



TOGETHER
for a sustainable future

OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.



TOGETHER
for a sustainable future

DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org

RESTRICTED

DP/ID/SER.C/29
20 March 1990
ORIGINAL: ENGLISH

18088

COMPLETED AND ON-GOING PRE-INVESTMENT STUDIES
FINANCED BY THE GOVERNMENT OF THE NETHERLANDS THROUGH THE UNIDF

Report of the Evaluation Mission*

Prepared in co-operation with the
Government of the Netherlands and the
United Nations Industrial Development Organization

*This document has not been edited.

V.90-83084

TABLE OF CONTENTS

	<u>Page</u>
SUMMARY OF THE IN-DEPTH EVALUATION	3
EXPLANATORY NOTES	5
INTRODUCTION	6

Chapter

I. PROJECT CONCEPT AND DESIGN	9
A. Socio-economic and institutional context of the programme	9
B. Agreements between the Government of the Netherlands and UNIDO	9
II. PROJECT IMPLEMENTATION	11
A. Delivery of inputs by projects	11
B. Implementation of activities	14
III. PROJECT RESULTS AND ACHIEVEMENT OF OBJECTIVES	24
A. Outputs	24
B. Achievement of the immediate objective	29
C. Contribution to the achievement of the development objective	29
IV. CONCLUSIONS	30
V. RECOMMENDATIONS	34
VI. LESSONS LEARNED	37

Annexes

I. Evaluation of the pre-investment studies financed by the Government of the Netherlands through UNIDF	39
II. Organizations visited and persons met, with their function	90
III. Terms of reference of the in-depth evaluation mission	92
IV. UNIDO's Pre-investment Studies Programme.....	96
V. IDf Donor Statement (provisional) - Netherlands as at 31 December 1989.....	104

SUMMARY OF THE IN-DEPTH EVALUATION

This in-depth evaluation was made at the request of the Government of the Netherlands and covered the evaluation of nine pre-investment study projects financed from the Dutch special-purpose contribution, within the framework of the Netherlands-UNIDO co-operation as it has developed over the last five years.

The requests to undertake these studies came mostly from LDC countries in Africa. Indonesia was the only non-African country in the programme.

The industries covered include agro-based and wood-based industries, mineral processing, metal-working, manufacturing of packaging materials and consumer goods (flour milling, textiles).

While most of the study proposals were presented by ministries of industry or planning, some of the projects can be traced back to initiatives of public sector institutions. Others can be considered as a follow-up to UNIDO projects which aimed at the identification of investment opportunities or were the result of consultations between governmental and UNIDO officials.

References to both public and private sponsors can be found in most project correspondence files but their effective role in the projects in most cases was unclear. Furthermore, their interest is often described as conditional, depending on the results of the study.

The studies carried out are described variously as opportunity, pre-feasibility or feasibility studies. The type of study carried out was determined largely by the title used in the original request. No evidence was found of any UNIDO attempts or suggestions to replace a feasibility study with a simpler opportunity study, for example. Furthermore, the depth and structure of the studies mostly followed a common pattern, fairly independently from the type of study specified in the project study.

The geographical focus of the studies was in countries included in the Netherlands' list of priority countries. The status of the requesting country (preferably LDC) and the nature of the pre-investment study required have proved to be the most important criteria in selecting projects for Dutch financing. Occasionally, Dutch sectoral interests (boat building, wind-driven water pumps) have played a supplementary role in project selection.

The average duration of the approval procedure is over 12 months. Subsequently, in most cases, the Netherlands Government conveyed their decision to UNIDO within two months.

The UNIDO precondition for formal approval consideration is the availability of an officially submitted Government request. Proper consideration of substantive criteria was often hampered by inadequate preliminary information on the specific project environment and the industrial sector concerned (market, suppliers, traders, technology). Decisions to carry out a pre-feasibility or a feasibility study were often made without adequate background information.

Starting with the issue of the Project Allotment Document (PAD), project implementation on average took approximately 20 months. The normal range is from 17-18 months up to 22-25 months.

The condition that Dutch consultants (or consultants from a developing country) should be given preference has caused some delays, especially when French language proficiency was required, as was the case in five African countries. Difficulties in being able to meet high Dutch consultancy fees may have been one of the factors causing delays in some other cases. In sectors where the Dutch have a wealth of expertise like boat building, wind-driven water pumps, the selection process was completed with a minimum of delay.

Studies were prepared by consulting firms (subcontracts) in six cases; by individual consultants in three cases. One case study was carried out by a consulting group composed of Dutch and French experts; in another, an Indian company was hired. In general satisfactory results could be obtained, often after additional efforts by UNIDO staff.

Nearly half of the studies evaluated have had some kind of follow-up, including the two studies that advised against making an investment.

The team's report concludes that since pre-investment studies are significant tools for improving investment-related decisions, donors such as the Netherlands should continue to channel funds earmarked for such studies through UNIDO, provided the shortcomings noted in the report can be rectified.

Future programmes should be based on more accurate decisions as regards the type of the study to be made and as regards to study objectives and scope. Requests for a study should be appraised with regard to their developmental relevance. Moreover, the approval process needs to be accelerated. More efficiency should be achieved in project implementation, inter alia, by better adapting the analytical tools used to the size of the investment and its possible impact.

A suitable sponsor should be a pre-requisite for conducting any study beyond opportunity studies.

Future programmes of this kind should provide UNIDO with adequate finances to carry out rapid opportunity studies in the countries concerned to verify whether more detailed (pre-)feasibility studies are warranted.

Depending on the specific conditions of the project, the provision of counterpart contributions, in kind or in the form of fees, should be specified in the project document.

The operating procedures and conditions set between the Government of the Netherlands and UNIDO were, grosso modo, appropriate to the objectives of the programme. Making use of the experience gained, however, the evaluators made proposals for improvement and inserted them in the 'Recommendations'.

EXPLANATORY NOTES

- COMFAR - Computer Model for
Feasibility Analysis and Reporting
- IRA - Interregional Advisor
- PAD - Programme Allotment Document
- PAS - Project Appraisal Section
- PDS - Project Data Sheet
- PRC - Project Review Committee
- PRS - Programme, Region, Sector with preference in
Netherlands Development Co-operation Programme
- PRODOC - Project Document
- SIDFA - Senior Industrial Development Field Advisor
- UNIDF - United Nations Industrial Development Fund
- UNIDO - United Nations Industrial Development Organization

INTRODUCTION

(a) History of the programme

On 25 February 1985, a first Agreement* between the Government of the Netherlands and UNIDO was signed for a special purpose contribution to the United Nations Industrial Development Fund (UNIDF) to enable UNIDO to carry out pre-investment studies in LDC countries. The Agreement covered a contribution of dfl 1.5 million (US\$ 721,200). A second Agreement with similar terms and a contribution of dfl 3.0 million (US\$ 1,304,348) was signed on 5 December 1986.

(b) Objectives of the programme

According to the first Agreement, the purpose of the programme was to assist developing countries in the elaboration of pre-investment studies for individual investment projects in the industrial sector, preferably opportunity or pre-feasibility studies (Art. III/A).

In the second Agreement, to the purpose as quoted above was added "the evaluation of pre-investment studies" (Art. III).

In actual practice, the funds were also used for projects not directly related to pre-investment studies

Both Agreements stipulated that "The preparation of project related opportunity studies will be undertaken on projects supported by the host country government for the public and private sector; pre-feasibility studies, however, will be undertaken only if a potential project sponsor has been identified."

The first Agreement stipulated that projects should preferably be located in least developed countries. All eligible countries were listed in Annex II to the second Agreement (PRS countries). Most of these countries are IDCs.

(c) Reasons for evaluation

Since most of the funds made available for this programme have been utilized, the Government of the Netherlands decided that an in-depth evaluation of the overall programme should be carried out before a decision concerning a possible further contribution will be made. The primary purposes of the in-depth evaluation were:

- "(a) To assess the achievements of the Netherlands-financed programme of pre-investment studies against the objectives and expected results (*inter alia* against the background of Netherlands policy vis-à-vis industrialization of developing countries);

*A Trust Fund Agreement between the Netherlands and UNIDO for US\$ 412,450 was signed on 29 January 1982 for the transfer of technology and development of small-scale food processing. This Agreement has not been considered in this study.

- (b) To identify and assess the factors that have facilitated the achievement of the programme objectives, as well as those factors that have impeded the programme; and
- (c) To examine the extent to which the results of the programme, in terms of studies and other outputs, have contributed towards actual investments materializing, as well as contributed to an improvement in those investment decisions and to determine the significance of such investments for employment, economic growth, environment and the position of women.
- (d) To consider the results of the UNIDO pre-investment studies financed by the Netherlands against the background of Netherlands-UNIDO co-operation, audits development during the last five years.

Apart from the above-mentioned purposes, the evaluation will also review whether the approach utilized in the programme and the administrative arrangements have led to optimum results or whether other approaches could have improved the results.

The evaluation is not intended as an evaluation of all UNIDO pre-investment activities or even those of the Feasibility Studies Branch. Furthermore, it should be borne in mind that:

- The Feasibility Studies Branch is engaged in many more activities than the studies evaluated here,^{1/} such as institution-building, human resource development (training programme), methodological and conceptual work, technical assistance to development finance institutions, industrial rehabilitation studies; and
- Based on decisions taken by the PRC, the Netherlands contributions to UNIDO have been used also for other purposes not considered here, such as preparatory assistance for a regional hides and skins, leather and leather products improvement scheme, COMFAR training seminar, indicative multi-year programmes for the integration of women in industrial development, evaluation of the UNIDO System of Consultations.

(d) Composition and work programme of the evaluation team

Consultants: Mr. Janos Fat' or UNIDO
Mr. Roger Teszler for the Government of the Netherlands

Mr. Teszler started work in the Netherlands and gathered information from the Ministry for Development Co-operation, then travelled to Benin and Burkina Faso to consult with UNDP, Government representatives and sponsors involved in projects which were carried out in these countries.

Mr. Fath spent two weeks prior to the arrival of Mr. Teszler in Vienna to review files and interview officials responsible for the programme in the Feasibility Studies Branch and associated technical branches to gather information on programme implementation. Both consultants also evaluated each pre-investment study prepared under this programme.

^{1/} For further details, see Annex IV: UNIDO's Pre-investment Studies Programme.

The two consultants, after further reviewing all the information gathered and having conducted follow-up interviews, presented their initial findings and conclusions to the Feasibility Studies Branch on 30 October 1989. General agreement on the evaluation's initial findings was reached during this meeting.

From 7 to 10 November consultations were carried out in The Hague with officials of the Ministry for Development Co-operation, and the first draft of the final report was prepared.

I. PROJECT CONCEPT AND DESIGN

A. Socio-economic and institutional context of the programme

A critical factor for efficient and sustainable industrial development has always been the ability of governments as well as public and private investors to take correct investment decisions. For many years, the governments of developing countries have relied on UNIDO for assistance in preparing pre-investment studies to better enable them to take sound investment decisions. Within the past few years, a shift in focus for these studies has occurred to give more attention to non-government industrial activity (local promoters or sponsors, foreign investment).

The special purpose contributions made available by the Netherlands have been arranged to allow UNIDO to respond to such requests for assistance more fully.

Since the first Agreement was signed, the need for sound pre-investment analyses has lost nothing of its original importance. With the recent development agenda giving increased importance to the rehabilitation of existing enterprises, particularly in Africa, and to the need for investment to increase the efficiency of public and private enterprises, while satisfying economic criteria, the need for pre-investment studies has become even more pressing.

B. Agreements between the Government of the Netherlands and UNIDO

The "Arrangement" protocol sets out how UNIDO and the Netherlands Government will co-operate more to enable UNIDO to prepare pre-investment studies on behalf of a given group of developing countries (preferably LDCs) on investment proposals supported by the host country government. The intention was to bring about improvements in the investment decision-making process.

The Agreements clearly defined the problems to be dealt with and the targets set were realistic. The initial selection of studies was to be made by UNIDO (in consultation with the Donor). It was also up to UNIDO to decide on the type of study to be conducted. Annex I to the Agreement defined the alternatives for such a selection. According to Annex I, the term "pre-investment studies" is meant as a collective term comprising:

- (i) Project related opportunity studies (helping in the decision whether to continue or abandon the project idea);
- (ii) Pre-feasibility studies (preliminary assessment of the project);
- (iii) Support (functional) studies (usually dealing with critical unknown elements of the future investment);
- (iv) Feasibility studies (new investment ventures, expansion of existing capacities, rehabilitation and restructuration of existing individual establishments).

According to the Arrangement, (pre-) and feasibility studies will be undertaken only if a potential project sponsor has been identified. Where

this is not the case, only opportunity and support studies would be encouraged. The development problem addressed, the objective of the programme, the output expected from it, as well as the target groups, are adequately apparent in the text of the Arrangements and their annexes. The study procedures, guidelines and performance criteria were implicitly assumed from the standards set by UNIDO in this field. Additional (and somewhat controversial) instructions for utilization of the finds were provided by a letter from the Netherlands PR expressing a preference for pre-feasibility and feasibility studies.

The focus on LDCs meant that the studies would have to be made under particularly difficult economic and infrastructural conditions and that mostly small and medium-size projects would be submitted for study or assessment.

To implement the programme, the following operating procedures and conditions were adopted:

- The host organization in the recipient country is expected to provide to the maximum extent possible, at its expense, counterpart contributions such as accommodation and transport or otherwise make sufficient funds, in local currency, available to offset these items, details to be specified in the project data sheet.
- In implementing the study, UNIDO should preferably use consultants and technical expert services from the Netherlands and/or developing countries concerned.
- UNIDO will submit to the Donor on a regular basis proposals for pre-investment studies. The Donor will endeavour to inform UNIDO of its decision within 14 days of receipt thereof.
- At the request of UNIDO, the Donor will endeavour to propose suitable candidates for consultancy services to be financed under the project.

The procedures for UNIDO/Donor co-operation were adequately defined in the Arrangement. Some of the conditions set (e.g. preference for consultants from the Netherlands or from a developing country, submission of reports by UNIDO), some of the assumptions made (such as Dutch approval within 14 days), in many cases could only be met except after considerable delays.

UNIDO shall provide the Donor with the following statements:

- (a) Half-yearly progress report on the implementation of the project;
- (b) An intermediate report;
- (c) A final report on implementation; and
- (d) A final report and statement of account (financial statement).

The existing Agreements do not provide any suggestions for follow-up, nor that the reports themselves should be provided to the donor.

The operating procedures and conditions set in the Agreement were, grosso modo, appropriate to the objectives agreed upon. Making use of the experience gained, the evaluators prepared proposals for the improvement of the procedures of co-operation with Donor and incorporated them in the 'Recommendations' in Chapter V of the report.

II. PROJECT IMPLEMENTATION

A. Delivery of Inputs by Projects

1. Evaluated Projects

1.1. Completed Projects

	<u>External Budget</u>		<u>Total</u>
	<u>Committed</u>	<u>Disbursed</u>	<u>Overhead Disbursed</u>
US/BEN/84/270 Etude de pré faisabilité pour l'installation d'une usine de cartonnerie et de sacherie	US\$ 48,079	48,079	6,250
			54,329
US/BEN/85/027 Etude de pré faisabilité pour l'installation d'une mini-acierie	85,000	85,000	11,050
			96,050
US/GBS/85/088 Etude d'opportunité sur un minoterie en Guinée-Bissau	40,409	40,409	5,253
			45,662
US/BKF/85/162 Etude de faisabilité pour l'établissement d'une Unité de Formulation de Produits Phytosanitaires	53,947	53,947	7,013
			60,960
US/INS/85/172 Feasibility study to assist in establishing a modern wooden boat building and repair industry in Irian Jaya in co-operation with the Irian Jaya Joint Development Foundation (J.D.F.)	98,018	93,085	12,101
			105,186
US/ANG/87/075 Opportunity study for the establishment of a production capacity of wind-driven water pumps in Angola	<u>94,161</u>	<u>97,144</u>	<u>12,629</u>
			<u>109,773</u>
Total Completed Projects	<u>US\$ 419,614</u>	<u>417,664</u>	<u>54,296</u>
			<u>471,960</u>

A. Delivery of Inputs by Projects (cont'd)

1. Evaluated Projects

1.2. On-going Projects

	<u>External</u>	<u>Budget</u>		<u>Total</u>
	<u>Committed</u>	<u>Disbursed</u>	<u>Overhead</u>	<u>Disbursed</u>
US/MLI/86/210 Etude de préfactibilité l'établissement d'une complete textile a Bougouni	US\$ 93,000	92,250	11,993	104,243
US/ZIM/87/243 Feasibility study for the production of chrome tanning salts	88,000	74,428	9,676	84,104
US/RAF/87/141 General opportunity study on the possi- bility of establishing a refractory industry in the SADCC Region	120,000	---	---	---
US/INS/87/105 The preparation of feasibility studies for five boats assembly yards for selected entrepreneurs in Indonesia	132,156	125,436	16,307	141,743
US/MLW/86/149 Feasibility study for the establishment of a small-scale paper mill in Malawi	<u>53,000</u>	<u>13,870</u>	<u>1,803</u>	<u>15,673</u>
Total On-going Projects	<u>US\$ 486,156</u>	<u>305,984</u>	<u>39,779</u>	<u>345,763</u>

A. Delivery of Inputs by Projects (cont'd)

2. Not Evaluated Projects

	<u>External Budget</u>		<u>Overhead</u>	<u>Total Disbursed</u>
	<u>Committed</u>	<u>Disbursed</u>		
UC/RAF/87/069 Preparatory assistance for a regional hides and skins, leather and leather products improvement scheme - East Africa	US\$ 138,425	24,768	3,220	27,988
US/RAF/87/241 Training seminar in financial analysis and COMFAR, Lusaka, Zambia 12-30 September 1988	73,721	62,746	8,157	70,903
US/ZIM/88/100 National hides and skins, leather and leather products improvement scheme - East Africa	314,140	97,314	12,651	109,965
US/GLO/88/282 In-depth evaluation of the System of Consultations (leather and training of industrial manpower)	51,282	43,886	5,705	49,591
US/GLO/88/236 Development of an indicative multi-year programme for the integration of women in industrial development	<u>55,370</u>	<u>48,083</u>	<u>6,251</u>	<u>54,334</u>
Total Not Evaluated Projects	<u>US\$ 632,938</u>	<u>276,797</u>	<u>35,984</u>	<u>312,781</u>

GRAND TOTAL (1.1. + 1.2. + 2.) External Budget:
Committed: US\$ 1,538,709
Disbursed: 1,000,445
Overhead: 130,059
Total Disbursed: 1,130,504

Note: Disbursement figures as of 31.10.89. There are also a number of projects in the pipeline (eight) to the Netherlands with a total budget of US\$ 1,709,710. These proposals have also been submitted to other donors, however. The above data can be refined as the financial status at 31 December 1989 will be reported by the Accounting Section on 22 January 1990. Due to differing terms used in various reports, there is no possibility to exactly compare the project performance data collected by other sources with the global financial status. According to the data provided by the Accounting Section as of 30 November 1989, the total expenditures (disbursements plus contracted obligations plus overheads) amounted to US\$ 1,352,470, against the total pledges of US\$ 2,080,405. The value of the allotment was US\$ 1,767,235. The projects evaluated by the team represent approximately 51 per cent of the total allotments and 60 per cent of the total expenditures.

B. Implementation of activities

(a) Origin of requests by countries

(i) Geographically, most of the pre-investment studies were done in Africa. Projects were implemented in small LDC countries such as Benin (2 projects) and Guinée Bissau, Burkina Faso, Angola, Malawi, with one project each. One study project is under implementation in Zimbabwe. This project, if feasible, will have a sub-regional impact.

In Indonesia, two studies were carried out in the boat building sub-sector.

(ii) Type of industries

Studies carried out involved the following manufacturing activities:

- Production of bags and cardboard boxes from imported paper and cardboard (small-scale);
- A mini steel plant with electric arc furnace, rolling mill and finishing line (or rolling mill plus finishing line, or finishing line for cutting and shaping of imported steel coils (small-scale);
- Flour milling of imported wheat and locally grown millet and sorghum (small-scale);
- Pesticide plant for the production of liquid pesticides and/or dry pesticides with locally available carriers;
- Wooden boat building (small assembly yards, larger-scale production of laminated components) (2 projects);
- Wind-driven water pumps (small-, medium-scale metal-working industry);
- Chrome tanning salt, chemical processing (medium-scale);
- Paper mill (small-scale)
- Refractory industries, production foreseen for a sub-regional market, depending on the on-going market study.

(iii) Origin of requests by institutional and other criteria

Most of the requests came from those ministries that act as the official channels of communication between UNIDO and the countries. The ministry is not necessarily the initiator of the project, however. In Zimbabwe, the Leather Institute of Zimbabwe was the effective promoter of the chrome tanning salt project. In Indonesia, the two wooden boat project stemmed from a UNIDO investment opportunity study project emphasizing institution-building. For these projects, the approval by the Government was obtained after the definition of the project's objectives by UNIDO. In one case (Zimbabwe), the request submitted by the Ministry of Industry and transmitted to UNIDO by the Resident Representative was not sufficient to initiate the project since only the Ministry of Finance is entitled to submit binding requests and to commit the Government for counterpart contributions. The idea of a feasibility study project has also come up during a visit to UNIDO by government officials and that, subsequently, these ideas are written up as a project which is submitted officially by the government (Burkina Faso).

Most of the projects have some history. For the Benin bag and cardboard project, the detailed terms of reference for the study were included in the original project request. Four interested private investors were identified and previous investment activities were referred to.

The steel project in Benin was preceded by an opportunity study. The feasibility study in Burkina Faso goes back as far as 1972 when a study for the establishment of a combined fertilizer/pesticide production unit was prepared. The UNIDO study was the fourth for this plant.

The Irian Jaya boat project can be regarded as a specific extension of the project, DP/INS/78/002 "Investigation into the Potential for a Wooden Boat-building Industry in Indonesia". The feasibility studies for five boat assembly yards form a continuation and extension of the Irian Jaya project.

The Mali textile project was preceded by contacts between UNIDO and the Government dating back to 1984. The appraisal of the idea of a textile complex as such was first made in 1976.

The chrome tanning salt project was presented to an investment promotion meeting and the request was a direct follow-up to the meeting. Chrome tanning salt was manufactured in Zimbabwe in 1983/84 in liquid form.

The wind-driven water pump project was identified as a new project although some study of the question was carried out by a consulting firm before. (This firm has expressed interest in obtaining the UNIDO report.)

The SADCC refractory industry study was first requested in 1985. A sub-regional market study will most likely be receiving UNDP financing, and UNIDO will carry out the follow-up studies after the completion of the sub-regional study.

As far as the evaluators could assess, none of the above study projects derived from other branches of UNIDO, such as the Industrial Investment Division, the Industrial Operations Technology Division, the Industrial Planning Branch or the Institutional Infrastructure Branch. This refers to insufficient interdepartmental co-operation in pre-investment activities within UNIDO. This fact has some important bearing on the type of projects handled by the Feasibility Studies Branch, as well as on the management of the projects in general.

(iv) Sponsors

In countries with a strong public sector, the ministries (of Planning, of Industry) themselves claim to be the sponsor of the project. They often name a public sector enterprise or institution which is expected to act as the potential sponsor of the investment, provided the conclusions of the study are encouraging.

