexibility and adapt to changing user standards. Today that is

the internet, "cloud computing," social media, etc. These are all things COMFAR might take advantage of to simplify its processes.

- *Should UNIDO continue its activities in this area? If yes, should such activities rather be reduced or expanded?*

  Based on what I can tell, UNIDO performs an important function that should be continued. For me, though, the question isn't whether to simply reduce or expand current activities, but to augment the work with the points above regarding the measurement and management of social and environmental impact.

- *What adaptation, additions, changes would you recommend with regard to the concepts use for a) feasibility studies and b) cost benefit analysis?*

  I think I've addressed most of this in my answers above. In summary:

  Feasibility studies should include the investments' ability to directly address "poverty reduction, inclusive globalization and environmental sustainability" in addition to its ability to generate profit.

  Cost-benefit analysis should include social and/or environmental impact as a benefit. Though it is only money that goes in, development projects can only be considered a success if the benefits include financial and social/environmental. That is listed explicitly as a goal in the request letter you sent, but I don't see it reflected in the current methods.
  --

  I hope these comments have been helpful. You are doing important and complex work. Please take my comments in no way as criticism, but rather next-generation ideas for advancement based on my experience and expertise.

  Please contact me with any further questions.

Annex D: Expert opinion 2

Expert Opinion COMFAR 2

After studying the different documents and the software package which are a part of your methodology, I submit the following assessment.

Preliminary note: Due to my academic background and knowledge the assessment is done from a business administration perspective and concentrates on the corresponding contents.

Concerning the **methodology as a whole** I would prefer one document covering the different aspects of the evaluation task instead of a couple of documents with overlapping content. In this single document the following **recommendations** should be considered:

(1) The evaluation of investments from a business administration point of view should be clearly separated from evaluations from an economics and/or social point of view.

(2) Additionally, defined interfaces should be provided in order to make socio-economic assessments possible.

(3) The evaluation process should be embedded in an investment management process also covering the implementing and monitoring of the investments (after realization) in order to make people responsible for the results, establish a risk management system (including identified critical factors) and gain learning effects.

(4) The commercial assessment of investment (industrial) projects should contain detailed instructions which method to use and how to determine the relevant data.

(5) These instructions might be specified concerning the evaluation of single projects, the ranking (coordination) of more than one project and the appraisal (and management) of a series of subsequent projects.

(6) Concerning the methods, the net present value method should represent the basic method. The internal rate of return method should be used very carefully, because it may lead to distortions in the case of comparing investment projects with different initial investment outlays. The Visualisation of Financial Implications (VoFI) Method represents an interesting alternative to the net present value method with some advantages concerning transparency and the possibility of including imperfect capital markets (with different interest rates).

(7) The instructions for the determination of data should cover the determination of the initial investment outlay, the current cash inflows and outflows, the

liquidation (terminal) value and the interest rate (used to discount). The relevant factors to determine the data should be defined clearly in order to avoid misunderstandings, f. i. resulting from the divergencies between costs and cash flows. Additionally, it is recommended to integrate methods supporting the forecast.

(8) The transformation of (initially) non monetary factors (f. i. economical or social benefits) into cash flows or a corresponding adjustment of cash flows should be done in a transparent way. But it seems to be worth discussing whether financial targets of an investor on the one hand and economical and social effects on the other hand should actually be merged within one figure, because the convertion inevitably leads to a loss of information and rises the danger of manipulation. Alternatively, separate evaluations might be done, with non-monetary effects being assessed with a complementary method like the utility value analysis, the analytic hierarchy process or the multi attribute utility method. Finally, the decision could be based on separate evaluations.

(9) Concerning uncertainty, the inclusion of risk in the interest rate might also hinder transparency and lead to distortion. Sensitivity and risk analyses are seen as a sensible alternative. However, this needs to be discussed more intensively – there are different opinions in business administration literature.

(10) It has to be expected that there is a major danger of manipulations and biases concerning data (especially, because there often will be some investment appraisals from different perspectives). Therefore, some mechanisms which assure reliability of data should be provided to a certain extent.

Now I will give some additional short comments concerning the different **documents**:

Guidelines for Project Evaluation (1972):
This document covers a lot of topics primarily from an economic and social point of view. The inclusion of a wide range of topics might be seen as an advantage. However, the document is more like an academic textbook than a guide for evaluation. There is no clear focus on the evaluation process, and the width of topics seems not to be useful in order to support the evaluation process (the authors themselves hint at that, page 5).

