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**INDUSTRIAL PROJECTS DEVELOPMENT
PHASE III**

DP/ETH/83/013

PEOPLE'S DEMOCRATIC REPUBLIC OF ETHIOPIA

Report of the Evaluation Mission*

Prepared in co-operation with the Government of Ethiopia,
the United Nations Development Programme and
the United Nations Industrial Development Organization

United Nations Industrial Development Organization

Vienna

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SUMMARY OF IN-DEPTH PROJECT EVALUATION

PART A

Project Number: DP/ETH/83/013
 Project Title: Industrial Project Development, Phase III

<u>Executing Agency</u>	<u>UNDP Budget (\$)</u>	<u>Date project approved</u>	<u>Dates of evaluation</u>
UNIDO	1,910,000	31 August 1984	12-27 April 1988
<u>Government Implementing Agency</u>	<u>Gov. budget (Eth. Birr)</u>	<u>Date operations started</u>	
Ministry of Industry	650,000	1 January 1984	

I. Summary of project objective and outputs

The project focused on (a) the improvement of the operation and management of existing industrial plants, (b) the development of export markets for manufactured goods, and (c) strengthening capabilities for the successful implementation of the Ethiopian Ten-Year Perspective Plan. The numerous outputs are listed in Chapter III.

II. Purpose of the evaluation mission

- (a) To reappraise project objectives, outputs, activities and inputs so that future projects can benefit from such an overall assessment;
- (b) Assess the extent to which the project has succeeded in achieving its objectives and produced planned outputs;
- (c) Assess the project's impact on the industrial sector;
- (d) Assess the difficulties and opportunities connected with "multi-faceted umbrella" projects;
- (e) Draw overall lessons for the future.

III. Findings of the evaluation mission

The project's "umbrella" approach was appropriate and successful in delivering a well identified and co-ordinated programme of technical assistance to meet diversified needs. The programme focused on strengthening the Ministry of Industry's capability to implement its portion of Ethiopia's development plan. Furthermore it provided direct training and expertise to the many production enterprises under the Ministry of Industry.

Project design was adequate; yet the original draft project design would have provided a better "blue print" for project implementation management and reporting.

A major contributor to project success was the strong and unified management structure established by the Ministry of Industry to manage and monitor project implementation.

Project short-falls and its many successes are documented in Chapter III of this report.

IV. Recommendations of the evaluation mission

1. UNDP should develop criteria, policies and procedures for "umbrella" projects.

2. "Umbrella" project design should reflect the fact that it is a programme made up of sub-projects. Each of which requires an abbreviated sub-project document with objectives, outputs, activities, inputs, etc. A master project document should summarize and pull together the sub-projects under an overriding development objective.

3. "Umbrella" projects require a strong centralized co-ordination and management unit. The co-ordination unit should have access to authority and be placed in a position where it is able to effectively monitor implementation performance and changing assistance needs.

4. Given the success of the project, the many needs of industry and its apparent ability to absorb and make effective use of technical assistance, a continuation of a similar programme of assistance is recommended.

V. Lessons learned

The lessons learned in this evaluation revolve around the "umbrella" project concept. The project is considered to be a relatively successful "umbrella" project, the factors which made it successful have been recorded. Since many other "umbrella" projects are poorly designed, implemented and monitored, UNDP needs to develop policies and procedures specific to "umbrella" projects.

VI. Evaluation team

H. Kraft, UNDP Consultant, Team Leader

Ato Bekele Desta, Senior Expert, Office for the State Committee for Economic Relations (OSCFER)

Ato Megersa Wak Jira, Head, Planning Department, Ethiopian Food Corporation

Hans H. Heep, Evaluation Staff, UNIDO

PART B (to be completed by UNDP Resident Representative and to be sent to UNDP Regional Bureau, UNIDO Headquarters and the Government, together with the report)

I. Report of the Evaluation Mission sent to:

(list names and affiliations of recipients and the date of transmittal)

II. Comments of UNDP field offices:

(brief comments on effectiveness and relevance of evaluation, specifically the findings, recommendations and required follow-up)

PART C (to be completed by UNDP or Executing Agency headquarters and sent to the UNDP Resident Representative and Regional Bureau concerned within one month after receipt of the report and Parts A and B of this summary)

Summarize comments on technical and managerial aspects of findings, recommendations and lessons learned.