One of the exceptions was the Indonesian boat project, where reference was made to the Irian Jaya Joint Development Foundation (UNDP/Netherlands) and to the firm P.T. Yosiba. The second boat study was meant to help entrepreneurs interested in laminated components, prototype building and small-scale boat assembly yard investment, but they could not be identified. The studies made available to the evaluators were addressed to boat yards of development foundations (in two cases). In one case, it was a general study without any specific addressee.

In the case of chrome tanning salt, the Leather Institute of Zimbabwe (with member-companies from the tanning industry) strongly supports the project. Rio Tinto was also named as a potential investor but the suggestion

was not taken up by UNIDO to associate the company with the study. In order to be sustainable, the production facility would have to produce for a sub-regional market, although consultations were also carried out with potentially interested partners in Botswana. In the long run, SADCC or PTA should probably become fully involved.

SADCC is sponsoring a refractory industry project (not started yet). Sub-regional organizations can only act as promoters. Investors still need to be found.

In the case of the Angolan wind pump project proposal, no sponsor was named. The study itself discusses two local companies (one of them public, the other private) where production facilities could be installed.

The Agreement between the Netherlands and UNIDO drew an important distinction between opportunity studies on the one hand and pre-feasibility and feasibility studies on the other by requiring the naming of sponsors for the latter category

Generally, the role of the sponsor was not defined adequately for the pre-investment study project proposals. Accordingly due consideration was not given to this aspect neither in the project approval nor in the implementation process. On the other hand, the opportunity study for flour milling in Guinea Bissau in the request stage had sponsors, even though the study did not require them.

Normally, the project sponsor should be known. His interest, seriousness and ability to eventually implement the outcome of a favourable report should be carefully assessed. Finally he should be involved fully in the conduct of the study. This would require writing to the Governments concerned to get this information and/or for UNIDO to travel to the country to appraise the project request. At the moment UNIDO is reticent to do so because of financial constraints.

In the current practice, 'sponsor' could mean any one of the following:

- Some reference to a party having an "interest" in the study project, not disposing of effective decision-making or implementation capacity;
- A government institution/organization willing to co-finance the study or to contribute in kind to its implementation, with some promotional but no effective financial or managerial capabilities for investment;
- An enterprise willing to examine the results of the study for an eventual follow-up once it is completed;
- An engaged and committed entrepreneur (public or private) actively looking for feasible options to implement a project idea because he wanted to have a stake in the investment, e.g. an enterprise directly assisted by UNIDO in restructuring is such a sponsor.

Pre-investment activities cannot be based on a single definition of the sponsor alone. Variety of approaches and flexibility are required with due

regard to the complexity of UNIDO's relationships with governments, sub-regional and regional organizations, financial institutions, as well as with public and private investors. The emphasis placed on sponsors means, however, that UNIDO is expected to design its pre-investment projects bearing in mind the effective commitments made and the engagement shown by those who are in support of the project in the field.

(v) The types of studies financed

The evaluations have noted that the opportunity studies, as in the case of flour-milling or wind-driven water pumps, were actually pre-feasibility studies. The feasibility reports in the cases of boat building and chrome tanning salt were actually pre-feasibility studies. It would seem that the type of study to be made is decided at an early stage of preparation, often by just accepting the terminology used in the request.

On the other hand, the feasibility study to assist in establishing a modern wooden boat building and repair industry in Irian Jaya is indicated to have been prepared for the firm P.T. Yosiba. It is based on a broad economic, technical and geographical analysis, much broader than what was required for the restructuring programme of the small P.T. Yosiba boat-building company.

The three feasibility studies for the five Indonesian boat assembly yards do not meet the criteria of a feasibility study since one of them is only a general study and the others are related to small fishing villages and mini-facilities. The feasibility study requirements were not met.

During the study design phase the decision on the type of study to be made appears to be largely determined by the title of the study requested. The terms of reference approved for the studies then follow the general pattern required for such a study according to UNIDO's feasibility studies manual.

It seems that more attention could be paid to analyze what kind of study would provide the most efficient and effective approach to the information needed. For this, an appraisal is required of factors such as:

- (i) the market situation with regard to the industrial sub-sector in the national and the regional/international context including technological and commercial factors - in terms of users, suppliers, traders, producers;
- (ii) the capabilities/capacities of the project promoter/sponsor with special regard to the management experience and financing capability; and
- (iii) finally, other development projects in the country/area, etc. should be reviewed to identify possible complementarities to be stimulated or duplications to be avoided.

The projects implemented under this programme all dealt with the preparation of pre-investment studies. No activities were carried out to appraise pre-investment studies prepared elsewhere, i.e. by other UNIDO sections or agencies for investment promotion in developing countries. This would, however, comprise a valuable service to developing countries. Such an activity was foreseen in the Second Agreement which referred to "the evaluation of pre-investment studies". As reported by the Branch, appraisal

projects may come up in the future in conjunction with the assistance to be provided to industrial development banks. Other activities in the programme included training for pre-investment studies and evaluations.

(b) Mechanism of approval

(i) Approval and selection process

The UNIDO Reference Guide on How to Obtain Assistance from the UNIDO-administered Funds for Technical Assistance (August 1989) lists the geographical priorities of the bilateral aid programme of the Netherlands. This list has been used for submitting project requests to the Netherlands. Occasionally, when projects from countries Togo, Sierra Leone and Ethiopia were submitted, these were rejected by the Netherlands even though they are comparable from a development point of view with countries that do figure on the list.

Benin is an LDC for which the Netherlands also gives geographic priority (two projects financed). The same applies to Burkina Faso, Mali, Guinée-Bissau and Angola.

In the case of Indonesia, the nature and the history of the project, Dutch design and industrial experience, the early association of Dutch experts and institutions with boat building and repair projects in Indonesia, have facilitated the decisions to finance the studies.

In the case of wind-driven pumps study, the subject of the project itself may have led to the request for Dutch engagement.

In some other cases (like chrome tanning salt, textiles, steel), no specific sectoral arguments supported the Dutch special purpose financing approval.

(ii) Time required for approval

UNIDO

For the studies evaluated in this report, a great deal of time passed during the UNIDO preparation and clearances of the project document. Calculated from the date of the request up to the day of the PRC meeting, where projects were released for negotiation with special purpose donors, the average duration of the approval procedure was over 12 months. Out of nine evaluated projects, the UNIDO internal approval procedure took more than six months in seven cases, with four of these taking over 12 months.

Approval in the U.N. context is a complex process not limited to pre-investment studies with at least four to five "players" (developing country: promoter organization; Ministry of Industry and occasionally one other ministry acting as the official channel of communication), UNDP field office and UNIDO. Within UNIDO a project proposal requires many signatures. Area divisions (LDC section), the technical/sectoral sections must clear the projects developed by the Feasibility Section before the proposal arrives at the desk of the Project Appraisal Section (PAS). After appraisal the project is submitted to the Project Review Committee (PRC). After PRC approval and

clearance by Funds Administration the proposal can be sent to the Netherlands Government. Once the Donor's approval is received a Project Allotment Document (PAD) can be issued.

An average of two to three months needs to be added to the above-mentioned 12 months for the issuance of the PAD which is the effective signal for the beginning of the implementation. Counted from the date of the request, it takes 14-15 months to reach that stage (for detailed evaluation of the time factor in connection with the projects evaluated, refer to b) Mechanism of approval and c) Execution of studies in Annex I).

Netherlands

For the studies evaluated in this report, the Dutch Government has approved most requests in less than two months. In cases like SADCC, Zimbabwe, Benin (2x), Indonesia (2x), the Dutch approval came within a month.

Even in the case of Burkina Faso, a provisional approval was given within two months. Three conditions were made, however: the availability of financing for the investment; the availability of a private sponsor; and financing the mission of a UNIDO staff member to the country out of the overhead fee rather than the regular project budget. Due to these conditions (which UNIDO attempted to meet and which it discussed directly with the Netherlands when this proved to be difficult), the final approval was given verbally at a Netherlands/UNIDO meeting and confirmed in writing four months later. The provisional and the final written approval took ten months altogether.

Another special case is Mali. Eight months elapsed between the submission of the request by UNIDO (prodoc in French) and the date of approval. Five months elapsed between the submission of the English version to the Dutch Government and the approval.

At present there is a list of eight projects in the pipeline which have been submitted by the PRC inter alia to the Netherlands. Submissions vary from 24 May 1988 to 7 March 1989 (information per 20 October 1989).

(iii) Criteria for approval

The availability of an official request from the government seems to be the main approval criterion. The interest of a serious and capable sponsor is usually not adequately established nor intensively investigated during the project approval process.

The 'Background and Justification' chapter of the project document is designed to provide the substantive information facilitating the approval. In certain cases, some of the information provided in the documents turned out to be incorrect (some of the assumptions regarding the steel market in Benin). Occasionally, the arguments are too broad-based, as noticed in the introduction of modern wooden boat building project in Indonesia, and the cotton as raw material processing project in Mali. The latter did not take into consideration the existence of two textile enterprises in the country. It also happens that the conclusions of the feasibility study are nearly anticipated ("... the production of chrome salts in the SADCC area is almost certainly viable at the present time..."). In the case of the chrome salt

project, the well presented argument of the original request was repeated without its being critically assessed during the project formulation process. Such an assessment would be required to justify a full feasibility study. In the case of the wind pumps infrastructural issues like drilling and cleaning wells and their financing would need to have been assessed before proceeding with the study of the feasibility of manufacturing wind-driven pumps.

The UNIDO 'project justification' should provide more insight into the background and context of the pre-investment study proposal and provide analytical justification for the type of study envisioned. A more critical role of UNIDO during the project preparation stage could be envisaged.

(c) Execution of studies

(i) Duration: The project studies themselves normally take about 20 months to complete. This may be a few months less as in the case of Guinée Bissau (17), Burkina Faso (18), or more like in Angola (22), Mali (22), Zimbabwe (22, as estimated). An extreme case was the study for the Benin steel project with a duration of 40 months:

Revision of approved project proposal	9 months
(in view of the ResRep's objections)	
Selection of consultants	13 months
Fielding of consultants.	8 months
Presentation of the report and its promotion, completion of the project	<u>10 months</u>
	40 months

Ironically, one may conclude that the relatively shortest part of the project cycle is the work in the field and the preparation of the (draft/final) report.

The preference to be given to Dutch experts appears to have caused delays due to the French language requirement in five cases. The high level of fees customary for consultants in the Netherlands may well have been one of the obstacles that precluded an agreement with Fluor Daniel (American-Dutch Firm) for one study.

In the case of the boat building and windpump projects, the recruitment and contracting were facilitated by the ready availability of Dutch consultancy expertise in this field of industry.

(ii) The studies were implemented by consulting firms in six cases and separately recruited individual experts in three other cases. Whether national experts in the developing countries were used during the studies was not explicitly indicated in the reports. It is presumed that they were not normally used. With the exception of the wooden boat project, where the staff of LKI (Entrepreneurship Development Institute) was engaged in the preparation of the feasibility studies (five assembly yards project). The final reports seen by the evaluation team appear to limit the role of local experts to that of resource person.

Programme-level analysis

(i) Connection or complementarity between individual projects

Except for the Indonesian boat project where two succeeding studies have been financed, no connection could be established between any of the studies evaluated in this report. There would appear to be more of a connection between the studies with:

- (a) preceding activities (such as earlier studies);
- (b) priority sectors of the host country economy.

Examples of (a) include the Mali textile plant study (for the establishment of a third plant, where two existing ones seemed to be functioning inadequately) and the Burkinabe pesticide plant (earlier studies had been focussed on a plant for the combined markets of Burkina Faso and Niger).

Examples of (b) refer to the Burkinabe pesticide plant (to protect cotton, the major export stable of the country) and the Benin packaging plant (complementary activity to major sectors of that country's manufacturing and its cash crops).

The fact that out of the Netherlands Trust Fund 11 studies have been financed for nine countries furthermore makes it unlikely that the individual projects would be closely interrelated in any way.

Of the studies reviewed in this report, four can be considered as follow-up studies and two are related to specific demand (Benin packaging, Zimbabwe chrome salts).

(ii) Geographical focus

The geographical focus of the studies was on countries included in the Netherlands' list of priority countries. This was done, however, without considering the nature of this list, which distinguishes between

- programme countries (eligible for all types of development co-operation available in the Netherlands' bi-lateral programme)
- sector countries (eligible for aid to certain sectors e.g. rural development or industry; these countries are located in priority regions e.g. Sahel, Southern Africa, Central America, Andes Region)

Of the 11 studies, only two were carried out in a programme country (Indonesia). Nearly all recipient countries were LDCs (Sub-Saharan Africa, in particular, with the exception of Zimbabwe). Except for the two Benin studies, all studies are related to agro-industries (including fisheries and wood-working).

(iii) Approval process in the Netherlands

Each proposal for a study, as approved by the PRC, is submitted individually to the Netherlands for approval via the Bureau of the Permanent Representative in Vienna.

In most cases, this appeared to be a routine matter and approval from the Ministry in The Hague was given rapidly (usually within a few weeks). On one occasion, certain caveats were expressed (Burkina Faso) and this has delayed the final approval process, even though verbal agreement had been given rapidly. For more specifics on the time required for approval, reference is made to Chapter (b) ii - "Time required for approval - the Netherlands" page 19.

The financing of the studies by the Netherlands out of the Netherlands Trust Fund originally occurred individually on a piece-meal basis i.e. once a study proposal has been approved by the Netherlands, the required amount is moved out to the UNIDO account in The Hague. The Netherlands contributions to UNIDF, however, are made available in pre-determined instalments.

No evidence has been found of any mid-term reporting to the Netherlands; what contacts there were referred to problems of a more ad hoc nature:

- lack of qualified consultants (Guinee-Bissau study)
- caveats on approval (Burkina Faso study)

(iv) The Netherlands involvement

The completion of a study was reported to the Netherlands authorities by correspondence. The studies themselves could not be traced, however, neither in the Ministry in The Hague nor in the Netherlands' Embassies. It is recommended that a complete set of the studies financed by the Netherlands be made available to the Donor authorities (Investment Section, Ministry of Foreign Affairs, Sector Programme and Technical Advice Department) for information. The use of the studies for promotional or any other purposes would need the approval by the developing country government concerned.

As far as the completed studies are concerned, the major involvement of the Netherlands in the decision-making process can be summed up as the appraisal of UNIDO proposals for studies. The major criteria for approval would appear to have been the country where the study is to be carried out.

For on-going and pipeline projects, a more active involvement by the Netherlands is noticeable, as well as an attempt, still on an ad hoc basis, to diversify the Netherlands' involvement in funding UNIDO activities.

In many cases, there appears to have been no significant feedback from the Netherlands to UNIDO where finished studies are concerned (exceptions include boat building in Indonesia and chrome tanning salts in Zimbabwe). Similarly, the involvement of the Netherlands in any follow-up activities has been limited. Only in the case of the Indonesian boat project, a tendency was noted for the Netherlands to increase its involvement and to thus take over funding and responsibility. We refer to the Integrated Boat Building Project (IBP) commenced in May 1989. It should be noted that in this case, the Netherlands are eminently qualified to do so in view of the sectoral and geographical experience and knowledge.

(v) Advantages and disadvantages for the Netherlands and for UNIDO for co-operation via UNIDF

Netherlands

(a) Advantages

- UNIDO provides an additional channel for the implementation of the development co-operation programme of the Netherlands;
- The involvement of UNIDO expertise in the implementation of the Netherlands' programme;

- Additional contract opportunities for consultants from the Netherlands.

(b) Disadvantages

- Procedures within UNIDO are time-consuming;
- Insufficient feedback of results to the Netherlands and hence limited opportunities for follow-up or other complementary activities.

UNIDO

(a) Advantages

- Additional funding;
- rapid decision-making in the Netherlands (usually).

(b) Disadvantages

- Requirements of involving consultants from the Netherlands leads to delays in the preparation of the studies;
- Piece-meal approval process limits UNIDO's flexibility to implement the programme.

III. PROJECT RESULTS AND ACHIEVEMENT OF OBJECTIVES

A. Outputs

The nine studies evaluated represent the individual outputs of the programme. Six out of these nine are considered to be fully (i.e. also financially) completed. Annex I contains the in-depth evaluations of each of the finished studies (Category A), as well as in-depth evaluations of the on-going studies as far as they were completed (Category B). The rest of the studies are on-going.

In general, the operational usefulness of pre-investment studies is determined inter alia by:

- (i) The definition of the study objectives and the scope of the study;
- (ii) The speed by which the request for a study can be implemented;
- (iii) By the speed with which they can be completed;
- (iv) By the application of the appropriate methods and analytical tools in conducting the studies; and
- (v) Their follow-up.

Points (i), (ii) and (iii) have been dealt with in the previous chapters of this report. There is no need to repeat the findings here, except to underline the need to appraise the study design requirements carefully and quickly before proceeding with point (iii). The quality of the studies submitted by the consultants can be judged only rarely as unqualifiedly good. In a number of cases, satisfactory results could be obtained. In others, even numerous time-consuming revisions, often involving extensive efforts by UNIDO staff did not succeed in making the studies acceptable. Basic shortcomings include:

- Failure to adhere to the terms of reference;
- Deficient application of internationally accepted methodologies and guidelines, i.e. the UNIDO standard;
- Poor knowledge of French (working language for the majority of the completed reports); and
- Failure to integrate economic background information with feasibility analysis.

In this evaluation, the quality of the studies has been considered from a number of viewpoints:

- Quality of the technical analysis;
- Quality of the market analysis;
- Quality of the financial analysis; and
- Extent to which other relevant aspects were covered (economic cost-benefit analysis environment, role of women, etc.).

In general, it was found that good studies tend to be good on all counts and that unsatisfactory ones are unsatisfactory in all respects.

There are some special cases too. Thus the Benin steel study combines a good market analysis with an unsatisfactory technical study (too sophisticated equipment selected) and a poor financial analysis (UNIDO/COMFAR procedures not adhered to e.g. wrongly applied).

While follow-up action is generally recommended, the success cannot be guaranteed. The second boatyard study in Indonesia, though officially still in progress, does not appear to hold out much promise because instead of being a true follow-up to the previous study, it seems to be concentrating basically on repeating studies and arguments which have already been done (in the previous study).

In summing up the results:

of the terminated studies

- two are good (Guinee-Bissau, Angola);
- three are more or less satisfactory (Benin steel, Indonesia boats I, Burkina Faso); and
- One is unsatisfactory (Benin: packaging).

of the studies in progress

- one is good (Mali); and
- one is unsatisfactory (Indonesia - boats II);
- in one case (chrome-salt), insufficient information is available to arrive at any conclusion.

It should be pointed out that in at least two cases (packaging project in Benin; steel project in Burkina Faso), satisfactory results could only be obtained thanks to considerable additional efforts from UNIDO staff. In one case, even this did not result in an acceptable study (Benin: packaging).

On the other hand, it must be remembered that:

- (i) Full feasibility studies are not always required to arrive at good investment decisions. Furthermore, certain basic issues can be settled relatively quickly via short fact-finding missions by top-level experts. Similarly, it does not require a full study to find out that certain investments should not be made. A brief visit to Benin (or not even that, just studying some basic economic and technical data), would have made it clear that an electric arc furnace should not be built in that country to cater to the local steel market, or to Mali to find out that there was no need for a third textile complex, or to Indonesia to recognize that the kit concept was just not working as expected; ^{1/}
- (ii) On the other hand, even imperfect studies can be substantially correct and can serve as the basis for an adequately justified decision on whether to invest or not to invest. The rapidity with which appropriate information becomes available can be more important than the soundness of its presentation.

As indicated previously, three types of pre-investment studies have been carried out under this programme: opportunity, pre-feasibility and feasibility studies. Each has its own requirements with regard to level of detail and depth of analysis. The following summary assessments have taken the different requirements into consideration.

^{1/} See footnote to B. (iii) on page 28.

Technical analysis: Of the six studies completed, two were good, two satisfactory and two deficient (insufficient consideration of host country environment). Most of the on-going studies seem to be progressing satisfactorily with their technical analyses.

Market analysis: Of the six studies completed, two were good, two satisfactory and two deficient (failure to consider impact of pricing policy on sales; failure to analyze effective demand). Of the three on-going studies, one is inadequate (as a follow-up study, it merely repeats arguments of preceding study).

Financial analysis: Here results were the least satisfactory due to intrinsic weaknesses of some of the studies (such as A-5, A-6, B-3) and to calculating errors or deficiencies found in others (A-1, A-2, A-4). The consistent application of COMFAR can eliminate errors but it cannot cure conceptual weaknesses or ill-founded assumptions.

Economic cost benefit analysis: No economic cost benefit analysis of any significance was carried out. At best, some loose comments were made without any analytical framework.

Environment, women, etc.: Hardly considered (this reflects on shortcomings in the Terms of Reference rather than on the way in which they were carried out).

For detailed analyses of the projects see Annex I.

(iv) As regards to follow-up, the submission of a certain number of copies to Governments through the Resident Representative's office is the normal practice. The conclusions made in the study, the status and engagement of the sponsors known and/or identified during the study determine the nature of additional follow-up action required.

In the case of the wooden boat project, a further search for investors, entrepreneurs, financing, technical partners was considered necessary. A second project to that effect was proposed and approved.

A prototype development programme (budget forecast US\$ 2.2 million) is proposed as follow-up to the wind-pump study.

Even a study with negative conclusions for the main objective (e.g. investment in a new textile complex in Mali or opportunity study for flour milling in Guinea-Bissau) can lead to ideas for sectoral development (rehabilitation of existing production facilities; more extensive use of Malian tissues in artisanal and semi-artisanal sectors, establishment of small-scale milling facilities at market town or village level, etc.).

The examples indicate that effective follow-up can call for a variety of possible actions which may or may not acquire the engagement of UNIDO or the Feasibility Studies Branch. The point is that the options for follow-up action would need to be carefully examined, decided and documented. Pitfalls like the occasional self-sustaining efforts (Indonesia) by consultants in relation to a project idea should be avoided. The action to be taken will depend, first of all, on the intentions expressed by the developing country itself, of course.

While follow-up actions in the projects examined are clearly recognized or were planned, it appears that no common procedures have been established within UNIDO to systematically handle the follow-up issues for completed pre-investment studies.

B. Achievement of the immediate objective

The achievement of the immediate objective can be judged on the operational usefulness of the programme in facilitating and influencing investment-related decisions in developing countries.

Different situations can illustrate the variety of circumstances handled (or created) by the study projects evaluated.

(i) A-2 The pre-feasibility study for a steel plant in Benin concludes that three alternative approaches could be adopted:

- (a) Small electric arc mini steel plant (integrated);
- (b) Smaller rolling mill and finishing line;
- (c) An even smaller finishing line; which was judged the most viable and was indeed implemented, however, a different technology was used.

According to plant executives, the study was useful for its marketing data. The technical solution suggested under the (c) study was considered too sophisticated. The decisive reason for entering the Benin market was the effective demand as indicated in the Benin study, rather than the pre-investment study.

In the above example, a satisfactory study contributed to investment, since one aspect of study provided enough information to undertake an investment albeit using a technical approach not suggested in the study.

(ii) A-4 The feasibility study for a pesticides plant recommended:

- (a) Not to establish a plant for liquid pesticide; and
- (b) To establish a plant for dry pesticide.

The conclusions are correct in abstracto (study has defects as far as financial calculations and marketing analysis are concerned). Recommendation (a) is, however, now being implemented because

- production of liquid pesticides was considered to be important by the government;
- availability of finance (local and expatriate); and
- the additional production line for filling aerosol cans with insect repellent made the proposal more viable.