The business administration content of the document can be assessed as being quite correct and reasonable. Shortcomings are:
- There is no clear distinction between net benefits and cash inflows (which should be an input of the net present value method) in chapters 2, 4 and 10.
- The discussion of the topic of uncertainty should be extended.
- The chapter „co-ordination of investment decisions“ should be improved from a business administration point of view.

Practical appraisal of industrial projects … (1980):
This document deals with the problem from an economic and social point of view as well. The proposed methodology starts with a project appraisal using market prices and then includes some adjustments in order to take allocation and social effects into account. This stepwise approach seems to be quite useful (see (1) and (2) above).

Nevertheless, the additional opportunities (or dangers) of manipulating data (10) become obvious.

The methodology is not described in general (at least concerning step one), but only with respect to three examples. Although these are quite illustrative, the lack of a general description has to be seen as a disadvantage.

The methodology of prognosis and assuring a certain reliability of data ((7) and (10)) are not thematized (at the first glance). The inclusion of „uses“ (like debt service) in the cash flow statement might be misleading.

Guide to practical project appraisal … (1986):
The focus of this document is similar to that mentioned before. Again, the business administration content of the document can be assessed as being quite correct and reasonable (including the corresponding parts of chapter 1). However, it goes not far into depth, f. i. a critical assessment of the internal rate of return method is missed, graphical assessment is overstressed. The use of an economic adjustment factor (AF) of -20 per cent is seen as critical (derivation, source of manipulations?). The use of cash flow statements and transparent data sheets as shown in tables 1 ff. is a positive aspect (see (4, 7)). Nevertheless, again, the methodology of prognosis and assuring a certain reliability of data is not thematized.

Manual for Evaluation of Industrial projects (1986):
The statements concerning the „Guide to practical project appraisal … (1986)" can be widely repeated here. The business administration content of the document can be assessed as being quite correct and reasonable but not going far into depth. The discussion of the topic of uncertainty is better than in the documents discussed before.

Manual for the Preparation of … (original 1978, revised 1991):
In this document the business administration perspective dominates. It deals with the most important questions concerning the prognosis of data as part of a feasibility study and seems to be the most useful document with regard to an investment appraisal from an investors point of view. Nevertheless, the chapters concerning investment appraisal and the inclusion of uncertainty may be improved (more depth, stronger focus on relevant methods/targets, f. i.: the net

present value ratio may be omitted because it often does not lead to an optimization).

IPPA, Module 4:
Again a document covering a lot of relevant aspects, but with some lack of focus and depth. The current standard of training material („E-Learning") is not reached.

Finally, I turn to your **questions**:
- The first, second, third and last (ninth) question should already be answered.
- The fourth, fifth and sixth cannot substantially be answered by me.
- Seventh question: Yes, a software tool is useful in general.
- Eigth question: Yes, the activities should be continued.

Please, don't hesitate to contact me if there are still questions remaining.

Annex: Questions to the expert

In particular we would like you to address in your review the following questions and issues:

- Are the UNIDO methods and concepts based on- and consistent with state-of-the-art approaches in the field of pre-investment studies? If not, how is the state-of-the-art different from the UNIDO methods?
- Are all components of the UNIDO method equally relevant: feasibility, cost-benefit analysis, software tool?
- Are important elements not being addressed by these methods?
- In how far do the UNIDO methods respond to needs in industry and financial institutions?
- Are COMFAR interventions relevant and effective in the different socio-economic contexts found in different countries (LDCs, Middle Income countries, Industrialised countries)?
- Is there a particular need for the preparation of independent feasibility studies (as opposed to feasibility studies prepared by providers of turn-key plants and providers of equipment)? If yes, is the UNIDO model appropriate to address this need?
- Do you consider a software tool in general and the software tool COMFAR in particular an important component of the UNIDO activities in this area?

Furthermore, we would appreciate your recommendations in relation to UNIDO's activities in the area of feasibility studies and cost-benefit analysis. Among others, such recommendations could cover the following issues:

- Should UNIDO continue its activities in this area? If yes, should such activites rather be reduced or expanded?
- What adaptations, additions, changes would you recommend with regard to the concepts used for a) feasibility studies and b) cost benefit analysis

Annex E: Evaluation summaries - Training workshops

TRAINING WORKSHOP ON APPLICATION OF COMFAR III Expert FOR PROJECT APPRAISAL, 4 workshops in Vienna, Basic level: 2008/2009