PART D (to be completed by the UNDP Resident Representative 12 months after the completion of the evaluation)

Follow-up taken place:

(Record and comment on any actions that have taken place as a result of or follow-up to the evaluation. Comment specifically on all recommendations made in the evaluation report.)

LIST OF ABBREVIATIONS USED

Birr	Ethiopia Currency (1 US\$ = 2.07 Birr)
DRR	Deputy Resident Representative
EDP	Electronic Data Processing
JPO	Junior Professional Officer
MIS	Management Information System
MOI	Ministry of Industry
M/m	Man Month
NPC	National Project Co-ordinator
NPO	National Project Officer
SIDFA	Senior Industrial Development Officer
UNDP	United Nations Development Programme
UNIDC	United Nations Industrial Development Organization

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INTRODUCTION

The project evaluated was implemented from 1984 to 1986, with residual activity during 1987. Similar project assistance to the Ethiopian industrial sector had already started in 1975 with DP/ETH/75/008, which was implemented from 1975 to 1979. A second phase, DP/ETH/80/013, was implemented from 1980 to 1983.

The two previous phases intended to develop new industrial project proposals in priority areas; improve the performance of selected enterprises; help with industrial planning; prepare sub-sector analyses; improve pre-investment activities and train staff in the Ministry of Industry and in the enterprises.

The third phase, DP/ETH/83/013, was designed to address the increasing shortages of skilled industrial manpower, the lack of effective enterprise management and operating systems and improve the Government's ability to carry out industrial sector medium- and long-term plans.

The third phase had the following project objectives:

- (a) Improved operational performance of selected industrial enterprises;
- (b) Increased exports of selected manufactured products;
- (c) A strengthened capacity at the Ministry of Industry to plan and implement industrial policies.

The third phase had forty-two outputs to produce. Despite the complexity of the project the tripartite review meeting held in November 1987 registered satisfaction on the outstanding performance of the project.

An in-depth tripartite evaluation of the first and second phases of the project was undertaken in May 1985. This evaluation is being conducted at the request of UNDP. The findings and recommendations of this evaluation are expected to serve as a basis for the determination of the nature of future technical assistance to the industrial sector.

The evaluation mission was carried out from 12 to 27 April 1988. The evaluation team had four members: the Team Leader, Mr. H. Kraft, UNDP Consultant; Mr. Ato Bekele Desta, Senior Expert, Office of the State Committee for Economic Relations, and Mr. Ato Megersa Wakjira, Head of Planning Department, Ethiopian Food Corporation, were the Government designated team members; and Mr. Hans Heep, UNIDO Evaluation Officer, Office of the Director-General, represented UNIDO.

The team carried out its work by thoroughly reviewing the project files and reports, and interviewing UNIDO, UNDP, Ministry of Industry, corporation and enterprise officials and beneficiaries. The team received excellent support from the Ministry of Industry and the UNDP/UNIDO field representatives. For a complete list of persons met and organizations visited, see Annex II.

CHAPTER I. PROJECT CONCEPT AND DESIGN

A. Socio-economic and institutional context of the project

Socio-economic context

Although the development of the industrial sector is accorded a second priority to agriculture in the Ten-Year Perspective Plan, the sector is very much expected to play a significant role in the economic development of the country in terms of increased contribution to GDP and employment. During the formulation of the project, its contribution to GDP was about 15%, and it employed about 3% of the country's labour force. Out of the total contribution of the industrial sector to GDP, the manufacturing sub-sector accounted for 5.6% and handicrafts and small-scale industries contributed 4.5%.