The aerosol production line provides a new element which changed all previous calculations. It may be questioned why such an approach was not considered before (at least four previous studies were carried out for a pesticide plant in the country).

This then is an example of a deficient study with correct recommendations not to invest is followed-up with an investment due to the acceptance of an option not considered in the study.

(iii) A-5 Indonesian boat project. The boat project, which commenced in 1985, aimed at introducing manufactured boats that would gradually replace the traditional boats.^{1/} This would be accomplished by an assembly "kit" concept: assembly by a network of new industries consisting of medium-scale manufacturers of plywood boat components and of local small-scale assembly yards. The project had some success but the response of entrepreneurs to the kit concept was disappointing. Only one entrepreneur was willing to invest in the kit concept. In three years, the company could sell 24 boats but not one of the prototypes has become a commercial success.

The pilot project has not succeeded in establishing a market for its products. Attempts to introduce kit concept in the informal market of the small-scale fisheries was not successful, because cost factors and tradition worked against it. It is a design and designer-centered concept underestimating important market and input factors.

(iv) In the case of wind-driven pumps (A-6, Angola), the so-called "market" would fully depend on the willingness and the capability of the Government to purchase the locally manufactured wind pumps. This would need to be done together with other, much larger expenditures for the development of infrastructure (drilling new wells; cleaning existing ones). This "market" may turn out to be as difficult as the informal market of the fishermen in Indonesia. It is a manufacturing-centred project, recognizing but not sufficiently giving weight to infrastructural and financial factors determining its feasibility.

The above represents studies with market and infrastructure problems which could have been predicted by better opportunity study work.

(v) On the other hand:

A-3 Guinée Bissau recommends not to build a flour mill; and B-1 Mali recommends not to build a textile mill. These studies correctly advise against building a plant and a plant is not built. It is not clear, however, to what extent the suggested alternative solutions have been taken up.

The studies have certainly contributed to the investment-related decision-making process in developing countries. This applies to almost all the study projects carried out within the programmes. This contribution needs

^{1/} In addition to the two UNIDO feasibility projects (see Annex I), reference is also made to the report "The Indonesian Boat-Building Industry. Opportunities for transfer of technology", by M.E.M. Lips, University of Twente, 10/10/1989. The new Integrated Boat Building Project (IPB) evolved, inter alia, from the above LKI-UNIDO project. The primary goal, introducing industrial wooden boat techniques in Indonesia, did not change. The focus moved, however, from the production of plywood kit boats to building laminated wooden boats for target groups with adequate purchasing power. It is also aimed at building up know-how and consultancy capacity at LKI for assistance to boat yards.

to be qualified, however, by recognizing the deficiencies in the choice of the projects and/or the definition of the issues (cases (iii), (iv), (v)) as well as the deficiencies in the solutions proposed (cases (i) and (ii)).

C. Contribution to the achievement of the development objective

The contribution to the development objective should be measured on the investments effectively made and on their impact on decisions leading to investments.

There is no evidence of any of the studies having been the critical factor in achieving an industrial investment. What the evaluation found is that some studies have contributed to new investment decisions, some in ways not normally expected from pre-investment studies.

The following appraisal is incomplete because some of the study projects have not yet reached the decision-making phase.

As regards the investments made, in one case it took place at much lower scale than expected. In other cases, the effective investments have not fully followed the recommendations made. In one case, the investment was made in complete disregard of the advice given. In two other cases the advice argued against making the investment, and actually no investments in the two projects have been made so far.

The studies themselves were, of course, not the only factors in the decisions taken. In spite of the relatively modest and preliminary results achieved so far, it appears that the contribution to long-term objectives could be substantially increased by improvements in programme management (choice and implementation of projects, planning and monitoring of follow-up).

IV. CONCLUSIONS

A. Assessment of the Netherlands-financed programme of pre-investment studies against objectives and expected results

The development co-operation policy of the Netherlands regards as its primary objective the structural eradication of poverty in developing countries. For this, it is considered necessary to increase and improve production capacity to create productive and sustainable employment and to contribute towards increasing the economic self-reliance of developing countries. Within this framework, the sectoral programme for industrial development aims at:

1. Contributing to policy formation for industrial development;
2. Stimulating adequate institutional support for industrial development;
3. Creating optimal marketing conditions in developing countries; and
4. Improving the supply of factors of production.

For this, activities are co-ordinated with other operational departments of the Ministry of Foreign Affairs and with international agencies. From the above it follows that one of the major objectives of the Netherlands' development co-operation policy is to strengthen investment project formulation in developing countries. In the realm of industrial development this will include the identification of opportunities for industrial investment. For this purpose, pre-investment studies can be considered as an instrument of considerable importance. Such studies form part of the Netherlands' programme for industrial development. By channelling funds made available for this purpose through UNIDO (which organization has built up a reputation in the field of industrial pre-investment studies), the quality and impact of such studies can be increased.

The two agreements between the Netherlands and UNIDO (to establish I and II respectively) for the funding of pre-investment studies have included a number of provisos, inter alia:

<u>Proviso</u>	<u>adhered to</u>
(a) Projects identified by host country or UNIDO	yes
(b) (Pre-)feasibility study should have sponsor	no (or formally)
(c) Projects in countries where Netherlands have development co-operation (preferably LDCs)	yes
(d) Host country to provide counterpart contribution	not clear (not done in LDC)
(e) Consultants from Netherlands or LDC (I)	yes
Consultants from Netherlands or developing country (II)	yes
(f) Netherlands approval on a project basis (preferably within 14 days II)	yes occasionally with some delays

(g) UNIDO provides to the Netherlands:	
- formal progress report	no*
- final implementation report	yes
- final settlement of accounts	yes

Note: The Ministry in The Hague does not seem to receive the final reports themselves. (At least they could not be traced at the time of this evaluation.)

*Information was provided informally from time to time.

By and large, the provisos established in the two agreements between the Netherlands and UNIDO appear to have been adhered to.

At the same time, the Netherlands' programme for industrial development co-operation has received an additional dimension by channelling some of its funds available for industrial development through UNIDO. The pre-investment studies that have been completed have contributed to:

- industrial investments (Benin, Burkina Faso, Indonesia); and
- sensible decision-making (Guinee-Bissau, Mali).

The results of the programme (see B below) suggest that other channels for the Netherlands-UNIDO co-operation might be explored without, however, cutting short the support of pre-investment studies, one of the fields in which UNIDO has built up a solid reputation.

B. Factors influencing the implementation of the programme

As indicated above, conducting studies is an important part of pre-investment activities. This is a service widely demanded and appreciated in both the least developed and the more developed developing countries. Inter-country and sub-regional co-operation projects also require such activities. Accordingly, there has been a certain flow of requests for such studies. It is interesting to note that no request for evaluation of pre-investment studies has been submitted to the programme (Art.III of the Second Arrangement).

The programme implementation could have been facilitated, however, by the application of more selective criteria in deciding on the type of study (opportunity, support, etc.) required. It is at times difficult to challenge a request officially submitted by a Government. In some cases, however, a more critical assessment of the information on the environment and the factors influencing the scope and possible objective of the project could have led to a better project design, to a better identification of the expertise required and its availability, to a more useful report and effective follow-up. This would require a more active involvement in this field.

As regards the Feasibility Studies Branch, the availability for the programme of projects screened by other branches could have facilitated the project design, implementation and follow-up. The recognition of the complementarity between pre-investment studies and other pre-investment activities could have accelerated the implementation of the programme and broadened its impact. In other words, the lack of interdepartmental

co-operation within UNIDO in favour of a 'going-it-alone' approach has limited the quantity of studies undertaken (requests handled).

Furthermore, added attention to the type of the study required could have accelerated the recruitment, the work in the field and the identification of the right solutions to a well defined problem.

Additionally, the broad definition of the scope and objectives of a project has created some problems in project management and in the control of activities of experts (as in case of the boat building project).

The time factor is important in pre-investment activities. The long project cycle diminishes the operational usefulness of information obtained. If the approval procedures including the decision on financing take on the average 14-15 months and the implementation a further 20 months, then this is evidently too long for any major project a sponsor is seriously interested in. In the meantime, a sponsor may have lost interest and market opportunities may have changed.

The role of potential investors is in most cases vague and very limited. A more critical evaluation of the sponsors presented in the study project could have led to a different project design. In other cases, the follow-up could have been different. A consistent approach with regard to sponsors is missing. Vagueness inevitably entails longer project cycles.

In the contracting procedures a preference is apparent for global project definitions and lump-sum prices. This leads to longer project cycles. Contracting procedures could be adapted to giving assignments for step-by-step problem-definition and problem-solving, provided that this approach is applied in the project design as well. The preparation of support (functional) studies focused on critical unknown elements of the project, such as market, technology, etc. could precede or make unnecessary the conducting of a feasibility study itself.

Another experience gained with regard to project implementation is that the recruitment of consultants occasionally took too long a time, partly due to language requirements (French) and also due to the customarily high fee level in the Netherlands.

More attention to the size of the investment would shorten the implementation of projects by proposing simplified procedures for small- and medium-size projects.

A variety of actions have been reported on the follow-up to the projects: promotional action, approval of a follow-up project, proposals for prototype development, implementation of investments. It appears, however, that a comprehensive plan adopted for the complex utilization of the information content of the studies (including the recommendations) is missing. The preparation and the approval of such a plan, first of all, by the developing country itself, would facilitate the appropriate follow-up action both within UNIDO and regarding its co-operation with the developing country concerned.

For an active and fruitful co-operation between Donor and UNIDO, good insight at all times is necessary in the financial situation of the co-financing arrangement:

- Amount committed)
- Amount spent) - responsibility of UNIDO
- Amount available)
- Approval requests in the pipeline - responsibility of the Donor

The evaluation team was not able to arrive at a fully clear picture, notwithstanding repeated time consuming efforts and positive co-operation from the UNIDO officers involved. The next up-to-date, complete account will be due to the semi-annual reporting system available by 22 January 1990 reporting on the status per 31 December 1989. The actual system of administration seems to be overloaded with the accounting requirements of over fifty special-purpose contributions.

C. Programme environment

These conclusions are based on an in-depth evaluation of nine pre-investment studies. As such, the conclusions do not imply:

- an evaluation of the Feasibility Studies Branch as such; or
- an evaluation of the Netherlands funding of UNIDO as such.

The conclusions instead reflect on the functioning of the UNIDO procedures as a system, with focus on the Feasibility Studies Branch. The evaluation team has observed that the Feasibility Studies Branch has also drawn similar conclusions from these early studies and is beginning to implement a number of improvements within the existing system.

V. RECOMMENDATIONS

The evaluators are convinced that the pre-investment study programme has a great potential. It is, therefore, strongly recommended that the Netherlands-UNIDO programme is continued, provided that the following recommendations can be agreed before and acted upon during the next tranche of financing. The recommendations as formulated here constitute an encouragement for further work along these lines and are intended to stimulate the necessary conceptual and procedural changes within the organization as a whole, which will improve the effectiveness inter alia of the activities of the Feasibility Studies Branch.

(a) Project selection and design

1. It is recommended that UNIDO, in consultation with the requesting government, be more selective in deciding on whether an opportunity, a pre-feasibility, feasibility or support (functional) study (focused on critical unknown elements of the project) should be made. More appraisal projects (evaluation of feasibility studies prepared elsewhere) are recommended for insertion in the programme. They may come directly from the developing countries or from various branches of UNIDO.
2. It is recommended that UNIDO does a more critical assessment of the project environment, of its history and of other factors influencing the content and objective of the study proposal. UNIDO should be able to advise governments or other beneficiaries of the technical assistance to make the right choice as regards the study to be made. For this purpose, a limited travel budget should be made available.
3. In project design, more attention should be given to the possible size of the investment and to its expected impact on the economy. Furthermore, if the investment potential is small, the use of complex analytical techniques should be avoided.

(b) Complementarity and interdepartmental co-operation

4. Both within UNIDO and in the developing countries, more attention needs to be paid to the complementarities between conducting or appraising pre-investment studies and the other types of pre-investment activities, such as technology development, choice and adaptation, rehabilitation and privatization, joint ventures (including valuation of existing enterprises) and investment promotion. Such an approach, if applied consistently, would broaden the choice of projects qualified for the programme and facilitate their implementation.
5. More attention should be paid to the effective relationship between general or sectoral economics of the project. The general economic and geographic data presented should be in proportion to the significance of the problems addressed or of the solution presented. On the other hand, investment possibilities should not be considered in isolation. Possibilities to broaden the options available for the decision-makers need to be explored, e.g. by combination of various production lines within the planned factory and other methods.

(c) Procedures of project approval and implementation

6. The duration of the approval procedures and projects' implementation need to be shortened substantially inter alia by innovative approaches in project design and in the selection of consultants, consulting firms and the contracting procedures, e.g. by permitting a step-by-step procedure to progressively determine investment viability. The experience of the consultant in the preparation and evaluation of feasibility studies, including UNIDO manuals and COMFAR, needs to be assessed during the selection process. Where available, use should be made of host country experts who have benefitted from UNIDO COMFAR training. The recommendations, nos. 1-5, are also intended to make the project cycles shorter.

(d) Sponsors and other economic agents

7. The proviso of the Agreement that (pre-) feasibility studies should have a sponsor needs to be followed more consistently. The sponsor needs to be evaluated in the context of his capability and of the market situation (identifying importers, traders, distributors, technology license-holders, relationships with regard to economic/financial interests, motivations). Furthermore, in the project design and in the conducting of the study itself, more attention should be paid to the investor and/or other parties (entrepreneurs, technical partners, financial institutions) interested or possibly involved in the project. In order to better link the project to its environment, the "market" may need a more critical assessment if e.g. the buyer of the product would be a single government agency fully depending on uncertain budget allocations and/or informal market operators with weak purchasing capability compared to the product recommended in the project.

(e) Follow-up

8. The UNIDO evaluation of the completed study should lead to the definition of the follow-up recommended and to the identification of the UNIDO unit being most competent with regard to future action. The follow-up action, including consultations with the developing country government, needs to be actively pursued and monitored. If follow-up is carried out by another UNIDO branch, the Feasibility Studies Branch should monitor the actions taken.

(f) The Netherlands/UNIDO Co-operation

9. As regards the procedures of co-operation with the Donor, the following recommendations are made:

- In order to encourage the preparation of more opportunity and support studies and to accelerate their implementation, no individual approval for such funding by the Donor should be required; a note of information to the Donor through official UNIDO communication channels would be sufficient;
- Whereas time proposed for the approval of pre-feasibility, feasibility and evaluation of pre-feasibility study projects by the Donor should be increased from the actual 14 days to 21 days;
- Common measures should be adopted to ensure the approval of the projects within the time-frame agreed;

- More information on the availability of Dutch expertise for projects financed from the special-purpose contribution should be provided to UNIDO for quick and easy reference.

10. As regards UNIDO, it is recommended that:

- Half-yearly progress report on the implementation of the programme be sent to the donor regularly and without delays;
- For information, a copy of the study be transmitted to the Donor after its completion, without awaiting for financial completion of the project;
- The Donor be involved in the planning of the follow-up to the project on a regular basis. This should form part of an on-going dialogue between the Donor and UNIDO, as well as between UNIDO and the country benefiting from the Fund.

11. As in the past, additional avenues of co-operation between the Netherlands and UNIDO in the field of industrial development co-operation should be continued.

12. The UNIDO activities financed by the Netherlands which were not evaluated in this study should be reviewed in order to assist in obtaining a comprehensive view of the Netherlands-UNIDO co-operation with a view to future collaboration.

VII. LESSONS LEARNED

Here observations, conclusions and recommendations by the evaluation team are brought together that resulted from the study but have a wider scope.

1. The two Agreements between the Netherlands and UNIDO on which this evaluation has focused were signed in 1985 and 1986. They were among the first of such a nature for UNIDO. The first year of implementation can be considered as part of a learning process regarding the use of special purpose contributions, in view of special conditions set by the Donor.
2. The mechanisms of co-operation within UNIDO appear to work against the concerted efforts required for the efficient management of pre-investment projects. The re-definition of success-criteria for the work of sections and branches seem to be necessary as well. Furthermore, UNIDO needs to find a way to create incentives with the various technical and investment-related sections to co-operate in the identification, appraisal, conduct and follow-up of investment studies.
3. In the developing countries, the new investment and rehabilitation/privatization/modernization projects will be implemented in an economic environment where greater emphasis is given to market and entrepreneurial forces. Approval procedures within UNIDO as well as the co-operation of UNIDO with the developing countries will require some structural adaptations to permit a faster and more substantive response by UNIDO to these changes. In this context, further attention should be drawn to the role of the sponsor in pre-investment studies. This question is closely related to the perception of the objective and nature of pre-investment studies within a market-oriented and entrepreneurial environment.
4. Neither in the project approval/preparation nor in the implementation/follow-up phase does co-operation between UNIDO and the Donor appear to be as substantial as it could be. The Agreements tend to be vague on these aspects. The Donor is often considered only as a source of finance instead of as a potential partner in implementation and follow-up. There is considerable scope for strengthening the co-operation between UNIDO and the Donor in the various phases of the programme implementation, including follow-up.
5. The UNIDO Funds Administration could do more to improve the communication between the Donor and UNIDO, to accelerate the use of the funds and to promote the co-operation among the various units within UNIDO. There is also considerable scope for improvement in the way in which projects are proposed to donors. The number of special-purpose contributions amounting to 57 also leads to questioning the economics and efficiency of funds administration and programme management, including the purpose and the sufficiency of the 13 per cent overhead, which is normally calculated.
6. Donors may wish to use their funding of UNIDO activities as an extension to their bilateral development policy by financing those activities which best complement their own programmes and where they lack specific knowledge or experience required. Tying the execution of such projects to consultants from the Donor country and to other conditions may prove counterproductive and make the funds and programme management for UNIDO more difficult and more expensive. With regard to their growing importance, the special-purpose contributions made to UNIDO may justify an in-depth assessment both with regards to their concept in view of the international role of UNIDO and their impact on funds administration and programme management.

Annexes

- I. Evaluation of the pre-investment studies financed by the Government of the Netherlands through UNIDF
- II. Organizations visited and persons met, with their function
- III. Terms of reference of the in-depth evaluation mission
- IV. UNIDO's Pre-investment Studies Programme
- V. IDF Donor Statement (provisional) - Netherlands as at 31.12.89

**ANALYSIS OF THE PRE-INVESTMENT STUDIES FINANCED BY THE
GOVERNMENT OF THE NETHERLANDS THROUGH UNIDF**

Completed projects

- A-1 Etude de prefaisabilité pour l'installation d'une usine de cartonnerie et du sacherie (pps. 41-45)
- A-2 Etude de faisabilité pour l'installation d'une mini-aciérie au Benin (pps. 46-51)
- A-3 Etude d'opportunité sur une minoterie en Guinée-Bissau (pps. 52-55)
- A-4 Etude de faisabilité pour l'installation d'une usine de formulation de produits phytosanitaires au Burkina Faso (pps. 56-61)
- A-5 Feasibility study to assist in establishing a wooden boat building and repair industry in Irian Jaya in co-operation with the Irian Jaya Joint Development Foundation (pps. 62-68)
- A-6 Opportunity study for the establishment of a production capacity of wind-driven waterpumps (pps. 69-71)

On-going and/or financially not completed projects

- B-1 Pre-feasibility study for the establishment of a textile complex in Bougoumi (pps. 72-74)
- B-2 Feasibility study for the production of chrome tanning salts (pps. 75-82)
- B-3 The preparation of feasibility studies for five boat assembly yards for selected entrepreneurs in Indonesia (pps. 83-89)

For each of the projects information has been gathered and classified according to the following checklist:

(a) Origin of requests

- (i) Countries, type of countries;
- (ii) Type of industries (medium vs. large, agro vs. other);
- (iii) Were the studies requested by Ministries, enterprises, associations, financing organizations;
- (iv) Was there a sponsor for the study?;
- (v) What types of studies were financed (opportunities, pre-feasibility and feasibility studies);
- (vi) Was the project a follow-up to previous pre-investment work or just the start of it?

(b) Mechanism of approval

- (i) Approval process (selection procedure, including criteria for selection of the Netherlands as donor, review of similar, if any, co-financing programmes with other donors);
- (ii) Time required for approval by UNIDO and by the Government of the Netherlands;
- (iii) Criteria for approval.

(c) Execution of studies

- (i) Usual duration; how much delay in implementation?
- (ii) Who implemented the studies: sub-contracts, individual experts, use of national capabilities;
- (iii) Was there any training component, computer/COMFAR component;
- (iv) How were studies presented to decision-makers - meetings, presentation, "push"?

(d) Quality of studies

- (i) Scope (e.g. was the feasibility study really a full feasibility study; was pre-feasibility study excessive in analysis making feasibility studies unnecessary; was too much effort devoted to financial analysis vs. technical);
- (ii) Quality and extent of technical analysis;
- (iii) Quality and extent of market analysis;
- (iv) How complete was the financial analysis, including identification of sources of finance and structure of investment.

(e) Follow-up to project

- (i) Did the opportunity study result in a pre-feasibility study?
- (ii) Did the pre-feasibility study result in a full-scale feasibility studies?
- (iii) Did the study result in decision or actual investment?
- (iv) Impact of the actual investments.

(f) Programme-level analysis

- (i) Was there any connection or complementarity between the projects reviewed and other projects;
- (ii) Was there a focus on specific region, type of country or type of industry;
- (iii) Was the study/report examined or approved by the Netherlands, either in-progress or after completion?

A-1 ETUDE DE PREFAISABILITE POUR L'INSTALLATION
D'UNE USINE DE CARTONNERIE ET DU SACHERIE

US/BEN/84/270

(a) Origin of request (Phase A)

(i) Benin is a West African LDC with a small manufacturing sector (7% of GDP). Much of modern manufacturing is found in the public sector.

(ii) Packaging materials often tend to be forgotten in an industrialization strategy. In the case of Benin, two obvious uses for packaging are cement and sugar bagging and boxing of fresh produce and other products (food, cosmetics, pharmaceuticals). If the production of bags and cardboard boxes is based on imported paper and cardboard, the production unit can be relatively small-scale although the manufacturing value added in such circumstances also would be modest.

(iii) The study was requested by the Ministère du Plan, de la Statistique et de l'Analyse Economique (during visit to UNIDO 27/7/84 and confirmed by letter 30/7/84). Priority confirmed by Interregional Adviser in Preinvestment Activities (October 1984).

(iv) There was no official sponsor for the study, although the Ministère du Plan might be considered as such.

(v) The study financed was a preinvestment study.

(vi) There seems to have been no previous preinvestment work for this project. It is worthy of note, however, that the official request contained well worked out terms of reference for the study. It would further appear that private investors were available (Feasibility study mentions 4 candidates).

Note: The time between the original request and the preparation of the PDS was 4 months (27/7/84 - 1/12/84).

(b) Mechanism of approval (Phase B)

(i) PDS suggests financing by the Netherlands (for this donor Benin is a priority country). If this fails: UNIDO Convertible Pool or RP/LDC.