	Economist	18			
1. Profession	***Engineer***	10			
	Economist/ Engineer	6			
	Other	7			
2. Expectations met? v1	***more than expected***	***as expected***	***less than expected***		
	11	*16*	*0*		
2. Expectations met? v2	***yes***	***somehow***	***No***		
	13	*0*	*1*		
2. Expectations met? combined	***yes***	***somehow***	***No***		
	40	*0*	*1*		
3. Beneficial for professional work v1	***considerably***	***somewhat***	***Hardly***	***not at all***	
	19	*6*	*1*	*0*	
3. Beneficial for professional work v2	***yes***		***no***		
	27		*1*		
4. More info/training wanted	*26 (yes)*	*1 (no)*			
5. Duration of workshop	*15 (too short)*	*25 (adequate)*	*1 (too long)*		
6. Daily workload	*23 (adequate)*	*16 (heavy)*	*1(light)*		
7. Substantive level (as expected)	*27 (higher)*	*13 (as expected)*	*0 (lower)*		
8. Usefulness of topics:	***very useful***	***might be in future***	***of no use***		
COMFAR	*33*	*5*	*0*		
Financial appraisal	*32*	*7*	*1*		
Economic appraisal	*11*	*16*	*0*		
9. Selection of Case Studies	***excellent***	***good***	***satisfactory***	***Fair***	***poor***
	21	*11*	*6*	*1*	*0*
10. Quality of presentation/instruction	***excellent***	***good***	***satisfactory***	***fair***	***poor***
	31	*8*	*0*	*1*	*1*
11. Didactic techniques	***excellent***	***good***	***satisfactory***	***fair***	***poor***
	12	*6*	*1*	*0*	*0*
12. Ratio between:	***excellent***	***good***	***satisfactory***	***fair***	***poor***
lectures/discussions/practical work	*20*	*9*	*8*	*1*	*1*
14. Training material	***excellent***	***good***	***satisfactory***	***fair***	***poor***
	27	*4*	*5*		*1*
16. Recommended follow-up	**Yes, as it is**		***Yes, with improvement***	***Not at all***	
	16		*3*	*0*	
19. Feel confident apply COMFAR to:	***Yes***	***No***			
Financial Appraisal	*28*	*12*			
Economic Appraisal	*9*	*17*			

TRAINING WORKSHOP ON APPLICATION OF COMFAR III Expert FOR PROJECT APPRAISAL, 4 workshops in Vienna, Advanced level: 2008/2009
No. of respondents: 43

	Economist	21			
1. Profession	***Engineer***	13			
	Economist/ Engineer	3			
	Other	6			
2. Expectations met? v1	***more than expected***	***as expected***	***less than expected***		
	14	*14*	*0*		
2. Expectations met? v2	***yes***	***somehow***	***No***		
	14	*0*	*1*		
2. Expectations met? combined	***yes***	***somehow***	***No***		
	42	*0*	*1*		
3. Beneficial for professional work v1	***considerably***	***somewhat***	***hardly***	***not at all***	
	21	*7*	*0*	*0*	
3. Beneficial for professional work v1	***yes***		***no***		
	15		*0*		
4. More info/training wanted	*35 (yes)*	*6 (no)*			
5. Duration of workshop	*18 (too short)*	*24 (adequate)*	*0 (too long)*		
6. Daily workload	*30 (adequate)*	*13 (heavy)*	*0(light)*		
7. Substantive level (as expected)	*26 (higher)*	*17 (as expected)*	*0 (lower)*		
8. Usefulness of topics:	***very useful***	***might be in future***	***of no use***		
COMFAR	*33*	*8*	*0*		
Financial appraisal	*33*	*7*	*1*		
Economic appraisal	*11*	*17*	*0*		
9. Selection of Case Studies	***excellent***	***good***	***satisfactory***	***Fair***	***poor***
	21	*13*	*8*	*1*	*0*
10. Quality of presentation/instruction	***excellent***	***good***	***satisfactory***	***fair***	***poor***
	30	*8*	*3*	*1*	*0*
11. Didactic techniques	***excellent***	***good***	***satisfactory***	***fair***	***poor***
	5	*5*	*1*	*0*	*0*
12. Ratio between:	***excellent***	***good***	***satisfactory***	***fair***	***poor***
lectures/discussions/practical work	*26*	*7*	*7*	*1*	*0*
14. Training material	***excellent***	***good***	***satisfactory***	***fair***	***poor***
	25	*9*	*6*	*2*	*1*
16. Recommended follow-up	**Yes, as it is**		***Yes, with improvement***	***Not at all***	
	14		*7*	*0*	
19. Feel confident to apply COMFAR to:	***Yes***		***No***		
Financial Appraisal	*29*		*14*		
Economic Appraisal	*11*		*16*		

Please note that there are two versions (one for 2008 and another for 2009) for some questions in both tables..