(ii) Preparation of PDS (including visit to Benin of Interregional Adviser) 1/8/84 - 6/12/84	4 months
Approval of PDS 6/12/84 - 4/2/85	2 months
Date of PAS 1/3/85	
Preparation of request for submission to the Netherlands 4/2/85 - 20/3/85	<u>1.5 months</u>
Total time required for approval etc. by UNIDO	<u>7.5 months</u>

Total time required for approval by the
Netherlands 20/3/85 - 19/4/85

1 month

(iii) Criteria for approval:

- Benin is an LDC with priority status in the development co-operation programme of the Netherlands.
- It is not clear whether the 'Ministère du Plan, etc.' can in this case be considered as a sponsor. The mentioned interested private investors [cf. (a) (vi)] are not specified in the approval procedure.

Note: Total time for Phase B (1/12/84 - 19/4/85) 4.5 months

Funds moved over to UNIDO account in The Hague
20/6 (\$50,000) and 9/7/85 (\$6,500).

(c) Execution of studies (Phase C)

(i) It proved difficult to find suitable consultants from The Netherlands and/or developing countries for this study. It was therefore decided to change the terms of the study to subcontracting rather than short-term consultancy. By 9/8/85 a list of 11 consulting firms had been established:

Netherlands	4 (3 of which submit definite tenders)
Mexico	1
Brazil	1
Egypt	1
Thailand	1
China	1
Tunisia	1 (SCET submits tender)
Cape Verde	1

The list is approved by the Beninese authorities on 11/10/85. Consultant selected by 13/11/85. Total delay in implementation 8.5 months.

(ii) UNIDO decides to select SCET to carry out the study as a subcontract for the following reason:

- The inclusion in the four-man team (7.5 m/m) of an expert on bags and an expert on cardboard;
- SCET guarantees a good command of French (as opposed to many Dutch consultants).

Contract with SCET signed in January 1986 (duration 26 weeks). Mission fielded 26/1/86 - 6/2/86 (too short in view of contract). No national capabilities appear to have been used.

(iii) There is no evidence of any training or computer/COMFAR component.

(iv) The results of the study were presented by the Interregional Adviser on Pre-Investment Activities to the Beninese authorities (14/12-18/12/86) who expressed their satisfaction with the outcome of the study. It was not possible to meet the sponsors who had expressed interest in establishing a packing plant.

Total time for execution, etc. of study:

- Delay in implementation (selection of consultants)	7 months
- Preparation of mission (13/11/85-26/1/86)	2.5 months
- Execution and revision of study (26/1/86) - Mid October 86)	8.5 months
- Completion of operations and final presentation to the Beninese authorities (Mid October - mid December 86)	<u>2 months</u>
Total Phase C	20 months

(d) Quality of studies

The overall quality of the study leaves much to be desired. The fears expressed by the Interregional Adviser on the basis of interim reports (6-11 April 1986) were not removed by subsequent revisions; even a special mission to Tunis to correct errors and omissions proved of no avail. Basic shortcomings refer to:

1. Brief duration of field visit (less than 50% of time budgeted);
2. Erroneous calculations of IRR etc.
3. Optimistic expectations regarding the Nigerian market;
4. Revisions have added little substantive improvements.

(i) The study as such could be classified as a pre-feasibility study; although by failing to consider alternative technical solutions for each production process, it leaves little room for other choices.

(ii) The technical analysis is too much of the text book variety, taking no account of local conditions.

(iii) The market analysis fails to consider pricing policy for local and export sales. It is not clear how the probability of certain events was calculated (e.g. the probability of the Nigerian market opening was put at 70%).

(iv) The financial analysis contains numerous conceptual and calculation errors, e.g.:

- Double counting of interest payments of approx. FCFA 200 million;
- Financing of revolving fund out of permanent capital when other means are purposely made available (approx. FCFA 260 million).

Such errors negatively influence the profitability calculations and hence the entire decision-making process.

(e) Follow-up to project

There was no follow-up to the study. The basic conclusions appear valid, i.e.:

- A bag factory (cement, flour, sugar) in Benin will not be profitable because of international pricing of kraft paper and ready made bags (sold at marginal prices). The fact that Beninese cement factories can import bags duty free makes import substitution even less viable;
- A cardboard box assembly plant would appear viable;
- A combined plant would only be profitable if it could import its inputs duty free.

It was not possible to contact locally interested entrepreneurs at the time of the presentation of the report to the local authorities (timing of this presentation was unfortunate - just before Christmas, when many people involved were absent). And there is no evidence of any subsequent activity (SIDFA, ResRep, etc.).

(f) Programme level analysis

(i) The local production of packaging materials can be seen (and was in this case indeed motivated) by the effective demand for such products by a number of existing industries (cement, flour, sugar, etc.).

(ii) The study focused on all LDC country with priority status in the Netherlands programme of development co-operation.

(iii) Once it had approved the funding, the Netherlands did not intervene in the execution of the study.

(iv) Approval and funding of the study have been rapid by the Netherlands. This has not had any specific impact on UNIDO procedures, however.

(v) In this case there were no apparent advantages for the Netherlands for co-operating with UNIDO in this programme.

Annex

Table 1

Preparation and implementation of the prefeasibility study
for a packing plant in Benin

Phase A: Origin of request (27/7/84-1/2/84)	4 months
Phase B: Mechanism of approval (1/12/84-19/4/85)	4.5 months
Phase C: Execution of studies (19/4/85-15/12/86)	<u>20 months</u>
total duration	28.5 months

<u>Time</u>	<u>Activity</u>	<u>Benchmark event</u>	
Dec.1986	Results of study presented to Beninese authorities.	+ Revised final report.	
Oct.1986	Third revision of report (Interregional Adviser assists consultants).	+ Final report.	
Apr.1986	Interim report.		C
Feb.1986	Mission fielded.		
Jan.1986	Contract signed with SCET.	+ Project contract.	
Nov.1985	SCET selected on a subcontract basis; search for consultants.		

Apr.1985	Project approved by the Netherlands.		
Mar.1985	Financing request submitted to the Netherlands.		B
Feb.1985	PDS approved.	+ PAS issued.	
Dec.1984	PDS elaborated.		

Oct.1984	Visit to Benin by UNIDO Interregional Adviser.		
July 1984	Initial request for study by Beninese authorities.		A

A-2 ETUDE DE PREFAISABILITE POUR L'INSTALLATION
D'UNE MINI-ACIERIE AU BENIN

US/BEN/85/027

(a) Origin of request (Phase A)

(i) Benin is a West African LDC with a small manufacturing sector (7% of GDP). All steel products are imported.

(ii) Most steel consumption in Benin is for construction purposes (rod, profiles). Local production of steel implies import substitution and foreign exchange savings. It will also lead to the stimulation of metal using industries (furniture, 'metal carpentry').

(iii) Study has been requested by the 'Ministère du Plan, de la Statistique et de l'Analyse Economique' as a follow-up to an opportunity study carried out in 1983 (16,000 tons p.a. electric arc-rolling-finishing plant total investment cost FCFA 3,5 billions). Present study should be more in-depth. Official request dated 24 April 1984 (based on discussions with Beninese delegation at UNIDO headquarters 1/2/84).

(iv) No sponsor is mentioned. Industrial undertakings of this magnitude in Benin tend to be in the public domaine.

(v) Study is a prefeasibility study. The final report has been rewritten at least twice (July 1987 - August 1987 - November 1987).

(vi) See sub (iii).

Note: There was some confusion concerning the precise nature of the steel plant for which the feasibility study was requested. The original request only refers to steel products. Also the rehabilitation of existing foundries was considered (OCBN: Benin-Niger Railways). The final proposal for the study (25 Jan. 1985) refers to a mini steel plant. This was agreed on as a result of a visit to Benin by the interregional adviser.

(b) Mechanism of approval (Phase B)

(i) The project was selected and approved for negotiations with the Netherlands (potential special purpose donor). Benin is an LDC for which the Netherlands gives geographical priority (approval date: 25 Jan. 1985). PDS budget to be reviewed and expanded, if necessary, so as to reflect actual financial inputs required. The revised PDS (Project Data Sheet) was approved in March 1985 (3/85 Meeting of the Project Review Committee).

(c) Execution of studies (Phase C)

(i) Three weeks after approval (i.e. 9/7/85), the Netherlands authorities deposited the required funds in the UNIDO account in The Hague (\$96,050, of which \$85,000 for prefeasibility study). Consideration of ResRep's (and SIDFA's?) doubts on the study were countered by the following arguments:

- a. Apparent steel consumption in Benin would warrant a p.a. 20-30,000 ton electric arc furnace.
- b. Government of Benin wants the study, even though implementation is not given high priority.
- c. Study is to determine whether it is worthwhile to establish a steel plant (concentrate on market study).
- d. Funding has been approved by the Netherlands.

Definite Benin approval obtained 5/3/86.

Shortlist for Government approval of
8 firms of consultants (18/3/86):

Netherlands	4
Mexico	1
Brazil	1
India	1
Turkey	1

Shortlist approved by Benin 14/4/86.

First round of bidding started 7/5/86.
Second round of bidding included 3 additional offers (1 NL, 2 dev.c.).
Third round of bidding. It is hoped that at least one offer from the Netherlands will be acceptable.

In March 1987 BMB approved as consultants.

Team of BMB fielded per 22/4/87.

Note: 1. It took nine months to review objections by ResRep and to counter the objections (1/7/85-6/3/86).
2. It took a further 13 months (6/3/86-4/87) to find a suitable consultant from the Netherlands.
3. Contract was finalized only after mission was fielded (29/5/87) i.e. a total delay of 22 months between approval and implementation.

(ii) Study was implemented by Netherlands Consultants BMB (Berenschot - Moret - Bosboom). There is not evidence of subcontracting, individual experts or the use of national capabilities.

(iii) No evidence of any training and/or computer COMFAR component.

(iv) Final report (July 1987 draft - August 1987 text - November 1987 revised text) was mailed/presented to Beninese authorities without additional efforts to promote it. In June 1988 a reminder was sent to the Beninese authorities but no reply was received.

It was also (by the SIDFA) presented to the American steel manufacturer John Moore Jr (owner of STS: Société Togolaise de Sidérurgie) October 1988. The study played a role in the creation of SBS (Société Beninoise de Sidérurgie) which as a finishing line became operational per 15/2/89.

(ii) UNIDO procedures:

a. Processing of Benin request 24/4/84-13/6/84	1.75 months
b. Preparation, revision and final approval 13/6/84-1/4/85	10.50 months
c. Establishment of final terms of reference with respect to in-house responsibilities	<u>2.50 months</u>
Total UNIDO preparation	14.75 months

Netherlands:

Approval given on 20/6/85 1-2 weeks

- Note:
1. There was some variance of opinion concerning in-house responsibility for the study (IO/MET, IO/FEAS, IDDA).
 2. ResRep Cotonou expressed doubts on the timeliness of the study; sees little chance of implementation (cable 24/6/85).

Total for phases A and B approximately 17 months from the first suggestion of the study on 1/2/84 to approval by the Netherlands on 20/6/85.

(iii) Although no potential project sponsor was identified, it was decided to carry out a prefeasibility study. This goes against Art.III.2 of the Administrative Agreement between the Netherlands and UNIDO. Netherlands approval letter requests ample possibilities for Netherlands' consultants to qualify. Developing country consultants are not mentioned here.

Justification of the study (project proposal 20/3/85):

- No steel industry in Benin; annual apparent consumption estimated at 16,000 tons;
- Availability of scrap locally;
- Production of steel will stimulate other industries (metal furniture, etc.);
- Electric arc furnace would allow the production of special steels;
- Expected IRR 20% (ex-ante estimate).

It should be observed, however, that:

- Data on apparent steel consumption (imports through Cotonou harbour) are inaccurate in view of informal exports to Nigeria;
- Local scrap is already used by artisan blacksmiths;
- Although the production of steel is considered to generate considerable linkage potential, the major steel market in Benin is for construction purposes rather than for items such as metal furniture;
- There is no significant demand for special steels in Benin;
- The expected IRR seems high in view of existing electricity prices in Benin. An electric arc furnace for commercial steel would appear highly cost-ineffective in view of existing world production volumes of steel ingots and coil. In view of the financial problems of the host country and the lack of a sponsor, the ResRep's negative advice should have been given more weight.

Time involved in phase C:

- | | | |
|----|--|-----------|
| 1. | Revisions of approved proposal (1/7/85-6/3/86) | 9 months |
| 2. | Selection of consultants (6/3/86-Apr.87) | 13 months |
| 3. | Fielding of consultants, drafting and revising prefeasibility study (Apr.1987-Nov.87) | 8 months |
| 4. | Presentation of the report and its promotion completion of operations (Dec.87-Sept.88) | 10 months |

No reaction of the Beninese authorities is in evidence.

(d) Quality of the studies

(i) The scope of the prefeasibility study lies somewhere between a prefeasibility study and a fully fledged feasibility study. As such, it proved to be of some use in the establishment of the SBS steel finishing plant (for which no full feasibility study could be traced). The study analyses three options:

- a. A full mini steel plant (electric arc furnace, continuous casting and rolling/finishing lines) for the production of construction steel; capacity 5,000 tons p.a. (better 12,500 t.p.a.).
- b. A rolling mill transforming imported semis (5,000 t.p.a.).
- c. A finishing line for cutting and shaping of imported steel coil (3,000 t.p.a.) --> most attractive alternative.

Option (c) was more or less implemented in the SBS plant (capacity of 6,000 t.p.a. to be expanded to 10,000 t.p.a.).

Financial and technical analyses rather short and for each of the options only one technical solution has been used.

(ii) Technical analysis only considers one technological option (modern European equipment including continuous casting, either new or second hand).

Sensitivity analysis only carried out for differences in production volume (and not for different types of equipment).

(iii) Market analysis is as good as possible for a country with scanty statistical information.

(iv) Financial analysis is linked to production costs. Insufficient. IRR calculations etc. are lacking.

Some of the criticisms in points (ii), (iv), (v) and (vi) were taken up in the revisions of the study which was completed by November 1987. The result of this revision consists of some additions to the text (with supporting tables in the annex) analyzing the effect of using second-hand equipment and installing an electric arc furnace with a capacity of 8,800 t.p.a..

The basic criticism remains unrefuted.

The usefulness of the study consists of the recognition of three solution levels for supplying the Beninese steel market and a competent market study. The deficiencies can be reduced to a failure (even in the revised version) to adhere to the terms of reference.

(e) Follow-up to the project

No further studies were requested. The revised final report was to a certain extent instrumental in establishing the Société Béninoise de Sidérurgie (SBS) which started production per 15/2/89. SBS produces at a capacity level of 6,000 t.p.a. and is expecting to expand to 10,000 t.p.a. (Benin and Niger markets).

It would seem, however, that the demand for STS (Société Togolaise de Sidérurgie) products by Beninese customers was the decisive reason for establishing the finishing line in Benin.

(f) Programme level analysis

(i) The project can be seen in conjunction with attempts to revitalize the OCBN foundry and an opportunity study for a steel plant by Baldo in 1983.

(ii) The focus was on Benin as a country of interest from the point of view of the development co-operation programme of the Netherlands.

(iii) The study has not been examined in the Netherlands (possibly by the PR in Vienna) where it is not known in the Industrial Development Section (DST/ID). The same applies for the UNDP ResRep Office in Cotonou (visited during this evaluation in September 1989).

(iv) The approval and funding procedures of the Netherlands were rapid and efficient and as such eliminated at least one problem in the UNIDO set of house procedures.

(v) This project has had a neutral impact on the Netherlands-UNIDO co-operation relationship.

Annex

Table 1

Phases of the preparation and implementation of the prefeasibility study for the establishment of a mini steel plant in Benin

Phase A: Origin of request (Jan.-Apr.84)	2 months
Phase B: Approval mechanism (Apr.84 - Apr.87)	36 months
Phase C: Implementation of study	17 months
Phase D: Follow-up and actual investment	5 months

<u>Time</u>	<u>Activity</u>	<u>Benchmark event</u>
Feb.1989	SBS operational.	
Nov.1988	SBS established.	D
Oct.1988	Study brought to the attention of John Moore (STS).	

Sept.1988	Completion of operations; presentation and follow-up to study.	
Nov.1987	Drafting and revising of study.	C
Apr.1987	Mission fielded.	

Apr.1987	Search for suitable consultants (three rounds of bidding).	+ List of consultants approved by Benin.
Mar.1986	Review, discussion and rejection of objections raised by ResRep.	+ PRODOC.
July 1985	Funds moved over by the Netherlands.	B
June 1985	Approval by the Netherlands; cautionary cable from ResRep.	
Apr.1985	Preparation, revision and final approval of study request (PDS, PAD).	+ PAD April 1985 PDS March 1985

Apr.1984	Official request for study.	
Feb.1984	Discussion of the possibility of a feasibility study for the production of steel products in Benin.	A

A-3 ETUDE D'OPPORTUNITE SUR UNE MINOTERIE EN GUINEE-BISSAU

UF/GBS/85/688

(a) Origin of request (Phase A)

(i) Guinea-Bissau is a West African LDC. Manufacturing at the time of the request to finance the opportunity study (1985) contributed 5.5% to GDP.

(ii) The study requested refers to flour milling of:

- imported wheat
- locally grown millet and sorghum

The size of the Guinea-Bissau economy precludes anything but a small-scale milling unit.

(iii) The request for the study was made by the Ministry of Economic Co-ordination, Planning and International Co-operation (Directorate General for Industry). The original request was made on 16.8.84 and additional information was provided on 7.1.85. The PDS was prepared by April 1985 and presented to PRC on 7.6.85.

(iv) The Ministry has identified a potential sponsor.

(v) There would appear to have been no previous pre-investment work for this study.

Note: Total time involved in the request and its processing by UNIDO 16.8.84 - 22.4.85, eight months.

(b) Mechanism of approval (Phase B)

(i) The project was approved by the PRC at its June 85 meeting held on 28.6.85. It was recommended for financing under the "umbrella" project for feasibility studies with the Netherlands or FRG. The files do not indicate why the decision was taken to solicit funding from the Netherlands only. The request was made 23.7.85. It was approved by the Netherlands on 19.9.85.

(ii) Approval procedures:

UNIDO 23.4.85 - 23.7.85	3 months
Netherlands 23.1.85 - 19.9.85	<u>2 months</u>
Total Phase B	5 months

(iii) Approval criteria:

UNIDO:

- Guinea Bissau is an agricultural LDC (80% of the economically active population is employed in the primary sector) that is not able to achieve food self-sufficiency.
- Food aid arrives often as grain rather than flour.
- There are no industrial milling facilities for locally grown millet and sorghum.

Netherlands:

- Guinea Bissau is an African LDC which enjoys preferential status in the Netherlands programme for development co-operation.

(c) Execution of studies (Phase C)

(i) PAD (Programme Allotment Document) requested	27. 9.85
Identification of consultants process set in motion	18.10.85
Consultants selected by UNIDO)
Selected consultants submitted by UNIDO to Guinea-Bissau authorities) 26. 3.86
Approval by Guinea-Bissau) 9-10.86?
Mission executed Nov/Dec 86	
Report finalized	15. 3.87
Preparation of mission (27.9.85 - Oct 86)	12 months
Execution of mission (Nov - Dec 86)	2 months
Drafting of Report (Jan - March 87)	<u>3 months</u>
Total Phase C (27.9.85 - March 87)	17 months

(ii) The study was carried out by two consultants contracted by UNIDO (one of them Dutch).

(iii) No evidence has been found of any training, computer or COMFAR component.

(iv) It is not clear how the results of the studies were presented to the authorities of Guinea-Bissau. The project was operationally completed by 31.8.87.

(d) Quality of the study

(i) Study was an opportunity study. Its recommendation against industrial flour milling (imported flour is highly subsidized by EC) and industrial processing of locally grown cereals (only consumed fresh), millet and sorghum (rural auto-consumption leaves small marketable quantities). The study recommends small-scale artisan processing (decorticating and milling) in certain urban areas and rural centres.

(ii) Technical analysis is sound (it includes a review of potential suppliers of equipment).

(iii) Market analysis extrapolates earlier FAO findings (the short duration of the mission and the type of study undertaken precludes primary research).

(iv) Financial analysis was adequate in proving that local industrial processing could not be profitable.

(e) Follow-up to project

There probably was no follow-up as the study recommends against industrial milling. The suggested small-scale village level decorticating and milling co-operatives have apparently received no follow-up in UNIDO.

(f) Programme level analysis

(i) No complementarity or connection with other projects could be found.

(ii) Focus of project was on African LDC with priority status in development co-operation programme of the Netherlands.

(iii) There is no evidence of any Netherlands' intervention in preparation, execution and follow-up.

Note: File is not very substantial. Backstopping officer is on mission.

Table 1

Preparation and implementation of an opportunity study
for a flour mill in Guinea-Bissau

Phase A: Origin of request (16/8/84-22/4/85)	8 months
Phase B: Mechanism of approval (22/4/85-19/9/85)	5 months
Phase C: Execution of studies (27/9/85-1/4/87)	<u>18 months</u>
Total duration	31 months

<u>Time</u>	<u>Activity</u>	<u>Benchmark event</u>
July 87	Final Report	
March 87	Draft Report	
Nov 86	Mission Fielded	C
Oct 86	Selected consultants approved by GBS authorities	
March 86	Selected consultants submitted to GBS authorities	
	Selection of consultants	
Sept 85	PAD requested	

Sept 85	Netherlands funding approved.	
July 85	Netherlands funding requested.	B
June 85	PDS approved by PRC	+ PDS
April 85	PDS presented to PRC	

Jan 85	PDS prepared.	+ PDS
Aug 84	Initial request for study by Guinea-Bissau authorities	A

**A-4 ETUDE DE FAISABILITE POUR L'INSTALLATION D'UNE USINE
DE FORMULATION DE PRODUITS PHYTOSANITAIRES
AU BURKINA FASO**

US/BKF/85/162

(a) Origin of request (Phase A)

(i) Burkina Faso is an African LDC country which has priority status in the Netherlands' programme of development co-operation.

(ii) The requested study refers to the production of pesticides for use in cotton growing areas (cotton is a staple export crop; cotton spinning and weaving is an important industry in the second city of the country, Bobo-Dioulasso) and against locusts in grain growing areas (locusts are an all year menace, which reaches disaster proportions once in every so-many years). These pesticides are all imported. Local deposits of kaolin and dolomite could be used for pesticide powder formulation. The plant to be established is small in terms of pesticide production.

(iii) The request originated with the 'Direction du Développement Industriel et de l'Artésanat' (now DDI or 'Direction du Développement Industriel' of the 'Ministère de la Promotion Economique'). The request was transmitted by the UNDP ResRep in Ouagadougou to UNIDO on 25/3/85.

(iv) Unless the DDI itself is considered as a public sector sponsor, no specific sponsor was identified at the time of the request.

(v) The study was immediately classified as a feasibility study.

(vi) The project can be considered as a follow-up to previous studies of a similar nature:

- 1972: Study for the establishment of a combined fertilizer/pesticide production unit. This revealed that local fertilizer mixing and bagging would not be profitable.
- 1978: Prefeasibility study (financed by UNIDO) advised positively on a pesticide plant.
- 1979: Feasibility study financed by the West African Development Bank (BOAD) for a regional pesticides plant serving the markets of Burkina Faso and Niger (2 reports: interim October 1979, final February 1980). Advises positively.
- 1983: Update of the 1979/80 study remains positive.

Subsequently, however, negative developments have put this conclusion in a different perspective:

- a. Burkinabe pesticide users have expressed doubts concerning their estimated consumption (too high);
- b. Niger withdrew from the agreement because it could obtain the necessary pesticides cheaper elsewhere.

As a result, a down-scaled up-dated version of the previous studies was requested by the Burkinabe authorities who continued to wish to establish a pesticides plant for their domestic requirements. The terms of reference for the feasibility study were formulated and submitted to the Project Review Committee (PRC) of UNIDO by 8/7/85 (PDS).

Note: Total duration of Phase A (25/3/85-8/7/85) 3.5 months

(b) Mechanism of approval (Phase B)

(i) Project was approved by PRC at its 7/85 meeting (6-9/8/85). It was proposed to apply for funding from the Netherlands' umbrella fund for pre-investment studies. The Netherlands was suggested as a potential provider of funds, because Burkina Faso is accorded geographical priority in the development co-operation programme of the Netherlands.

(ii) PDS submitted on 8/7/85 and approved by PRC one month later. The request for financing was submitted to the Government of the Netherlands on 23/8/85 and provisionally approved on 24/10/85 with the following caveats:

1. Feasibility study should be undertaken only if there is a clear indication that funds are available for the construction of the plant.
2. State and semi-state companies in Burkina Faso are not very effective. Hence every effort should be made to find a private sponsor.
3. The need is questioned to finance a UNIDO staff member control mission out of project rather than overhead funds.

Final approval by the Netherlands was given verbally on 6/3/86 (Neth./UNIDO meeting in The Hague), and confirmed in writing on 11/7/86 (after rappel by UNIDO on 20/5/86 and Burkinabe authorities on 5/6/86).

(iii) Criteria for approval:

- Local production of pesticides leads to import substitution and foreign exchange saving.
- Agricultural support industries are given high priority in the Burkinabe development strategy (leading sector: agriculture).

Note: It would appear that full approval by the Netherlands was only given reluctantly.

Approval process by UNIDO (8/7/85-23/8/85)	1.5 months
Approval process by the Netherlands:	
Provisional (23/8/85-24/10/85)	2 months
Definite (24/10/85-11/7/86)	8.5 months
Total for Phase B (8/7/85-11/7/86)	<u>10.5 months</u> 12 months

The provisional approval by the Netherlands was not considered sufficient for starting the implementation process, during which the differences could have been ironed out. This was because no funds were made available by the Netherlands prior to find approval.

(c) Execution of studies (Phase C)

(i) The original estimate for the duration of the study was 26 weeks (6 months) after forwarding the contract to the consultants. The selection procedure for the consultants went through the following stages:

a. Selection of potential consultants by UNIDO (11/8/86)

Netherlands	4
Argentina	1
Brazil	1
India	2

This list was approved by the Burkinabe authorities on 29/9/86. Tender made by 2 consulting firms from the Netherlands.

(ii) Nethconsult (NEDECO: Jansen, van Doorn & Partners) was selected to carry out this study (19/11/86) in a subcontracting arrangement. The study was scheduled for 26/2/87-15/7/87 with operational completion in the third quarter of 1987 (i.e. within the foreseen duration).

Briefing of consultant 26/1/87.
Contract signed 9+16/2/87.
Mission fielded March and April 1987.

(iii) There is no evidence of training or computer/COMFAR component.

(iv) Copies of the final revised report wer sent to UNDP in Ouagadougou (24/5/88). There has been some approach to the Government Burkina Faso regarding possible follow-up action (an interim presentation in April 1987 was cancelled at the last moment).

Note: Total time involved in Phase C:

Selection of consultants (11/8/86-19/11/86)	3 months
Signing of contract and briefing (Jan.87)	1 month
Mission fielded and draft final report submitted (Feb.87-June 87)	5 months
Revision of final report (July 87-May 88)	9 months
Total for Phase C	18 months

(d) Quality of the studies

The overall quality of the study is not quite what was to be expected. Although the main conclusions are acceptable and realistic, deficiencies occur in particular in the financial sections where procedures as outlined in the UNIDO manual on feasibility studies (a copy of which was provided to the consultants) were not adhered to. As a result, the Interregional Adviser had to carry out an additional mission to Burkina Faso and two revisions (which took longer than the original study) proved necessary (three versions of the report have been made in all: June 1987, July 1987, April 1988). The insufficient domination of the French language by the Consultants has had a negative bearing on quality and impact of the study.

(i) The study turned out to be an updated feasibility study roughly based on the terms of reference supplied by the Burkinabe authorities with their original request.

(ii) The technical analysis basically was correct.

(iii) The market analysis by and large confirmed the production volumes stipulated in the terms of reference. Insufficient consideration was given, however, to international disaster relief in the case of locust epidemics. It is also not clear who will buy the (antilocust) pesticides in 'normal' years: farmers, Government agencies, etc.?

(iv) The financial analysis is deficient. It not only fails to adhere to the procedures established in the UNIDO manual, it also tends to overestimate the development of the local pesticide market (as had been done by previous studies [cf. (a) (vi)] and the willingness of foreign producers to supply small quantities of an active ingredient on a monthly basis to landlocked Burkina Faso. Such supplies will be provided in bulk once a year and for this purpose the financing of working capital with a bank loan is too expensive.

The study did identify two possible local investors.

Note: The overall conclusion of the study appears realistic, i.e.:

- Not to establish a plant for the production of liquid pesticides for cotton (only needed 3 months per year, highly import dependent, not-profitable).
- To establish a dry pesticide plant (locally available carriers - kaolin, dolomite - required most of the year, simple production process).
- A combined plant does not make the production of liquid pesticides worthwhile.

These conclusions, however, are insufficiently anchored in financial and market analysis (too superficial and not according to guidelines of manual).

(e) Follow-up to project

(i) The feasibility study had a follow-up in the sense that a financial group was formed consisting of local capital, SOFITEX (cotton growing and processing) and the French group Kalliope (representing Rhône Poulenc in Burkina Faso) to set up the liquid pesticide plant in Bobo-Dioulasso.

This decision - diametrically opposite to the recommendations of the study - seems to have been inspired by the following reasons:

- a. Cotton is the major export earning commodity for Burkina Faso (and as such enjoys a privileged status).
- b. Foreign interest.
- c. Idle capacity of the plant is to be used for filling aerosols with insect-repellants.

This situation was not envisaged at the time of the study. It is not clear to what extent this approach will be profitable. The plant is scheduled to become operational by March 1990.

(f) Programme level analysis

(i) The project was a follow-up in the shape of a down-scaled update of a number of studies aimed at establishing a pesticides producing facility in Burkina Faso. It should be considered as an industry supporting the development of agriculture (casi. crops in particular).

(ii) The focus on Burkina Faso (landlocked, LDC) coincides with geographical priorities in the Netherlands programme of development co-operation.

(iii) There has been no involvement by the Netherlands as a donor in the execution of the study. This was a matter between the consultant and UNIDO.

(iv) The Netherlands contributions would not appear to have had any significant impact on the effectiveness of the UNIDO programme. It must be remembered in this context that UNIDO had to put in considerable effort to make the final report acceptable.

(v) For this project no specific advantages would appear to hold for the Netherlands in co-operating with UNIDO.

Table 1

Preparation, implementation and follow-up of a feasibility study for the establishment of a pesticides plant in Burkina Faso

Phase A: Origin of request (25/3/85-8/7/85)	3.5 months
Phase B: Mechanism of approval (8/7/85-1/7/86)	12 months
Phase C: Execution of studies (11/8/86-May 88)	<u>18 months</u>
Total Phases A-C	33.5 months
Phase D: Follow-up (Sept.89-)	

<u>Time</u>	<u>Activity</u>	<u>Benchmark event</u>	
Sept.88	Construction of fertilizer plant (liquid) in Bobo-Dioulasso.		D

31/5/88	Project officially completed.		
May 88	3rd revision of final report.		
July 87	2nd revision of final report.	+ Visit SIRA to Burkina Faso.	
June 87	1st revision of final report.		C
Apr.87	Interim report.	+ Visit SIRA to Burkina Faso.	
Feb.87	Mission fielded.		
Nov.86	Nethconsult selected; selection of consultants.		

July 86	Definite approval by the Netherlands.		
Apr.86	Verbal approval by the Netherlands.		B
Oct.85	Provisional approval by the Netherlands.		
Aug.85	Submission to Netherlands for financing.		
Aug.85	PDS approved.	+ PAS issued.	
July 85	PDS submitted.		

July 85	Formulation of terms of reference for feasibility study.		A
Mar.85	Initial request for study by Burkinabe authorities.		

**A-5 FEASIBILITY STUDY TO ASSIST IN ESTABLISHING A MODERN WOODEN BOAT
BUILDING AND REPAIR INDUSTRY IN IRIAN JAYA IN CO-OPERATION WITH
THE IRIAN JAYA JOINT DEVELOPMENT FOUNDATION (J.D.F.)**

US/INS/85/172

(a) Origin of request (Phase A)^{1/}

(i) Country: Indonesia, listed in the Annex II of the Administrative Agreement between the Netherlands and UNIDO.

(ii) Industry sector mainly concerned: wood-based industries. The proposed kit-boats can be built in small-scale assembly yards. The kit boat principle is, however, only viable if the kits are produced (centrally) in sufficiently large quantities. The boat building and repairing sector is related to transport, fishing industries and special purpose sectors (e.g. tourism).

(iii) The project idea came up early 1985 within the UNDP/UNIDO project DP/INS/78/002 "Assistance in identification, preparation and implementation of industrial projects in selected regions". The proposed study was conceived to expand the scope of the work done on wooden boat building development during the INS/78/002 P4 ID/UNIDO project. The boat building project was already co-funded by the Dutch Finance Institute for Developing Countries (F.M.O.). F.M.O. informed the UNIDO team leader that they were very interested in co-financing an extension of the boat-building project to the Irian Jaya Joint Development Foundation (J.D.F.), a joint UNIDO/Dutch Fund for the development of Irian Jaya. Government official agreement for the new project was obtained "after much follow-up" in March 1986 (SIDFA, Jakarta). The National Planning Board and the co-ordinating Committee for International Technical Co-operation have agreed to Ministry of Industry request for feasibility study (info: 21 March 1988). Directorate General of Small-Scale Industry and Regional Office of Department of Industry were proposed to participate in the project.

(iv) As regards sponsorship, co-operation with the Joint Development Foundation was foreseen. The Irian Jaya Joint Development Foundation and the PT Yosiba, a shipyard and docking company in Jayapura (Irian Jaya) seem to be the immediate beneficiaries of the study. PT Yosiba would be the potential investor, J.D.F. is the main (or exclusive) shareholder of PT Yosiba. It is called its "daughter company". The final report of the project is entitled "Feasibility Study for the development of an existing shipyard in Jayapura" - prepared for PT Yosiba, Shipyard and Docking, Jayapura, Irian Jaya, Part One, Part Two (Appendices), dates: June 1987, December 1986, June ... (dates not well readable. The project title mistakenly refers to the previous project DP/INS/78/002 "Assistance in identification, preparation and implementation of industrial projects in selected regions", instead of using the title of the actual project.

^{1/} For an overview of phases A, B, C, see Table 1.

Table 1

Phases of the preparation and implementation of the feasibility study to assist in establishing a modern wooden boat building and repair industry in Irian Jaya

<u>Time</u>	<u>Activity</u>	<u>Benchmark Events</u>
<u>Jan. 1988</u>		
December	Feasibility Report finalization; CTA leaves Jakarta.	+ Project completed, feasibility study distributed.
June	Final report: financial analysis; project document signed by Indonesian Government.	+ Project revision approved by donor. + Project revision, extension, donor's approval requested. C
<u>Jan. 1987</u>		
December	Financial analyst fielded for two months (split mission); Recruitment of two experts for split missions.	

June	Communications on counterpart contribution with Government.	+ PAD issued. B + Government approves project.

<u>Jan. 1986</u>		
December	UNIDO in contact with wooden boat experts;	+ UNIDO officially A informed donor
October	Seeking official Indonesian request for project;	ready to finance the project;
August	PRC asks for negotiations with potential donor;	+ Draft project document prepared.
June	Project proposal elaborated.	
<u>1985</u>		
April	Idea of the Dutch financed wooden boat project launched.	

The J.D.F. itself was established by the Government of Indonesia and the United Nations Development Programme (UNDP) on 21 December 1970. The Foundation offers complete credit packages to individuals and companies. The package includes technical and management back-up, training courses, project identification.

(v) The study expected was defined as feasibility study.

(vi) The project can be regarded as a specific extension of the project DP/INS/78/002: Investigation into the potential for a modern boat building industry in Indonesia, which has identified Irian Jaya as having industrial potential. It was believed that the assessment and specific recommendations on the Irian Jaya boat building scheme will have great impact on national investors. Within the project, a strategy was developed aimed at assisting traditional boat building to make the transition "to modern times" by making use of the 'kit boat principle'. The Jakarta-based Siddik Group (PT Pratisa) were reported implementing the first Kit Boat Production Unit. Other units eventually co-financed by FMO were reported, pending further UNIDO studies.

As reported by the consultants, the previous UNIDO project has identified at least five suitable locations for large-scale manufacturers and each of these, in turn, could supply pre-cut boat 'kits' to up to 20 small assembly yards. Potential assembly yards have been identified. UNIDO co-ordination and support were considered 'vital' (from note by Gerard Dijkstra, yacht and boat designer, Amsterdam to Mr. Mimura, 27 January 1986).

Accordingly, title of a project proposal was formulated as "Feasibility Study to assist in establishing a modern wooden and repair industry in Irian Jaya in co-operation with the Irian Jaya Joint Development Foundation (J.D.F.)", dated 24 July 1985.

(b) Mechanisms of approval (Phase B)

(i) From the beginning on, the financing of the project from Dutch special contribution was considered. For the Netherlands, the early consultations with the Netherlands Embassy, Jakarta, the involvement of Dutch institutions, such as the Dutch Finance Institute for Developing Countries (F.M.O.), the Joint Development Foundation, the activity of Dutch experts in support of the project proposal may have facilitated the decision to participate in the financing of the project. The final informal contacts indicated already the readiness of the Dutch donors to finance the project. The official confirmation arrived on 22 January 1986.

(ii) The PDS concept of the project is dated 23 July 1985, the UNIDF asked only for the official clearance of the proposal with potential special-purpose donor (in that case with the Netherlands).

The final official reaction came on 11 December 1985, informing UNIDO on the readiness of the Netherlands to finance the feasibility study. The required funds were deposited in UNIDO account. It took much more time and effort to obtain the approval of the Indonesian Government. The information came on 21 March 1986.

(iii) The arguments as referring to the need to introduce modern wooden boat building techniques suitable for the production of large numbers of standard boat products and to establish new industries on a scale that is appropriate for the special conditions prevailing in the country; to present the industries proposed to Government bodies, local and foreign banks and

local investors for implementation (addendum to the project proposal) - have been decisive in taking the decision on the project, in addition to the availability of special purpose funds for its financing.

(c) Execution of studies (Phase C)

(i) PAD was issued 21 March 1986, the completion of the project was reported to be effective on 30 November 1987. Originally the study was scheduled to start by 15 January 1986 and to be completed by 31 July 1986.

As of 1 April 1987 the project was extended and the required funds increased from \$75,000 to \$101,000 with the approval of the Dutch Government. The project revision request sent to the Permanent Mission was dated 13 February 1987. The justification for the proposed project revision was prepared on 18 December 1986. Some of the arguments put forward by the backstopping officer include:

- Two additional locations to establish boat yards were identified in Irian Jaya region;
- The time was not sufficient to include the South Coast of Irian Jaya in the study;
- More detailed studies than expected had been requested by the clients.;
- The devaluation of the rupiah necessitated the recalculation of financial work;
- The work of the Government counterparts was being undertaken between December 1986 and February 1987. The data were needed for the final version of the study.

It is difficult to judge the impact of the "split missions" agreed with experts on the speed of implementation. According to a workplan within a period of 8 months the team leader was expected to work on the project on five different occasions, the boat building expert on seven different occasions during the same period, while the two months assignment of the financial analyst was spread over a period of 4 months. However, even this workplan could not be followed.

(ii) Since the consultants were already associated with previous boat project, their recruitment and/or keeping them for the new project did not create any problem.

G. Dijkstra (Dutch) has worked on and off since 1978 in Indonesia in the field of wooden boat building, inter alia, as member of the P4 ID/UNIDO team Jakarta. R. Cameron (Australia) has worked since 1982 in Indonesia in the field of wooden boat building, since 1984 as member of the P4 ID/UNIDO team Jakarta (DP/INS/78/002).

David A. Lucock, financial analyst, worked on some other projects in Indonesia as well.

Due to their experience with the previous project and to their longer stay in Indonesia, Messrs. Dijkstra and Cameron have become the promoters of the project, inter alia, by designing a 'UNIDO strategy for boat building in Indonesia' (Note by Mr. Dijkstra, of 27 January 1986 to Mr. Mimura), by making procedural suggestions to accelerate the project approval in the field, proposing organizations and firms to involve, etc.

(iii) Members of the staff of Institute for Industrial Entrepreneurship, Jakarta, were involved in data collection and in the feasibility analysis. Co-operation with the firm PT Yosiba could also have led to some on-the-job training elements. There is no indication of co-operation with technical institutions in the country. COMFAR was not used since part of the financial analysis was done outside Jakarta and computer facilities were not available.

(iv) 'Decisions-makers' appear at the level of PT Yosiba, shipyard and docking firm and the Irian Jaya Joint Development Foundation: a useful but limited level of contacts indeed in view of the importance of the objective and the broad issues the project was aimed at to cover.

(d) Quality of the study

(i) While rich in descriptive details of geography, climatic conditions, timber resources, number of boat parks, shipping connections, descriptions of various types of boats, the feasibility study misses the main objective of the project.

The feasibility study focussed only on one enterprise, 'PT Yosiba', a shipyard and docking company. Even in the title of the report it is indicated that the study was prepared for PT Yosiba. The executive summary (T-2-15) and the Chapter XI "Conclusions and recommendations" are only aimed at answering questions regarding the past and future of this single firm. Such an investigation, though important and practical, cannot be considered as sufficient contribution to assist the development of modern wooden boat building and repair industry in Irian Jaya. Two and a half pages are devoted to the other 4 or 5 existing facilities in Irian Jaya concluding that "seen in this light the proposed extension of PT Yosiba is much needed as part of the general development of Irian Jaya" (II-8).

Such an identification of the development issues with PT Yosiba seems unwarranted. The conclusions appear discouraging. "This investment does not yield a high rate of return but it is positive, especially from a national viewpoint (!), and provides basic and necessary infrastructural support for the development of Irian Jaya. The project - if implemented - provides for the employment and training of 115 employees (compared to the actual staff of 46) ..."

"It is quite clear that the project will be delayed or cannot be implemented without substantial technical and financial assistance ... The assistance required cannot be found inside Indonesia. The T.A. on a practical level, field training is planned for a 3 year continuous period.

Proposals for funding are recommended to be addressed to the Netherlands Embassy, Jakarta, to F.M.O. etc. (XI-6,7).

This emphasizing the need for further technical and financial assistance should be viewed in the light of the fact that bilaterally and internationally boat building projects in Irian Jaya have had a history of 15 years already.

With 1974/75 started the ferrocement boat building period. The ferrocement project was associated with PT Yotefa Shipping Line, a daughter company of J.D.F. as is PT Yosiba at present. PT Yosiba was created by hiving off the ferrocement boat building from the Shipping Line Company. This unit appears to have a 15 years T.A. history in boat building. Technical assistance projects, training preparation of manuals have been going on until 1986 when T.A. financed by UNDP was stopped.

The UNIDO team visited the yard (in the project INS/85/172) and prepared a development proposal for the investor (II-19). The actual feasibility study proposes a three stage implementation schedule. The plan is cautious: each stage is set up as a viable production unit.

(ii) Technical analysis, the description of the types of boats proposed for production, the new technical facilities, infrastructural requirements are well documented. While product and production engineering receives sufficient attention, the production costs, particularly those of TEC/laminated wood components, are hardly examined. Reference is also made to processing of local timber and plywood. The report provides a detailed technical description of material inputs. It should be noted, however, that in terms of value only 3.8% of the material inputs are to be found in Irian Jaya. The real costs of the boats when their assembly starts will strongly depend on outside factors, inter alia, on the delivery of the boat 'kits' (the chemically treated, pre-cut components of the boats). The assembly procedure is considered very simple, all parts are numbered, an instruction booklet is included with every 'kit', no 'lofting' is needed and semi-skilled workers can do the job.

In the light of this, the question emerges whether the study is not redundant in technical, geographic, historic, economic, climatic details, if in the end just a few new boats will be assembled (if everything goes well) in Irian Jaya. The increase of workforce - due to the whole development planned for PT Yosiba and not only to the assembly of kit boats - is expected to be 76 (other activities within the company: steel vessels, vessel repairs, water tanks).

(iii) Irian Jaya, the first client of PT Yosiba, would be PT Yotefa. For the financing of PT Yotefa's planned acquisitions, to be ordered from PT Yosiba, also F.M.O. is recommended by the experts (XI-7). PT Yotefa's orders ('being negotiated', Appendix II-2) make a major part of the 'orders in hand and (with) good prospects are being negotiated' (I-12). The orders in hand make Rp.150 million - US\$90,909, less than the amount paid for the feasibility study.

Unfortunately, many statements of the report are provided in such a vague language. It should be noted that the order for two laminated wooden vessels would come from PT Yotefa Shipping Line.

PT Karya Mulia, a wooden furniture making firm (a daughter of J.D.F.) could be one of the local partners. Proposal by experts: "A loan application to cover the planned renovation and expansion of machineries could be directed to F.M.O. as an addition to the PT Yosiba request" (XI-6).

Since wooden boat assembly would be only one sector in the firm's activities, the attention of the consultants had to be divided between the "traditional" and the "new" activities. "In year 'five' and after the completion of the third implementation phase, the share of new products of laminated wooden boats and the kit assembled boats would be 53% of the expected gross profit". The expected kit boats export alone would make 20% of the gross profit.

Unfortunately the market research part of this report, has failed to examine and identify the effective buyers in the country, and even less those potentially available abroad. The market sectors referred to encompass, of course, the whole product and service profile of the company. General economic indicators or calculated needs cannot substitute for the thorough

examination of the effective demand. The basic question: how could small fishermen or fishing communities acquire (or lease) such boats is only indirectly raised and remains unanswered in the study.

(iv) Summarized investment costs, including working capital, are calculated with the estimated sources of funds and later repayment. Longer term loan repayments are made over 7 years following three years of grace. Debt financing is needed particularly in stage II and III. As regards financing, the proposals rely on the traditional partners, such as F.M.O., J.D.F. Matters are complicated by the fact that shipyard development is actually closed for foreign investors.

(e) Follow-up to project

Main direct follow-up is to be found within the PT Yosiba, shipyard and docking company. Furthermore the new project US/INS/87/105 (see analysis).

F. Programme level analysis

(i) Previous project - DP/INS/78/002 and the new project - US/INS/85/172.

(ii) Focus is on Indonesia, there are some efforts going on to extend the wooden boat building programme to West-Africa and to some other Asian countries.

(iii) No official reaction to studies/reports by the Netherlands are known. The Integrated Boat Building Project (IBP), commenced in May 1989 by the Netherlands, is mainly a continuation of the LKI-UNIDO boat project, but its objectives are different. We refer to the evaluation of the project B-3 US/INS/85/172, para. F (iii).

(iv) The project has contributed to implement some of the development objectives supported by the Netherlands in Indonesia.