Annex F: Persons interviewed

Name of person interviewed			Affiliation of person interviewed
Mr.	Yuri	Akhlvediani	UNIDO
Mr.	Amadou	Ali Mithagata	DEVIRIS SOLUTIONS; CAMEROON
Mr.	Ali	Badarneh	UNIDO
Mr.	Werner	Behrens	Former UNIDO Management
Mr.	Mohamadou	BELLO	SNI, Societe Nationale d'Investissement; CAMEROON
Mr.	Daniel	BOURFANE	SCB Cameroun; CAMEROON
Mr	Hellek	Bråthen	CFO, Bio-Innovation Ltd
Mr.	Hrvoje	BULJAN	JANAF d.d.. JADRANSKI NAFTOVOD Plc.; CROATIA
Mr.	Jose	Caldas Lima	Consultant, Former UNIDO staff
Mr	Jens	Claussen	Cost benefit expert, NCG
Mr.	Lamine	Dhaoui	UNIDO
Mr.	Rida	ELHODERI	NATIONAL ECONOMIC DEVELOPMENT BOARD; LIBYAN ARAB JAMAHIRIYA
Mr.	Knud	ELVERSKOV	CONSULTANT: Denmark
Mr.	Christian	Fougner	Assistant Director, Norad
Mr.	Dolf	Gielen	UNIDO
Mr.	René	GÜNTHER	GLATT INGENIEURTECHNIK GMBH; GERMANY
Mr	Roger	Handbirg	Operations Manager, IFC - South Asia
Mr.	Osman	HIEBA	DYNAMIC INTERNATIONAL OIL WELL SERVICES; SUDAN
Mr.	Juergen	Hierold	UNIDO
Mr.	Chakib	Jenane	UNIDO
Mr.	Vlatko	JOVANOV	JSC Power Plants of Macedonia – ELEM; REPUBLIC OF MACEDONIA
Mr.	Peter	KIFUNGUOMALI	LOCAL AUTHORITIES PENSIONS FUND; UNITED REPUBLIC OF TANZANIA
Mr.	Thomas	Koch	First Vice President, DEG - Deutsche Investitions- und Entwicklungsgesellschaft mbH
Mr.	Patrick	Kormawa	UNIDO
Mr.	Mithat	Kulur	UNIDO
Mr.	Dag	Larsson	Senior Advisor, PSD, Norad

Mr	Janus	Lukasik	Consultant, Comfar trainer
Mr.	Paul	Makin	Former UNIDO Representative Egypt
Mr.	Umesh	Menon	Consultant, Comfar trainer
Mr.	Jaime	Moll de Alba	UNIDO
Mr	Kim	Nielsen	Investment advisor, IFU (Danish DFI)
Mr.	Robert	Novak	UNIDO COMFAR staff
Mr.	Michael	Oludare ALE	Male Integrated Science Nig. Ltd.; NIGERIA
Mr.	Thomas	Pelsoci	Delat Research, cost benefit expert
Mr.	Stanislav	Pigon	Consultant, Comfar trainer
Mr.	Dmitri	Piskounov	UNIDO, Managing Director PTC
Mr	Kjell	Roland	Managing Director, Norfund (Norwegian DFI)
Mr.	Jesús	ROY	CONSULTANT ; Switzerland
Mr.	Emad Eddin Yousef	SABE EL-EISH	ARAB CONSULTANTS FOR FINANCIAL SERVICES; JORDAN
Mr.	Karl	Schebesta	UNIDO
Mr.	Andreas	Schnerney	UNIDO COMFAR staff
Mr.	Philippe	Scholtes	Former UNIDO Representative India
Mr	Helge	Semb	Director, Nordic Development Fund
Mr	Kjartan	Stigen	Investment Director, Norfund (Norwegian DFI)
Ms.	Biljana	STOJKOVSKA	JSC Power Plants of Macedonia – ELEM; REPUBLIC OF MACEDONIA
Mr.	Alexander	Sulejewicz	Consultant, Comfar trainer
Mr.	David	Susmann	Author of the revised COMFAR manual
Mr.	Michael	TEN DONKELAAR	ENVIROS; CZECH REPUBLIC
Ms.	Gudrun	Timm	Head, Development Policy, DEG - Deutsche Investitions- und Entwicklungsgesellschaft mbH
Mr	Jan	van Dijk	Advisor Investments, FMO (Dutch DFI)
Mr.	Alejandro	Vera	Consultant, Comfar trainer
Mr.	Igor	Volodin	UNIDO

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