**A-6 OPPORTUNITY STUDY FOR THE ESTABLISHMENT OF A PRODUCTION
CAPACITY OF WIND-DRIVEN WATERPUMPS**

US/ANG/87/075

(a) Origin of request (Phase A)

(i) Angola, the country is on the list of countries accepted for Dutch funding.

(ii) User: energy sector, producer: metal working industry sector, small- and medium-scale industry.

(iii) Idea was communicated by SIDFA (1 August 1986). It was followed up during a programme review mission, discussed in detail with the Ministry of Energy and Petrols, Department for New and Renewable Sources of Energy. Further info from the same Ministry, 22 October 1985. Officially requested by the State Secretariat of Co-operation by letter dated 22 July 1986.

(iv) For financing the implementation: UNICEF representative currently engaged in an EEC-financed water programme in Southern Provinces was approached by SIDFA, Lusaka.

(v) Draft project proposal by Ministry entitled "Study for the Installation of a Manufacturing Unit for the Construction of Wind-driven Pumps".

(vi) The study submitted is entitled Opportunity Study. In the PRODOC, also the term pre-feasibility study is used.

(vii) New project.

(b) Mechanism of approval (Phase B)

(i) The rather sizeable UNIDO pipeline portfolio scheduled for IPF-financing in the country has led to the recommendation to look for other sources of financing. The nature of the project (opportunity study) and the fact that the country is qualified for obtaining finance from the Dutch special-purpose fund have facilitated the choice.

(ii) RKC cleared the project with a budget of US\$98,000 for negotiation with special purpose donors 29 April 1987. The Permanent Mission of the Netherlands was addressed on project financing 21 July 1987, the Dutch Agreement to finance was communicated 23 September 1987.

(iii) As background and justification, the PRODOC refers to "the intention of Angola to proceed with the installation of a pilot fabrication unit for the construction and monitoring of wind pumps"; "there is no national experience at the level of construction and monitoring of wind pumps".

(c) Execution of studies (Phase C)

(i) Duration: request to issue PAD (UNIDF) was dated 2 October 1987. Requisition procedures for the services of a consulting firm were initiated by the Feasibility Studies Section on 16 November 1987, Terms of reference for a contractor, dated 20 November 1987. Choice of the two backstopping officers: Holland Windturbine B.V. (14 March 1988), contract copies with Energy and Industry Consultants Nederland, B.V.; field missions started: early June 1988, draft study dated November 1988, final version dated February 1989.

(ii) The Dutch consulting firm Energy and Industry Consultants Nederland B.V. executed the study.

(iii) No training component was planned in the project.

(iv) Ten copies were sent to the Resident Representative. The Resident Representative was requested to advise an un-named potential Angolan investor to directly contact F.M.O. in the Netherlands. Two British consulting firms expressed interest in obtaining copies of the Feasibility Study. They were advised to contact the Angolan authorities directly (Northumbrian Energy Ltd. was involved in similar studies in Angola earlier, IT Power Ltd. obtained the information about the study from UNIDO consultants (Energy and Industry Consultants Nederland B.V.).

UNIDO:

(d) Quality of studies

(i) Although the study is entitled opportunity study, its scope and depth are larger. It is between a pre-feasibility and the complete feasibility study. The climatic, geographic, technical and economic analyses provide a good balance.

(ii) The depth of technical analysis is considered satisfactory (also by the backstopping Engineering Section); the draft study was carefully and extensively analysed from the Angolan authorities as regards water pumps design and technology.

(iii) "Market" and "demand" are not the pertinent terms here. The needs for wind pumps theoretically may be quantified as was done by the consultants with regard to existing and newly drilled wells, and the expected level of on-going drilling. The potential need depends on the well rehabilitation and drilling works. Compared to the costs of maintaining and expanding the related infrastructure, the wind pumps appear to be the smallest factor in terms of dollar expenses: costs for cleaning a well US\$10,000, drilling a new one costs US\$50,000, while a wind pump is quoted as US\$6,000.

The second factor of the "market" is the willingness and the capability of the Government to purchase the windpumps. This should be incorporated in other - much larger - expenses of the infrastructure development.

As regards the priorities (national, regional), the report refers to the fact that regular trade channels do not function. As a result, the number of cattle is increasing, thus causing local overgrazing near water sources. On average, families have 40-60 cows while they can already make a living out of 20 cows (p.17).

(iv) The experts' financial data provide useful information on the option of local production, the related investment and operational costs. The most relevant dimension for an investor will be, however, the guarantee that the estimated number of windpumps can only be acquired through public (national/aid) financing. Employment creation: 18 new working places.

The COMFAR analyses for the three alternatives and the sensitivity analyses have been improved and strengthened in the final version of the study compared to the draft study. It is, of course, a relatively small investment and the employment creation is extremely limited (18 working places). The chances for the improvement and the expansion of the infrastructure, willingness of the Government to finance, and if capable to finance it, its readiness to provide the private entrepreneur with such a rent (fixed price, ensured purchase for 15 years) could have justified at least as much attention in the study.

(e) Follow-up to project

(i), (ii) Not applicable.

(iii) 10 copies of the final result were dispatched to the Resident Representative on 12 July 1989. In the letter, reference is made to an Angolan investor (not named) who was recommended to directly contact F.M.O..

A follow-up project is proposed by consultants for further project management, manufacturing expertise, for designing prototypes, manufacturing the prototypes, installation and testing, etc. Budget: US\$2.2 million.

The Angolan authorities have not informed UNIDO so far of the acceptance of the study.

(f) Programme level analyses

(i) No connection with other Dutch-financed projects.

(ii) Focus was on Angola.

(iii) Studies not yet examined by the Netherlands.

(iv) No particular advantages for the Netherlands (except consultancy involvement).

**B-1 PRE-FEASIBILITY STUDY FOR THE ESTABLISHMENT
OF A TEXTILE COMPLEX IN BOUGOUMI**

US/MLI/86/210

(a) Origin of request (Phase A)

(i) Mali (included in the Netherlands list).

(ii) Textile industries (cotton-based).

(iii) Ministry of Industry and Tourism submitted request to the ResRep in Bamako, Mali, with an outline for a pre-feasibility study for an integrated textile works - textile complex. Transmitted by ResRep to UNIDO, 7 March 1986.

(iv) Compagnie Italienne de Développement des Textiles (CMDT) referred to as potential sponsor by Minister for Industrial Development and Tourism (30 October 1986).

(v) The study was entitled: "Pre-feasibility Study".

(vi) In October 1984, the Government of Mali requested UNIDO's assistance to evaluate an Agreement between the Government of Mali and a Belgian firm for the setting up of a textile complex. UNIDO reacted per cable (16 November 1984) and per letter (2 September 1985). UNIDO offered to carry out a pre-feasibility study which should show whether the project deserves to be pursued. The project idea has had a long history. The first study on the project was prepared in 1976 (Schaeffer Engineering), followed by several others as reported by the consultants. It is reported that in June 1986, SOCODIF Sarl has completed a study, financed by the World Bank, entitled "Projet de réforme du secteur public, étude ITEMA-COMATEX", with conclusions very similar to those made by the UNIDO consultants (p.16 of the Ten Cate Report).

(b) Mechanism of approval (Phase B)

(i) The request was handled by the Least Developed Countries Section, which requested action by the Division of Industrial Operations by 16 April 1986. Draft PRODOC dated 5 August 1986 was signed within one week by all sections concerned, for submission to the PRC, for clearance for negotiation with special fund donors. PRC: project (total amount \$105,090) was cleared for negotiation with donors 19 August 1986. Mali officially accepts to give a contribution in kind to the implementation of the study (30 Oct. 1986). Transmission of this statement to Feasibility Studies Branch by Least Developed Countries Section 10 Dec. 1986. Submission of final PRODOC by Feasibility Studies Branch to Area Programmes Division 13 Jan. 1987.

PRC: project cleared for negotiation with Switzerland, changes are requested in the project document, but without the intention to discuss the project again. After the corrections executed by the Feas. Branch, the Area Programmes Division (Least Developed Countries) made further changes in the PRODOC (6 April 1987).

(ii) Permanent Mission of the Netherlands requested to finance the project (24 April 1987), PRODOC presented in French only, English version transmitted 5 June 1987, Dutch agreement to finance communicated 25 November 1987. PAD issued 11 December 1987.

(iii) Criteria of approval: the country is the second producer of cotton in Africa. Cotton as raw material represents 39% of exports. In spite of the two existing plants, textile products represent one of the main imports for Mali. Only 4% of cotton production is transformed locally. Comment: both plants used their capacities at a very low level (COMATEX is private, ITEMA is public) at the time of the request made. An analysis of the justification of the request could have led to other terms of reference for the study. Furthermore: at that time the SOCODIF Sarl report (World Bank) was already completed, with conclusions UNIDO consultants were going to make three years later.

(c) Execution of studies (Phase C)

(i) Duration: several Dutch firms contacted, evaluated, 8 August 1988. TEN CATE consultants proposed by Feas. Branch for the contract. Project revision dated 9 December approved by the donor without delay. Negotiations with TEN CATE, contract dated 15 May 1988; distribution of signed contract 21 March 1989 (UNIDO); TEN consultants 20 June 1989. Work was started before the formal signature of the contract 17 August 1989.

(ii) The study was executed by TEN CATE consultants (The Netherlands), in collaboration with UCO Engineering, Gent, Belgium, and the Netherlands Institute for Economic Research Rotterdam.

(iii) No training component.

(iv) Study completed recently (August).

(d) Quality of studies

The consultants carry out a detailed study to come to the conclusions that the project idea is absolutely not worth to be followed. The question emerges whether the study could not have been stopped before to prevent the efforts for detailed analyses in the wrong direction.

While UNIDO has responded to the request of the Government, the question can be raised how far can one prevent unnecessary efforts and reorient them towards real economic and industrial issues.

While the study arrives at the right conclusion, from the start the project evidently had no chance to attract any investor to implement it.

(e) Follow-up to project

(i)-(iv) The consultants advise against implementation of the project. Rehabilitation of the two existing enterprises and a better co-ordination of

their activities are recommended. This proposal could lead to another project. Furthermore, more extensive use of Malinese tissues in artisanal and semi-industrial sectors is recommended. This may lead to another project in Mali. Actually, these sectors are using tissues imported from Europe. UNIDO proposes a round-table conference on the textile sector, stop the competition between the ITEMA and COMATEX. UNIDO expects request for the preparation of an in-depth market study, and for the preparation of a feasibility study for restructuring/reorganizing the two textile works, furthering the privatization of COMATEX (from back-to-office mission report of the backstopping officer 21 Sept. 1989).

(f) Programme level analysis

- (i) Separate project.
- (ii) National project for Mali.
- (iii) Not examined yet.
- (iv) Facilitated the implementation of the study.
- (v) No, except participation of consultants.

B-2 FEASIBILITY STUDY FOR THE PRODUCTION
OF CHROME TANNING SALTS

US/ZIM/87/243

A. Origin of request (Phase A)^{1/}

(i) Project located in Zimbabwe, a country listed in Annex II of the Agreement.

(ii) Chrome tanning salt is a product of the chemical industry. It is based on sodium-biocharbonate derived from chrome-ore. The manufacture of sodium-biocharbonate is a rather large-scale operation. Tanning salt is just one of its derivatives. Brazil, India, Turkey, Peru, Argentina, Pakistan are among the major producers of tanning salt.

Some developing countries, such as Pakistan, produce tanning salt from imported sodium-biocharbonate (supplied by USSR, China). The reduction takes place within the tanneries themselves. A procedure contested by experts, because it is expensive, the process is not appropriately controlled and because it produces environmental hazards.

(iii) Study requested by the Authorities in Zimbabwe (Ministry of Finance, Ministry of Industry and Technology), strongly supported by the Leather Institute of Zimbabwe (LIZ), the Industrial Development Corporation of Zimbabwe (a state holding company).

(iv) Formally there was no sponsor considered. Rio Tinto, Zimbabwe, expressed interest to participate in a venture to manufacture tanning salt as they have produced it in 1983/84 in liquid form. Reference was also made to the interest of the Merchant Bank of Central Africa to participate in the financing. The sponsorship was not an issue specially examined. The interest of organizations indicated under (iii) seemed to be sufficient for UNIDO to accept the feasibility study project.

(v) It is a feasibility study, although in the first draft project document of 22 June 1987 it was called pre-feasibility study. In later documents it was called feasibility study. The type of study needed was not an issue for UNIDO. The requesting Government used the term 'feasibility study'.

(vi) The project is a follow-up to an Investment Promotion Meeting organized for the SADCC countries in Harare, from 3 to 5 November 1986.

^{1/} For an overview of phases A, B, C, see Table 1.

Table 1

Phases of the preparation and implementation of the
feasibility study for the production of
chrome tanning salt

<u>Time</u>	<u>Activity</u>	<u>Benchmark Events</u>	
<u>1990</u>			
	Progress report submitted; UNIDO team arrives in Harare; backstopping officer in the field.	+ Submission of draft feasibility report expected.	
June	Correspondence with potential sub-contractors; finalizing team and conditions; informing Dutch donor; final selection out of two contenders: PROMOM, Brazil, and MPDC, India.	+ Contract with MPDC signed.	C
<u>1989</u>			
	Correspondence and negotiation with Fluor/Daniel and TNO, Netherlands, 11 July 1988 - 10 January 1989.		
June	List of potential consulting firms sent to Government (Harare) for clearance; extensive search for expertise; Contracts Section contacted for action. Communications within UNIDO.	+ PAD issued.	
<u>1988</u>			
	Africa Programme, finalizing PRODOC, PAS, PRC. Approval by Dutch Government.	+ Official request received.	B
	Urging submission of official request (Ministry of Finance, Harare); clearing Government counterpart contribution.		A
June	Correspondence, clarifications, preliminary information of Dutch donor; letter of request from Ministry of Industry.	+ Draft PRODOC prepared.	
<u>1987</u>	Correspondence with the country in order to obtain official report		
<u>1986</u>	Project presented to the Investment Promotion Meeting of SADCC countries in Harare, Leather Institute of Zimbabwe (LIZ).	+ Investment Promotion project identified.	

B. Mechanism of approval (Phase B)

(i) Due to the strong support by the Leather Institute of Zimbabwe representing the users of the product, to earlier manufacturing experiences in the country and to the possible sub-regional dimensions of the project, the proposal for a feasibility study was not questioned. Preliminary contacts with the donor also indicated the interest of the Netherlands in the project.

(ii) The formal request (dated 19 January 1988) for financing the feasibility study was answered favourably and without delay by the donor (29 January 1988).

At UNIDO, the procedure of approval of the project from the arrival of the formal request from the Ministry of Finance, Zimbabwe (29 September 1987) and the issue of the PAD (16 February 1988) took 4.5 months, including the only 10 days required for the approval by the donor.

The picture is even less favourable if we consider that the letter of request by the Ministry of Industry, Zimbabwe, transmitted by the Resident Representative was dated 16 March 1987. Then the procedure of approval took 11 months altogether, due, *inter alia*, to the late discovery that only the Ministry of Finance was qualified to submit a formal request to UNIDO and to commit the country for counterpart contributions.

Phases A and B together lasted 15 months (see Table 1).

(iii) The criteria adopted in the Administrative Agreement between the Netherlands and UNIDO according to which (pre-)feasibility studies will be undertaken only if a potential sponsor has been identified (Art.III.2) was not followed. (See above, A/iii, A/iv.)

In the letter of approval by the donor, the use of Dutch consultants was explicitly indicated as a precondition for the approval. This is not in accordance with the Agreement which accepts the hiring of consultants from developing countries as well (it finally has been the case).

The 'justification' in the PRODOC of 17 November 1987 contains the arguments which finally have lead to the approval of the project.

The formal administrative criteria were met by the official request for a feasibility study submitted by the Government.

The techno-economic argument is based on the import-substitution case and the local processing of chrome-ore. The extended market of the SADCC countries is considered necessary to benefit from the economies of scale in manufacturing. In the light of the arguments the production of chrome salts in the SADCC area is "almost certainly viable" at the present time (PRODOC, p.5). It is also assumed that the anti-pollution regulations in Europe would strengthen the competitiveness of African tanneries in semi-processed wet blue leather for which chrome salt is the most important chemical input.

In almost prejudging the conclusions to be made in the feasibility study, the terms of reference prepared for the consultancy firm contain the statement according to which "... it follows logically that ... the production of chrome salts in the SADCC area is almost certainly viable at the present time" ('Background information', Terms of reference).

This might be true, but all these assumptions were already presented by the Leather Institute of Zimbabwe in its note submitted to the Investment Promotion Meeting in early November 1986. During the years that have passed between the first contact on the Project Proposal (November 1986), the draft PRODOC and the issuance of the PAD (Feb. 1988) or even later, during the search for consultancy (one more year) UNIDO could have examined the complexities of chrome-ore processing, its intermediate, by- and co-products used in at least 14 industry branches, the effective role of chrome ore resources in the Zimbabwean economy, gathering information about the main suppliers of tanning salt (including Stoppani, Italy, recommended for consultations by the Leather Institute of Zimbabwe, as one of the main producers not operating in South-Africa), the manufacturing experiences available in Brazil, India, Peru, Turkey, Pakistan and other countries, information on the technologies, the economies of scale, trade before deciding on the preparation of a feasibility study. It seems that the level of information used for taking this decision has not gone beyond the information base justifying an opportunity study.

As indicated above, the availability of a sponsor for the investment was not noted formally in the procedure of approval, although Rio Tinto's interest was submitted officially to UNIDO, together with the reference to the Merchant Bank of Central Africa. Furthermore, Rio Tinto Zimbabwe, was willing to submit information about capital and operational costs (whatever relevance they might have had). Finally, results of previous UNIDO reports^{2/} have not been used (or at least their results are not reflected) neither in the PRODOC nor in the terms of reference.

C. Execution of studies (Phase C)

(i) The search for consultancy firm took almost one year. The limited information base used in the decision-making on the project was probably the main factor in the long duration of the contracting procedure (see Table 1).

D.

E.

Not applicable at the time when the evaluation took place.

^{2/} Such as, inter alia, "Strategies for increasing the production of tanning chemicals in developing countries", UNIDO/IS.448, 24 February 1984 (especially pages 24, 26-28, 48-49).

F. Programme level analysis

(i) The project is complementary to the on-going project "Preparatory assistance for a regional hides and skins, leather and leather products improvement scheme". This project is financed, inter alia, from the special purpose contributions of the Netherlands. The aim of the tanning salt project is to investigate the feasibility of manufacturing locally the major chemical input used by tanneries.

An earlier UNIDO project "Strategies for increasing the production of tanning chemicals in developing countries", Sectoral Working Paper Series No.17 (UNIDO/IS.448), 24 February 1984, investigated the possibilities for developing countries to participate, inter alia, in the production of chromium sulphate, up to the year 2000.

Other UNIDO projects, such as: the various consultation meetings on the Leather and Leather Products Industry form part of the sectoral programme.

(ii) The project also can be related to various UNIDO activities geared to support the sub-regional co-operation schemes of SADCC and PTA. The terms of reference of the tanning salt project refer to the need for co-operation at the sub-regional level in creating a sub-regional market necessary for the manufacture of chromium sulphate.

(iii) The Netherlands assisted in the search for consultants, although the consultants identified (joint bidding of Fluor Daniel B.V. and TNO Leather and Shoe Research Institute, Netherlands) withdrew from the bidding. They believed that only by engaging a current producer could the Zimbabwean party ensure themselves of the product and production know-how required for making a successful project. They proposed to work on a fixed price basis for small, well defined parts of the "masterplan", to move gradually by a step-by-step approach from one phase to the second one. The proposals were not acceptable to UNIDO, inter alia, with the argument that "... UNIDO could only make lumpsum contracts for a fixed price and for clearly defined goods and services ..." ('Note for the File', E. Galama, 18 January 1989).

Annexes:

1. Basic tanning chemicals - chromium sulphate
2. Chrome salts required for leather production, 1980-2000
3. UNIDO Feasibility Study Chrome Tanning Salts Zimbabwe - Fluor Daniel

3.2 Basic tanning chemicals *

3.1.1 Chromium sulphate

In the manufacture of leather the essential process is the tanning process itself, which converts the fibre structure of the hide or skin into a material which will not putrefy and is stable for use in shoes, garments and leather goods.

Until 100 years ago the vast majority of tanning was done using natural materials of a vegetable base. In the last 100 years mineral tannages have been introduced and have become of prime importance. Mineral tanning agents include such materials as aluminium and zirconium, but by far the most commonly used agents are chromium compounds, actually mainly chromium sulphate.

Chrome can be used by tanners in a number of forms. These include sodium bichromate, chrome alum, potassium bichromate, and chromium sulphate. Most commonly used today is the basified form of chromium sulphate ($\text{Cr}_2(\text{SO}_4)_3$). The basification relates to the activity of the chromium for crosslinking leather fibres. There are a number of ways of preparing chrome tanning materials so the strength of the product is measured in terms of chromic oxide (Cr_2O_3). The product is produced in the liquid form but it is normally spray-dried and sold as a powder in most countries.

Of all the individual chemicals in use in the world's tanning industry chromium is the most important, both in terms of cost and strategic importance. Considering the state of the science of tanning, a reduction in the availability or supply of chrome materials would have very serious implications.

Chromium is a strategic material and some of the OECD countries have a declared policy of stockpiling. It is obtained from chromite, the only important ore of chromium. The major countries where chromite is obtained are Malawi, South Africa, Turkey, the USSR, Zambia and Zimbabwe. As usually obtained, it contains small amounts of carbon, and is one of the hardest common metals.

Chromium has three areas of use being refractory, metallurgical (the main reason for its strategic importance), and chemical. It is estimated that 25 per cent of chromium chemicals produced are used for chrome tanning. A similar quantity is used in plating, including chrome plating, iron dips, anodizing aluminium, and other associated uses. Chromium chemicals are also used in photography, dyestuff manufacture and a great variety of other purposes.

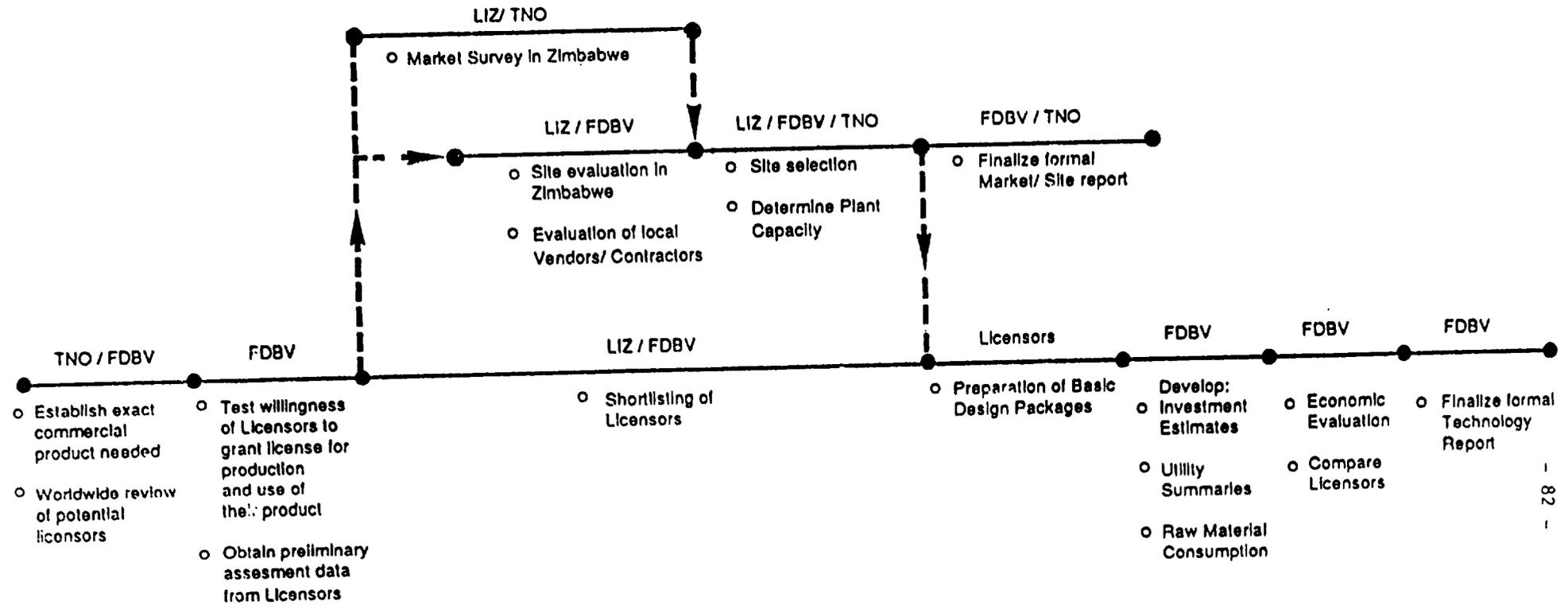
* Strategies for increasing the production of tanning chemicals in developing countries, UNIDO/IS.448, Feb. 1984, p.16-17.

Chrome Salts Required for Leather Production, 1980 to 2000 *

	thousand tons								
	1980			1990			2000		
	Heavy Leather	Light Leather	Total	Heavy Leather	Light Leather	Total	Heavy Leather	Light Leather	Total
Developed Market Economies		253.9	253.9		275.7	275.7		296.6	296.6
CPE Europe (incl USSR)		118.8	118.8		140.1	140.1		161.5	161.5
Developing Market Economies		237.8	237.8		301.1	301.1		367.5	367.5
Sub-Saharan Africa		10.0	10.0		13.3	13.3		18.8	18.8
North Africa and West Asia		24.0	24.0		37.8	37.8		52.0	52.0
South Asia		75.2	75.2		92.0	92.0		109.3	109.3
South East Asia		22.9	22.9		27.6	27.6		32.1	32.1
Latin America		105.7	105.7		130.4	130.4		155.3	155.3
CPE Asia		35.7	35.7		43.0	43.0		50.2	50.2
WORLD		646.2	646.2		759.9	759.9		875.8	875.8

* Source: UNIDO/IS.448, op.cit, p.57.

UNIDO FEASIBILITY STUDY CHROME TANNING SALTS ZIMBABWE



LEGEND

- LIZ : Leather Institute of Zimbabwe
- TNO : TNO Leather and Shoe Reseach Institute - Waalwijk
- FDBV : Fluor Daniel B.V., Haarlem



**B-3 THE PREPARATION OF FEASIBILITY STUDIES FOR FIVE BOAT ASSEMBLY YARDS
FOR SELECTED ENTREPRENEURS IN INDONESIA**

US/INS/87/105

(a) Origin of request (Phase A)^{1/}

(i) Indonesia (has geographical priority for the Netherlands programme of development co-operation).

(ii) Wood-based industries, small-, medium-scale.

(iii) The first letter in the Registry File arrived from the Netherlands signed by the Alternate Permanent Representative, dated 28 October 1987, responding to a letter by UNIDO of 14 October 1987 (US/INS/87/105), expressing agreement to finance the feasibility studies of the project. The Project Data Sheet of 3 November 1987 refers to a letter of 11 November 1986 from the Indonesian Ministry of Industry. After various interventions, the official Government agreement for the project was confirmed on 29 March 1988.

(iv) Sponsors: The idea was to prepare feasibility studies for five boat assembly yards for selected entrepreneurs in Indonesia. The project title implied the availability of entrepreneurs interested in establishing boat assembly yards.

(v) Preparation of feasibility studies was financed.

(vi) The project is a follow-up to previous boat building projects such as US/INS/85/172.

(b) Mechanisms of approval (Phase B)

(i) Due to earlier involvement of the Netherlands in the boat building projects in Indonesia and due to the request for feasibility studies, the seeking for financing from the Dutch special purpose fund was obvious.

(ii) The Dutch approval of the project arrived within two weeks: UNIDO request dated 14 October, answer by the Dutch 28 October 1987. The issuance of the PAD was requested by the PRC Secretariat on 4 November 1987. As regards the Indonesian side, SIDFA reported: Government approval for project obtained after much follow-up in March 1988. Clearance was also obtained for the Team Leader. Project Document dated 22 June 1988 signed by Indonesian Government 1 February 1989.

(c) Execution of studies (Phase C)

(i) Duration: Project revision and the fielding of experts took some time. Criticism by the Permanent Mission on "examples of poor project

^{1/} For an overview of phases A, B, C, see Table 1.

Table 1

Phases of the preparation of the feasibility studies for five
boat assembly yards for selected entrepreneurs
in Indonesia

<u>Time</u>	<u>Activity</u>	<u>Benchmark Events</u>
<u>1990</u>		
December	Project financially not completed yet; two more studies under preparation?	+ Final report by CTA, final payment.
June	Budget revision by donor approved General study) no dates of Lombok study) completion indicated completed	
		C
<u>1989</u>		
December	Budget revision; Prigi Study completed, submitted. Government signed PRODOC.	
June		

April		+ Approval by Indonesian Government.
February		
		B
<u>1988</u>		
December		

October		+ Dutch financing agreed.
June	PRC meeting approves PDS, asks for negotiation with the Netherlands. Project idea - continuation of the project US/INS/85/172.	+ PRC approves.
		A
<u>1987</u>		

management and lacking financial control mechanisms" in view of both the excessive increase on the budget line for international experts, at the expense of funds for national experts, a budget line that had been increased just a few months before, and the submitting of a project revision request for expenditures which have already been certified and disbursed... (Mr. van Gorkom, Permanent Representative, 20 June 1989)

(ii) The project was executed by hiring two boat building experts, one fishery expert for 3.3 months each and a financial expert for 1.5 months, all contracts spread over a period of six months. National expertise was used for 12 m/m. The expenditures for foreign expertise (including project travel and other personnel costs) amounted to US\$ 109,900.

(iii) No specific training component was planned.

(iv) Not applicable.

(d) Quality of the studies

(i) Scope of the studies: Development Plan and Feasibility Study for a Small-scale Boat Repair Yard at Prigi prepared for Fisheries Development Foundation, Prigi, East Java, LKI/UNIDO. FDF, Prigi is not an entrepreneur but a development organization. FDF has no intention to become a boat building centre in the near future, but they do see a need for additional facilities for docking and repair of their boats and other boats sailing in the area. The LKI/UNIDO team prepared a report regarding repair facilities, total investments required - Rp 16.9 million (US\$ 9,967).

If no suitable manager/investor can be identified, the workshop could be operated by the Department of FDF (p. 28). Requests for technical assistance can be directed to LKI. FDF may need a new volunteer after having had Mr. A. Chafin, who left Prigi by the end of 1988, after a three-year presence (p. 29).

Feasibility study for the Karang Atas Boat Yard on Lombok prepared for YLKMP, a Development Foundation from Cakranegara, Lombok. YLKMP stands for the Humanistic Institute for Rural Community, Lombok. Karang Atas boat yard is a subsidiary of YLKMP, co-funded by HIVOS, Humanistic Organization for Development Co-operation (Dutch).

At the actual level, after its four years of existence, the Karang Atas Boatyard needs to cover annual losses estimated at Rp. 8 to 10 million. It is now proposed to commercialize the Karang Atas yard in order to make it economically self-sustaining. Main changes would be the conversion to a PT, CV or co-operative status, enabling acceptance of commercial orders, and an active market approach to get these orders.

Contracting a professional manager is proposed, in addition to improvement of internal technological and management capacity. Karang Atas will still need outside assistance for the next few years if its operations, especially in the fields of naval architecture, market development and introduction of new technology (... recommended... to contact the Indonesian-Dutch Integrated Boat Building Project... (IBP)).

The production programme proposed is based on the assumption of on-going involvement of Karang Atas in fishery development programmes through its linkages with YLKMP and on-going stimulating policies for fisheries development in NTB by the Indonesian Government (p. 17).

The production programme does not seem to contain the "kit-boats" developed by the UNIDO boat building project.

To the history of Karang Atas Boatyard: It was established in May 1984 as a combined production unit of boats and fishermen's training centre in the HIVOS, North West Lombok Regional Development Project. In 1985, a small workshop for engine repairs and a facility for slipping the boats were established and the boatyard started activities in the repair of boats sailing in the area. Through newly-developed contacts with the LKI/UNIDO boat building consultancy team in 1985-86, some new developments were introduced. A first prototype of the Minifisher, KA-1050, was built in 1986 (Ref.: HIVOS, F. de Schutter, Mataram, 1986). In 1987, the HIVOS project was terminated and responsibilities were taken over by YLKMP. Boat building was continued under the management of YLKMP at a low level of production. In the meantime, skills of the people involved were developed and by the end of 1988 the total production of Karang Atas reached about 25 boats, of which 20 were of the KA-760 type. There are considerations to continue operations on a commercial scale. Investigating the opportunities for such a development was considered to be the aim of this feasibility study (pp. 11-12). The yard has no commercial license.

Until now, the boatyard has operated as an integral part of the activities of YLKMP with the aim to contribute to development efforts for rural people. YLKMP would not have any commercial goal for its own activity. The foundation is still supported by HIVOS Foundation on the basis of proposed projects and programmes.

For the future organization, 1 wood-working foreman and 12 carpenters, 1 mechanical foreman, 2 mechanics and 1 storekeeper are proposed. The function "General Manager" is somewhat farfetched. Costs of total investments - fixed investment - Rp. 35 million (US\$ 20,958) and working capital Rp. 15 million (US\$ 8,383).

The result of the study has a limited relevance to the immediate objectives of the project, ". . . enable the Indonesian authorities, entrepreneurs and organizations to take informed decisions on the setting up of boat assembly yards as part of the development of the 'Kit Boat' industry."

General feasibility study for a small-scale assembly yard. The study does not conform with the objectives and the expected output of the project:

- It is speculative; it is not related to any physically identifiable assembly yard.
- No entrepreneurs have been identified.
- The manufacturing of kit boat components is not specified. The component inputs required for assembly are not calculated nor are effective prices quoted by suppliers.
- It is based on assumptions regarding capacity.
- Reference is made to "some presently available kit boat types (illustrations provided)". No suppliers, no sources of the design are specified.
- It is rather an "investment project profile" type of information where the Comfar calculated figures only figure as illustrations, without any effective relation to specific buyers, suppliers, or justification by the size of the project investment.

- It is rather a micro-project, with a calculated total manpower need of 18 (including the "General Manager") for a boat assembly yard.
- The explanations, justification and the technical information used are mostly based on previous reports and missions.

(ii) The technical information is largely based on previous studies. Some new site-related information is to be found in the Prigi and Lombok Study. Some new boat designs are presented in the general study.

(iii) Market study: The existing Priji and Lombok yards are mini service and production facilities, integrated in a small fishing community where the concept of market and market research is somewhat farfetched. The general study repeats the arguments and assumptions of previous studies (500,000 wooden boats, 140,000 replacements annually, without dug-out replacements still an impressive number of 5,000 boats remains to be built annually). This is, of course, a speculative figure. Interesting to note in the general study, there is no reference made to kit boat and kit boat components, manufactures mentioned in various reports such as PT Kit, Karga Isthika Tirta, Jakarta, PT Pratisar ("Siddik Group"), PT Wira Sata.

Although not in the general study, the Registry File of the project contains some references to some recent efforts made to propagate the idea of the kit boat abroad: a possible rationale for development of a modern wooden boat building industry in West Africa based on experience gained in Indonesia was proposed by Mr. de Schutter, an expert on the actual project. It could be started by some field work, seminars, presentations in West Africa ("Integrated wooden Boat Building in West Africa"). Mr. Dijkstra, Mr. Schutter would be available for such programmes. Some other contacts were established (SOFIBEL), visits, enquiries made (Mr. Mimura, with General Manager Bar PT Kit, in Cameroon).

With regard to the proposals made to introduce the kit boats in Mauritius and/or Rodrigues, the Resident Representative has experienced the reservations on the introduction of the boats of this type made by the FAO fishing vessel consultant. His arguments:

1. "The proposed method provides a light displacement boat which is considered undesirable for the fishing techniques and wind conditions in these islands.
2. Traditional wooden boat building in both Mauritius and Rodrigues is presently carried out to the highest European standards with boats of good design and construction. These boats adequately meet the requirements of the Artisanal Fisheries with the exception of the out-reef fishing in Rodrigues, the subject of the consultant's present mission" (FAO fishing vessel consultant).

Another idea is a film proposal (Messrs. Dijkstra, de Schutter) "... to produce a video film and a supportive brochure on the improvement of boatbuilding technology in Indonesia. The main objective would be, however, to use it in West Africa for reasons of information and promotion during seminars, meetings and possibly on television." (Dijkstra) Production: Ecotec Resource BV., Holland. Estimated budget US\$ 90,000. Distribution: Co-ordination by UNIDO Documentation Unit.

(iv) As regards the financial analysis, the study does not go beyond general assumptions. Variants of the participation by kit boat component manufacturers in the social capital of the assembly yard are explained in abstracto without reference to any manufacturer or to the conditions of such a joint venture.

(e) Follow-up to project

(i)-(iv) The idea of the kit boat, as often repeated in the various reports as well penetrates the "market" slowly. Entrepreneurs could not be identified for the assembly yards, although it was the objective of the project. In the light of the two projects identified, the kit boat project has remained too design- and designer-centered, with good general arguments (number of wooden boats, need for replacements, better use of timber, more efficiency in fishing), but no effective answers to problems like central manufacturing of parts at low cost and their efficient distribution, the extremely low capability of the users (artisanal fisheries, transporting enterprises, etc.) to acquire or lease the boats without excessive special financial facilities guaranteed, manufacturing without grants and assistance from aid donors within a reasonable period of time, identifying entrepreneurs and enterprises demonstrating long-term commitment and investing in the technology for the production facilities (for the boat building and the components), except, maybe, PT Kit already mentioned in previous projects.

The feasibility reports reflect a strong dependency syndrome concerning the whole programme: in every report the need for technical assistance during the forthcoming years is emphasized. Further grants and financial support by Dutch (and other) aid organizations are considered necessary also in the future. The assembly yards (or the hoped for ones) analyzed in the feasibility studies were created by technical assistance projects in the past.

All the three feasibility studies prepared within this project have, inter alia, one thing in common: encouraging the interested reader to address himself for technical assistance to the newly planned "Indonesian Netherlands Integrated Boat Building Project" (IBP). IBP is planned to start in 1989 and is expected to supply a wide range of technical, marketing and management assistance. Requests for assistance should be directed to LKI.

Compared to its national importance, in the report insufficient reference is made to official and governmental contacts and participation in the projects (except LKI).

(f) Programme-level analysis

(i) Three subsequential projects are interrelated, DP/INS/78/002, US/INS.85/172, US/INS.87/105.

(ii) The focus has been on Indonesia with some recent efforts to extend the programme to Mauritius, to West African countries and to Central America; a request from Cameroon has already been submitted for a market study (expected budget US\$200,000).

- (iii) No official reaction is known. Reference is made, however, to the report on 'the Indonesian boat building industry, opportunities for transfer of boat technology', prepared by the Technology and Development Group of the University of Twente in the Netherlands (author: M.E.M. Lips). The study was prepared in the context of the Integrated Boat Building Project (IBP) in Indonesia. While the author recognizes that the new project (commenced in May 1989) is mainly a continuation of the LKI-UNIDO project, he emphasizes that the objectives of IBP are different: "The long-term objectives of IBP is to contribute to the development of a self-sustaining boat building industry ... by enhancing national boat building consultancy capacity, and by continuing assistance to boat building entrepreneurs". Because the LKI-UNIDO boat building programme had not succeeded introducing modern wooden boat building with kit products, it changed its scope of activities to a programme that comes closer to a commercially viable approach (Chapter 4, p.14). The IBP is financed by the Directorate General, International Development Co-operation of the Netherlands. The executing agency is the Ocean Sailing Development (Holland) BV, the Indonesian counterpart is LKI (Institute for Entrepreneurship Development).
- (iv) Linkage with some other Dutch funded projects in Indonesia might be considered an advantage.

ORGANIZATIONS VISITED AND PERSONS MET

The Netherlands

Department General of International Co-operation

Mr. William L. Bronkhorst	Head of the Investment Section, Ministry of Foreign Affairs, Sector Programmes and Technical Advice Department
Mr. Theo Kolstee	Technical Advisor, Sector Programmes Co-ordination and Technical Advice Department

Benin

Mr. Edouard Zoungian	Director of Industry, Ministry of Industry and Energy
Mr. Sarhouedi	Deputy Resident Representative, UNDP
Ms. Ana Paula Pessoa	Programme Officer, UNDP
Mr. Graham Knight	Manager, Société Beninoise de Sidérurgie
Ms. Michelle Sison Knight	Second Secretary, U.S. Embassy
Mr. Ivan der Tegt	Second Secretary, The Netherlands Embassy (Lagos)

Burkina Faso

Mr. B.G. Meyerman	First Secretary, The Netherlands Embassy
Ms. A.H. Gosses	First Secretary, The Netherlands Embassy
Mr. C.P.C. Metcalf	UNDP Resident Representative
Mr. E.G. de Pélichy	Programme Officer, UNDP
Mr. G. Piagne	Resident Representative, FAO
Mr. B.U. Somda	Director of Industrial Development, Ministry of Economic Promotion

UNIDO, Vienna

Mr. L.C. Alexandrenne	Deputy Director-General, Department of External Relations, Public Information, Language and Documentation Services
Mr. B. Andrasevic	former Chief, Project Review Committee Secretariat and Funds Administration Section
Ms. D. Magliani	Industrial Development Officer, PRC Secretariat and Funds Administration Section
Ms. C. Valotta	Industrial Development Officer, PRC Secretariat and Funds Administration Section
Mr. E. Bull	Chief, Accounts and Payments Section
Ms. M. Kiener	Accounts and Payments Section
Mr. O. Gonzalez-Hernandez	Chief, Evaluation Staff
Mr. H. Heep	Senior Evaluation Officer, Evaluation Staff
Mr. M. Nogueira de Silva	Industrial Development Officer, Metallurgical Industries Branch

Mr. J. Berg	Senior Industrial Development Officer, Agro-based Industries Branch
Mr. M. Nestvold	UNIDO consultant (leather)
Mr. W. Behrens	Head, Feasibility Studies Branch
Mr. E. Amaizo	Associate Industrial Development Officer, Feasibility Studies Branch
Ms. C. Collella	Feasibility Studies Branch
Mr. E. Galama	Associate Expert, Feasibility Studies Branch
Mr. D. Ghozali	Senior Industrial Development Officer, Feasibility Studies Branch
Mr. L. Kurowski	Industrial Development Officer, Feasibility Studies Branch
Mr. U. Loeser	Senior Industrial Development Officer, Feasibility Studies Branch

IN-DEPTH EVALUATION OF THE
PRE-INVESTMENT STUDIES FINANCED BY THE
GOVERNMENT OF THE NETHERLANDS THROUGH THE UNIDF

Terms of reference

I. BACKGROUND

On 25 February 1985 an agreement between the Government of the Netherlands and UNIDO was signed covering a special purpose contribution to the UNIDF. The purpose of the contribution was to "assist developing countries in the elaboration of pre-investment studies for individual project in the industrial sector, preferably opportunity or pre-feasibility studies."

The agreement covered a contribution of dfl. 1.5 million including the 13% overhead. A second agreement with identical terms and a value of dfl. 1.0 million was signed on 5 December 1986.

The agreements stated further that:

"Opportunity studies will be undertaken or projects identified either by the host country government or by UNIDO; pre-feasibility studies however will be undertaken only if a potential project sponsor has been identified."

"Preferably, projects should be located in least developed countries."

"It is understood that, for the preparation of pre-feasibility studies, the host organization of the recipient country is expected to provide, at its expense, counterpart contributions, such as accommodation and transport or otherwise make sufficient funds, in local currency, available to offset the cost of these items, details to be specified in the project data sheet."

"UNIDO shall implement the project by the recruitment of consultancy firms or individual experts for the elaboration of pre-investment studies on individual projects in the industrial sector".

"In implementing the project, UNIDO should preferably use technical expert services from developing countries or from the Netherlands."

In addition, the Government of the Netherlands indicated, based on their own policies and priorities, a number of priority developing countries that the pre-investment activities should be aimed at.

A full list of sub-projects financed from the contribution of the Netherlands is attached as Annex I.

A small part of the funds made available through the UNIDF contribution has been used in agreement between the two parties for two projects not related to pre-investment work. The evaluation does not cover these sub-projects.

As the funds made available have now been utilized, it has been decided by the Government of the Netherlands that an in-depth evaluation of the overall programme should be carried out before a decision concerning a possible continuation will be made. Such an evaluation could also contribute to improved operating procedures for the programme if continued.

II. SCOPE, PURPOSE AND METHODS OF THE EVALUATION

The primary purposes of the in-depth evaluation are:

(a) To assess the achievements of the Netherlands-financed programme of pre-investment studies against the objectives and expected results (interalia against the background of Netherlands policy vis-à-vis industrialization of developing countries);

(b) To identify and assess the factors that have facilitated the achievements of the programme as well as of those factors that have impeded the programme; and

(c) To examine the extent to which the results of the programme, in terms of studies and other outputs, have contributed towards actual investments materializing as well as contributed to an improvement in those investment decisions and to determine the significance of such investments for employment, economic growth, environment and the position of women.

Apart of the above mentioned purposes the evaluation will also review whether the approach utilized in the programme and the administrative arrangements have led to optimum results or whether other approaches could have improved the results. The evaluation will include a review of the following:

(a) Origin of requests:

- (i) Countries, type of countries;
- (ii) Type of industries (medium vs. large, agro vs. other);
- (iii) Were the studies requested by Ministries, enterprises, associations, financing organizations;
- (iv) Was there a sponsor for the study?;
- (v) What types of studies were financed (opportunities, pre-feasibility and feasibility studies);
- (vi) Was the project a follow-up to previous pre-investment work or just the start of it?

(b) Mechanism of approval:

- (i) Approval process (selection procedure, including criteria for selection of the Netherlands as donor, review of similar, if any, co-financing programmes with other donors);
- (ii) Time required for approval by UNIDO and by the Government of the Netherlands;
- (iii) Criteria for approval;

(c) Execution of studies:

- (i) Usual duration; how much delay in implementation?
- (ii) Who implemented the studies: sub-contracts, individual experts, use of national capabilities;

- (iii) Was there any training component, computer/COMFAR component:
- (iv) How were studies presented to decision-makers - meetings, presentation, "push"?

(d) Quality of studies:

- (i) Scope (e.g. was the feasibility study really a full feasibility study; was pre-feasibility study excessive in analysis making feasibility studies unnecessary; was too much effort devoted to financial analysis vs. technical);
- (ii) Quality and extent of technical analysis;
- (iii) Quality and extent of market analysis;
- (iv) How complete was the financial analysis, including identification of sources of finance and structure of investment;
- (v) Was an economic (cost benefit) analysis done;
- (vi) Did the study review environment and other considerations (such as position of women).

(e) Follow-up to project:

- (i) How many opportunity studies resulted in pre-feasibility studies?
- (ii) How many pre-feasibility studies resulted in full-scale feasibility studies?
- (iii) How many of the studies resulted in decision or actual investment?
- (iv) Impact of actual investments.

(f) Programme-level analysis:

- (i) Was there any connection or complementarity between individual projects;
- (ii) Was there a focus on specific region, type of country or type of industry;
- (iii) Are studies/reports examined or approved by the Netherlands, either in-progress or after completion?
- (iv) Was there any feedback from the Netherlands on the studies?
- (v) Was there any involvement of the Netherlands in the follow-up?
- (vi) Did the contribution from the Netherlands improve the effectiveness of the UNIDO programme (more studies, more rapid implementation, etc.);
- (vii) Advantages and disadvantages for the Netherlands of co-operating with UNIDO in this programme.

III. COMPOSITION OF THE EVALUATION TEAM

The evaluation team will be composed of the following:

- One representative of the Government of the Netherlands;
- One representative of UNIDO.

In view of the broader economist background of the Netherlands consultant already selected and financed by the Netherlands, the UNIDO consultant should have extensive experience in pre-investment activities in developing countries and be knowledgeable of UNIDO feasibility study standards, methodologies and procedures. The UNIDO representative should not have been involved in any aspect of the programme concerned.

IV. CONSULTATIONS AT HEADQUARTERS AND IN THE FIELD

The Netherlands consultant will start work in the Netherlands to gather information from the Netherlands Government officials involved and to interview any Dutch company involved in carrying out the studies. Moreover, the Netherlands consultant will travel to Benin and Burkino Faso to consult with UNDP, government representatives and project sponsors involved with the studies carried out in those countries. The timing and organization of these field missions will be the responsibility of the Netherlands Government.

Whether a third country should be visited will be mutually decided upon by the Team in consultation with UNIDO and the Netherlands Government. The criteria for an additional mission will depend on the need to determine the extent to which actual investment has materialized or the likelihood that it will materialize.

The UNIDO consultant will spend two weeks prior to 26 October to review all files and interview relevant officials responsible for the programme in the Feasibility Studies Branch and associated branches to gather information on programme implementation. He will also prepare a critical analysis of the pre-investment studies carried out so far.

The UNIDO consultant will, in addition, from 26 October join the Netherlands consultant for two weeks in reviewing all the information and materials gathered; discuss the analyses of the studies completed; interview pertinent staff; and prepare the first draft of the final report.

The Netherlands consultant will then return to the Netherlands to further interview Dutch companies and Government officials involved and finalize the study.

The Team will reassemble in Vienna for the presentation of the report before it is formally submitted to UNIDO and the Netherlands Government. This will take two days.

V. TIMETABLE AND REPORT OF THE EVALUATION

The evaluation is expected to start on 12 September when the consultant visits Benin.

<u>Netherlands Consultant*</u>		<u>UNIDO Consultant</u>
	<u>Weeks</u>	
12. 9-15. 9 Benin		
25. 9-28. 9 Burkino Faso		
10.10-25.10 -	2	UNIDO Headquarters
26.10- 9.11 UNIDO Headquarters	2	UNIDO Headquarters

(Plus two additional days in Vienna to be determined.) Four weeks and two days' time will be required for UNIDO consultant.

*Duration of assignment and remuneration of the Netherlands consultant will be arranged by his Government.



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

VIENNA INTERNATIONAL CENTRE

P.O. BOX 300, A-1400 VIENNA, AUSTRIA

TELEPHONE: 26 310 TELEGRAPHIC ADDRESS: UNIDO VIENNA TELEX: 135612 UNO FAX: 232156

UNIDO/IO/SD/FEAS

January 1989

UNIDO's

PRE-INVESTMENT STUDIES PROGRAMME

Feasibility Studies*

Prepared by the
Feasibility Studies Branch
Department of Industrial Operations

* This document has been reproduced without formal editing.

UNIDO ACTIVITIES IN PRE-INVESTMENT STUDIES

I. INTRODUCTION

Investment is considered the central ingredient of industrialization. Hence, Governments are keen on implementing measures and policies within their specific development objectives that would contribute to a high rate of investment. There are many factors influencing industrial investment among which domestic capability to handle pre-investment and investment activities may be considered crucial. In many developing countries the established institutions entrusted with the responsibility to map out industrial strategy, to prepare pre-investment studies and to implement industrial projects, still require assistance to undertake these tasks. The industrialized world possesses the resources to assist the developing countries in the industrialization process, and UNIDO possesses the mandate from its member states to translate these resources into appropriate technical assistance projects and programmes. Accordingly, UNIDO has oriented its technical assistance programme to expand co-operation with Governments, public and private enterprises, chambers of commerce and industry and research and industrial institutions. This broader role of UNIDO, which started with its conversion into a specialized agency in 1986, should bring benefits to all participants.

It is an accepted principle that pre-investment studies are an indispensable pre-requisite to the investment decision. To minimize costs, project development goes through a number of inter-related stages. It starts with project identification. A project idea is then elaborated through a number of stages referred to as the project preparation cycle, i.e. opportunity study, support or functional study, pre-feasibility study and, finally, the feasibility study. It is understood that only when a completed stage of the pre-investment work shows promising results, then the next stage is attempted. Project preparation, therefore, is a complicated task requiring highly skilled specialists in a variety of fields. Notwithstanding the value of a good pre-investment study, the UNIDO experience shows that often such studies are not up to the standard required for investment decisions. It is sometimes the case that studies prepared by equipment suppliers, perhaps free of charge, do not cover all aspects of the study, and tend to concentrate on the equipment and engineering requirements. These studies cannot be useful for evaluation by development finance institutions and cannot serve as a sound basis for an investment decision.

There are also cases where the pre-investment study is prepared by a consulting firm for a fee, but where the financial and economic aspects are either ignored or inadequately covered, or the study does not take into account the local conditions of the country where the project will function. Therefore, improving the quality of pre-investment studies should be an important concern of Governments.

In brief, the preparation of pre-investment studies is a necessity for the following reasons: (a) to avoid wasting domestic resources; (b) to enable Governments and individuals to reach rational investment decisions; (c) to attract internal and external financing, and (d) to facilitate the project's implementation. Needless to say, the funds expended on pre-investment studies are worthwhile even if the study should show a negative viability for the project. Development finance institutions have often complained about the shortage of bankable projects which means that good quality pre-investment studies are hard to find. This anomaly deserves to be examined by those concerned in each developing country and its causes identified and measures taken to deal with them.

The question of financing pre-investment studies has to be faced every time a project idea is identified. Such financing may be provided by the Government or the investor from own funds, or by a financial institution, whether domestic or international, which would eventually co-sponsor the project, or by an external source. UNIDO succeeded in obtaining funds from a number of bilateral donors to finance pre-investment studies under certain conditions. Moreover, UNIDO is urging the private sector in industrialized countries to participate in the process of industrialization in the Third World by making available their expertise, both technical and economic, and by investing as partners in industrial enterprises.

UNIDO's broad scope of activities in the industrial field, its world-wide coverage, and its role as a catalytic agent, enables it to respond effectively to the needs of the developing countries by channelling the resources made available by the developed countries.

II. THE PRE-INVESTMENT STUDIES PROGRAMME

This programme at UNIDO aims at achieving the important objective of building and strengthening national capacities and capabilities with a view to attain the following objectives:

- (a) Raising the level of local skills by introducing and demonstrating the methodology and requirements for preparing feasibility studies in a comprehensive and balanced manner;
- (b) Establishing the required institutional infrastructure both at national and regional levels which will identify, formulate, evaluate and select industrial projects in terms of their technical and financial feasibility as well as economic and social benefits and costs;
- (c) Assisting developing countries in making the proper decision for the implementation of a specific industrial investment by undertaking or supervising the preparation of the pre-investment study.

UNIDO responds to Government requests for assistance in this field in a variety of modes as explained below.

1) Assistance in Industrial Investment Project Identification, Preparation and Evaluation

The methodology for project preparation and evaluation is based on the Manual for the Preparation of Industrial Feasibility Studies which was published by UNIDO in 1978 and which has received wide acceptance. The Manual is practical in approach; it offers a single format and set of procedures which could be applied to a wide spectrum of industrial projects. Industrial development centres, industrial development banks and public and private consulting firms in developing countries should benefit especially from the Manual. The numerous individual experts assigned to project planning authorities in developing countries should also be able to take advantage of it.

UNIDO has a long experience in the preparation and evaluation of pre-investment studies and will continue to respond to Government requests for such assistance. The studies supervised by UNIDO are prepared with impartiality, confidentiality and highest standards and at reasonable cost. Moreover, UNIDO requests beneficiary countries to involve local staff as well in the preparation of pre-investment studies in order to acquaint them with the methodology and concepts. Experts or consulting firms from developing countries may be selected to undertake such assignments where appropriate. Private industrial enterprises in developed countries are encouraged to participate by contributing their expertise with the expectation of following up investment potential.

UNIDO's pre-investment studies programme covers a wide range of industrial subsectors, in particular agro-based and light industries, chemical and pharmaceutical, metallurgy light and heavy engineering industries, capital goods and energy.

Between 1984 and 1988 UNIDO has carried out over 80 pre-feasibility and feasibility studies of which close to 30 % have led to positive investment decisions and subsequent investments. This unusually high result was achieved through careful screening of the projects to be studied, integration of the project sponsor/promoter into the feasibility study teams, co-financing of the feasibility study costs by the promoters and timely involvement of the banks.

2) Industrial Project Preparation Facility

The financing of pre-investment studies is a problem faced by many developing and least developed countries as they are unable to meet such costs in foreign currencies. For this reason and at the initiative of UNIDO, so far the Governments of the Federal Republic of Germany, the Kingdom of the Netherlands, Switzerland, France, Italy and Austria provided Special Purpose Contributions to cover such costs under certain conditions. This Industrial Project Preparation Facility of the UN Industrial Development Fund is gradually expanding as additional funds are being provided and more developing countries are benefitting. UNIDO will consider requests from developing and least developed countries for such assistance provided beneficiary countries agree to meet local costs.

3) Assistance in the Application of the Computer Model for Feasibility Analysis and Reporting (COMFAR)

In view of the wide application of the Manual for the Preparation of Industrial Feasibility Studies, UNIDO has developed a Computer Model for Feasibility Analysis and Reporting (COMFAR 2.1). The COMFAR software may be useful to banks, investors, experts, consultants, consulting firms, and UNIDO staff as well as international and national institutions active in the preparation, evaluation and financing of industrial investment projects.

COMFAR is composed of three different modules: The financial analysis module facilitates and accelerates the computations required for the preparation and evaluation of financial statements, financial and efficiency ratios, rates of return, etc., for opportunity, pre-feasibility and feasibility studies.

The Cost Benefit Analysis (CBA) module facilitates the appraisal of economic impacts of an investment project. Using also a dialogue approach, the CBA module offers the user various options to define adjusted market prices for all major inputs and outputs and the possibility of compensating for foreign exchange rate distortions. The CBA model produces automatically adjusted cash flows, net income flows and efficiency tests.

The GRAFIX module was designed to increase further the effectiveness of COMFAR. It facilitates the presentation of both financial and economic findings. The dialogue-oriented module offers 26 standardized charts on production costs, break-even conditions, cash-flows (financial and economic) and economic impacts. The GRAFIX module also facilitates interactive sensitivity analysis of all major project parameters and allows the results to be printed or displayed on screen instantaneously.

The facility to determine both financial and economic impacts and carry out sensitivity analysis and the possibility of a graphics presentation make COMFAR a powerful tool with a large potential for increasing the effectiveness and transparency of investment decision processes.

COMFAR is available in Arabic, Chinese, English, French, German, Russian and Spanish. Under preparation are Hebrew and Polish. Close to 400 COMFAR systems are in operation in more than 115 countries. Many countries are applying COMFAR for joint venture negotiations such as the USSR, where the system is used by key investment, consulting and promotion organizations for East/West joint ventures. COMFAR is widely used, inter alia, in the Federal Republic of Germany, the Netherlands, Saudi Arabia, Zambia, Ethiopia, Poland and Sweden.

In order to assist countries to obtain and apply the COMFAR software, UNIDO developed a training programme. For the success of the training programme, it is indispensable that nationals should have the requisite background including thorough knowledge of the UNIDO Manual for the Preparation of Industrial Feasibility Studies.

A brochure giving full details of this computer programme, its price and the hardware requirements, is available.

4) Assistance in Strengthening National Capabilities in Pre-Investment Studies and Investment Follow-up

The setting up of a National Industrial Advisory Service or of an Industrial Investment Project Preparation and Appraisal Unit, attached to the appropriate substantive Ministry, industrial development bank or industrial consulting firm, is a desirable step to be taken by each developing country even though it will take some time to build its capacity fully. Such an Advisory Service would consist of a nucleus of local specialists who would be complemented by drawing on international experts. UNIDO has been assisting developing countries in setting up advisory services or project planning units which have been tailored to the country's particular needs. Such assistance usually takes the form of a team of experts composed of an Industrial Economist (Team Leader), Market and Financial Analysts, a Mechanical Engineer and other engineers whose specializations will be determined by the specific

needs of the country concerned. This type of assistance is cost-effective as it will enable the beneficiary country to undertake pre-investment studies as well as provide on-the-job-training and lay the foundation for a permanent institutional mechanism.

During 1987 and 1988 several development finance institutions (e.g. from Ghana, Indonesia, the Seychelles and Pakistan) have requested UNIDO's Feasibility Studies Branch to establish project appraisal units in order to strengthen the bank's capabilities in project evaluation.

There is also a case for this kind of service to be set up on a regional basis to serve as well a number of neighbouring countries. The regional facility could undertake consultancy and advisory services at the request of member countries for a fee and in some cases free of charge, depending on the financial ability of the beneficiary country. It could also undertake training activities and encourage the formation and strengthening of counterpart local units in the member countries with which it would maintain a working relationship aimed at decentralizing certain functions and activities. Currently UNIDO is initiating a large-scale technical assistance project along these lines with the West African Development Bank (BOAD) in Lomé, Togo.

A brochure is available outlining details of the type of assistance UNIDO provides to set up industrial advisory units.

5) Assistance to Upgrade National Capabilities in Pre-investment Studies and Investment Follow-up

The shortage of trained manpower in many developing countries has been a major handicap in the preparation of pre-investment studies. This poses a serious constraint in the process of industrialization. It has been clearly recognized that the ability of a country to raise its rate of industrial investment depends on its capacity to design and promote viable projects. In the long run, training policies should aim at achieving self-sufficiency in meeting training requirements, preferably at the national level. For the short run, co-operation among developing countries as well as international co-operation in this domain is a necessary option.

In response to the acute needs of developing countries for upgrading of skills in the preparation of pre-investment studies, UNIDO has been organizing over 150 seminars at national, regional and interregional levels during the past eight years. These programmes are designed to provide economists and engineers in a relatively short time (from 2 to 8 weeks) with the necessary knowledge, both theoretical and practical, in advanced methods and techniques of project preparation, evaluation, financing and promotion. The seminar is conducted by a team of consultants, using the Manual for the Preparation of Industrial Feasibility Studies and the COMFAR software as some of their basic teaching materials. Interregional seminars are co-financed with donor Governments from developed countries. These have been very popular judging by the number of applicants, many of whom cannot be accommodated. UNIDO is seeking more donor countries to co-finance such training courses. Recently UNIDO has also received requests from industrialized countries (Finland, Switzerland, the Federal Republic of Germany, USSR, etc.) to conduct such seminars.

A programme of inter-university co-operation on project preparation and evaluation was established and is continuously being expanded to include universities and specialized institutes from Algiers, Belgrade, Bradford, Copenhagen, Delft, Eindhoven, Hamburg, Helsinki, Nuremberg, Twente, Warsaw and Zagreb. Negotiations are under way with universities in Austria, France, USA and USSR. The objective of this programme is to standardize industrial project preparation.

A brochure is available outlining the seminar programme and giving details about the lectures, duration and contents.

6) Assistance in Enterprise Rehabilitation Studies

In the past two decades many developing countries have experienced rapid industrial expansion. For various reasons, the momentum could not be sustained. Worse still, many existing industries are operating much below capacity and some have closed down while others are threatened with closure.

Therefore, UNIDO is stepping up its assistance in rehabilitation and restructuring of ailing industrial enterprises. The purpose of a rehabilitation study is to ascertain the factors and causes that limit the enterprise from achieving its full potential and to recommend remedial and corrective measures to render it viable. Often the approach is multi-disciplinary covering such aspects as the market, product, management, technology and equipment, maintenance practices, labour and staff, and financing requirements.

7) Assistance in Project Implementation and Promotion

Upon completion of a feasibility study, a decision to implement a viable project would entail the search for a financing institution, the negotiations concerning technology and management contracts, marketing arrangements, tendering procedures and engineering design and supervision contracts, etc. UNIDO can provide technical assistance in all these arrangements. There is much scope for the private sector in industrialized countries to participate. For example, there are many forms of technology that are no longer applicable to the industrial environment of developed countries, that could still be used or adapted for use in developing countries. UNIDO's programme offers industry an opportunity to promote the sale of "off-the-shelf" technology to the mutual benefit of all parties concerned.

UNIDO works with a network of 600 investment promotion agencies worldwide and maintains Investment Promotion Services offices in New York, Cologne, Milan, Paris, Seoul, Tokyo, Vienna, Warsaw and Zurich. These offices serve as a direct link to foreign business and governments.

UNIDO promotes specific projects by identifying prospective business partners, providing information on investment conditions and assisting in programming financial packages.

8) Publications

The Feasibility Studies Branch maintains an active research and development programme to design advanced methodologies on project preparation and evaluation.

The following publications are available upon request:

- Manual for the Preparation of Industrial Feasibility Studies: US\$ 15 covers project preparation and financial evaluation (ID/206), available in Chinese, Czech, Dahri, Danish, English, French, German, Hungarian, Russian, Serbo-Croatian, Spanish, Turkish, Arabic, Polish, Portuguese and Japanese. A second, revised edition is under preparation.
- Computer Model for Feasibility Analysis and Reporting (COMFAR):
(Please refer to price list available on request)
Software programme for financial, economic and graphic analysis of industrial investment projects. Available in Arabic, Chinese, English, French, German, Russian and Spanish; Hebrew and Polish under preparation.
- Guidelines for Project Evaluation (ID/SER.H/2): US\$ 25; and Guide to Practical Project Appraisal (ID/SER.H/3): US\$ 10 deal with socio-economic evaluation, available in Chinese (ID/SER.H/2 only), English, French and Spanish.
- Manual for Evaluation of Industrial Projects (ID/244): US\$ 9 presents a methodology based on national value-added concepts and is applicable to all developing countries. Available in English, French and Spanish.

UNDER PREPARATION:

- Manual for the Preparation and Evaluation of Feasibility Studies for Small Industrial Enterprise Investment Projects

III. HOW TO APPLY

Government authorities should direct all requests for UNIDO assistance to the Resident Representative of the United Nations Development Programme (UNDP). UNIDO is represented in a number of countries by a Senior Industrial Development Field Adviser (SIDFA). The staff of the UNDP Resident Representative's Office and the SIDFA will be in a position to explain in detail the procedures to be followed.

The UNDP office usually has to agree to the source of finance before requests are made. In addition to UNDP financing, UNIDO has its own source of funds which can be made available for activities such as training workshops, short-term consultants and fellowships/study tours.

In all cases it is advisable to initiate a request well in advance.

Further information may be obtained from:

Feasibility Studies Branch
Department of Industrial Operations
UNIDO, Vienna International Centre
P.O.Box 300
A-1400 Vienna, Austria
Telephone: (0)222 2631 3744
Telex: 135612 un a
Telefax: 232156

IDF DONOR STATEMENT (Provisional)
(Special Purpose)

Annex V

Donor: Netherlands (All figures in US dollars) As at: 31/12/1989 (3rd cut-off)

A. CONDITIONAL PLEDGES

1	1986/88	1304348	
2	1989 and future		
3	Subtotal	1304348	
4	Exchange adjustments, 1986/89	184517	
5	Total conditional pledges	1488865	1488865

B. FIRM IDF PLEDGES (projects approved)

1	1986/88	649226	
2	1989	829446	
3	1990 and future	597196	
4	Total firm pledges	2075868	2075868

C. PROGRAMMABLE BALANCE (A minus B)

-587003

D. FUNDS RECEIVED

1	Balance from UNIDF	292528	
2	IDF contributions - 1986/88	1185051	
3	IDF contributions - 1989	717217	
4	Subtotal	2194796	
5	Interest income 1988	14916	
6	Interest income 1989		
7	Subtotal	14916	
8	Miscellaneous income		
9	Total funds received	2209712	
10	Currency re/evaluation	19390	
11	Current value of funds received	2229102	2229102

E. FIRM PLEDGES UNPAID (if negative, deferred income) (B minus D)

-153214

F. EXPENDITURE

1	History projects - expenditure	164307	
2	History projects - support costs	21425	
3	Subtotal	185732	
4	Current projects - expenditure, prior years	409729	
5	Current projects - support costs, prior years	53265	
6	Subtotal	462994	
7	Current projects - expenditure, current year	569883	
8	Current projects - support costs, current year	74046	
9	Subtotal	643929	
10	Total expenditure	1292655	1292655

G. FUNDS ON HAND (D minus F)

936227

H. UNSPENT BALANCE of approvals (B minus F)

78015

I. UNCOMMITTED FUNDS (if negative, funds required) (G minus H)

153214

UNIDO - FINANCIAL SERVICES - APS

Annex to donor statement

IDF - Special purpose convertible

Country/Org.: Netherlands

Status as at 31/12/89

Project and Status	Total Allots	ORIDF Exp	PRIOR YEARS			PHASING			OH (on 6, 7, 8)	TOTAL (6+7 +8+9)	1989			
			Exp	OH	Total	1988 & PY	1989	1990 & FY			Disb	Obl	OH	Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
USANG87075 O	8000		39357	11616	100973		8643		1124	9767	7786		1012	8793
USGL068236 O	49000		2171	282	2453	5554	41275		6088	52917	45912		5969	51881
USGL038282 C	45382						45382		5900	51282	43886		5705	49591
USGL069171 M	376000						41778	334222	48880	424880	24035	1660	3366	29261
USINS85172 G	93097		93350	12136	105486		-253		-33	-286	-254		-33	-287
USINS87105 O	132155		108810	14145	122955		23345		3035	26380	17720	100	2317	20137
USMLT86210 O	93000		40127	5217	45344		52873		6873	59746	51421		6685	58106
USMLW86149 G	13870		13870	1803	15673									
USRAF87069 C	122500						122500		15925	138425	123299		16029	139328
USRAF87141 O	120000					120000			15600	135600				
USRAF87241 C	65240		62044	8066	70110	3196			415	3611	-621		-81	-702
USRLA86117 M	98000						98000		12740	110740	51906	39262	11852	103020
USZINS87243 O	88000						88000		11440	99440	62908	12160	9759	84827
USZINS8100 M	278000						83730	194270	36140	314140	27338	60865	11466	99669
Totals	1672244		409729	53265	462994	128750	605273	528492	164127	1426642	455336	114247	74046	643629