Despite of its small contribution to GDP, the manufacturing sub-sector plays a leading role in meeting the objectives set in the Ten-Year Perspective Plan.

The manufacturing sub-sector includes small-, medium- and large-scale industries engaged in the production of food stuffs, beverages, textiles, leather and footwear, tobacco, chemicals, wood products, printing and publishing, metallic and non-metallic products.

In the sub-sector, there are about 430 medium- and large-scale manufacturing establishments. Out of these about 200 factories are under the control of the Government including six share companies. The number of medium-scale private manufacturing enterprises is about 230 while the estimated number of small-scale private manufacturing is about 600.

According to 1983 statistics, the total employment in the manufacturing industry was about 94,000. Out of these about 82,000 were employed in the public manufacturing sub-sector of which 41% was in textiles and 20% in the food-processing enterprises.

Out of 200 public owned enterprises 147 are under the Ministry of Industry organized under 10 corporations.

According to 1983 estimates, the gross value of manufacturing industries in the public sector was Birr 1.7 billion. In 1984 food, textiles, beverages, printing, wood, tanneries and shoe industries accounted for about 81% of the total industrial output while chemicals, metal and non-metallic mineral products accounted for the remaining 19%.

In the Ten-Year Perspective Plan, based on an average annual growth rate of about 12%, the industrial sector is expected to account for about 30% of the GDP at the end of the Ten-Year Plan period. Furthermore, the Plan envisages that the industrial sector will:

- Produce the necessary manufactured goods required to meet the needs of growing part of the population for basic necessities, such as food, drinking water, shelter and clothing;
- Supply agricultural equipment and other manufactured inputs required by the agricultural sector;
- Provide sufficient equipment and materials for the Government's civil construction programme;

- Contribute to the national effort to eradicate unemployment and under-employment; and
- Increase the country's foreign exchange savings (through import substitution).

Major problems faced by the manufacturing industries include, inter alia, the following:

- Uneven supply of essential raw materials;
- Obsolescence of machineries and equipment and non-availability of spare parts;
- Shortage of skilled manpower and insufficient managerial capability;
- Lack of proper maintenance;
- Low level labour productivity;
- Limited capital investment; and
- Weakened export demand.

The Government requested UNDP and UNIDO to assist in its efforts to help overcome these constraints during the first years of the Ten-Year Plan (1984-1986) and to base this assistance on the foundation established under the first two phases of "Industrial Projects Development" of which phase I was from 1975 to 1979 and phase II from 1980 to 1983.

Phase III, which covers the period of 1984-1986 and which was to address the problems listed above, has put emphasis on the improvement of operation and management of existing industrial plants, the development of the export market for the manufactured goods and strengthening the Ministry of Industry's capacity to successfully implement the Ten-Year Perspective Plan.

UNDP/UNIDO Phase III project assistance has been rendered in the form of experts services, sub-contracts for pre-investment studies, study tours, fellowships and equipment. Institution capacity building included assistance for initiating actions required to eventually establish a modern information system and to strengthen the documentation centre at the Ministry of Industry. The main sub-sectors targeted to benefit from project assistance were:

- (a) Leather and leather products;
- (b) Chemical sub-sectors and related industries;
- (c) Metal processing;
- (d) Beverages;
- (e) Textiles;
- (f) Food.

Sub-sectoral assistance included mostly training to meet very specific needs and technical consultancy advice to a large number of manufacturing establishments.

Institutional context

The MOI is responsible for the direction, supervision and planning of the development of most public sector industrial enterprises. The Ministry has taken a number of measures to improve the development of the sector. These included, inter alia, reorganizing the industrial enterprises into corporations, with each corporation responsible for enterprises falling in a particular sub-sector; developing the expertise to manage and operate these industries by up-grading and training the available manpower; formulating operational, administrative and financial procedures and guidelines, etc.

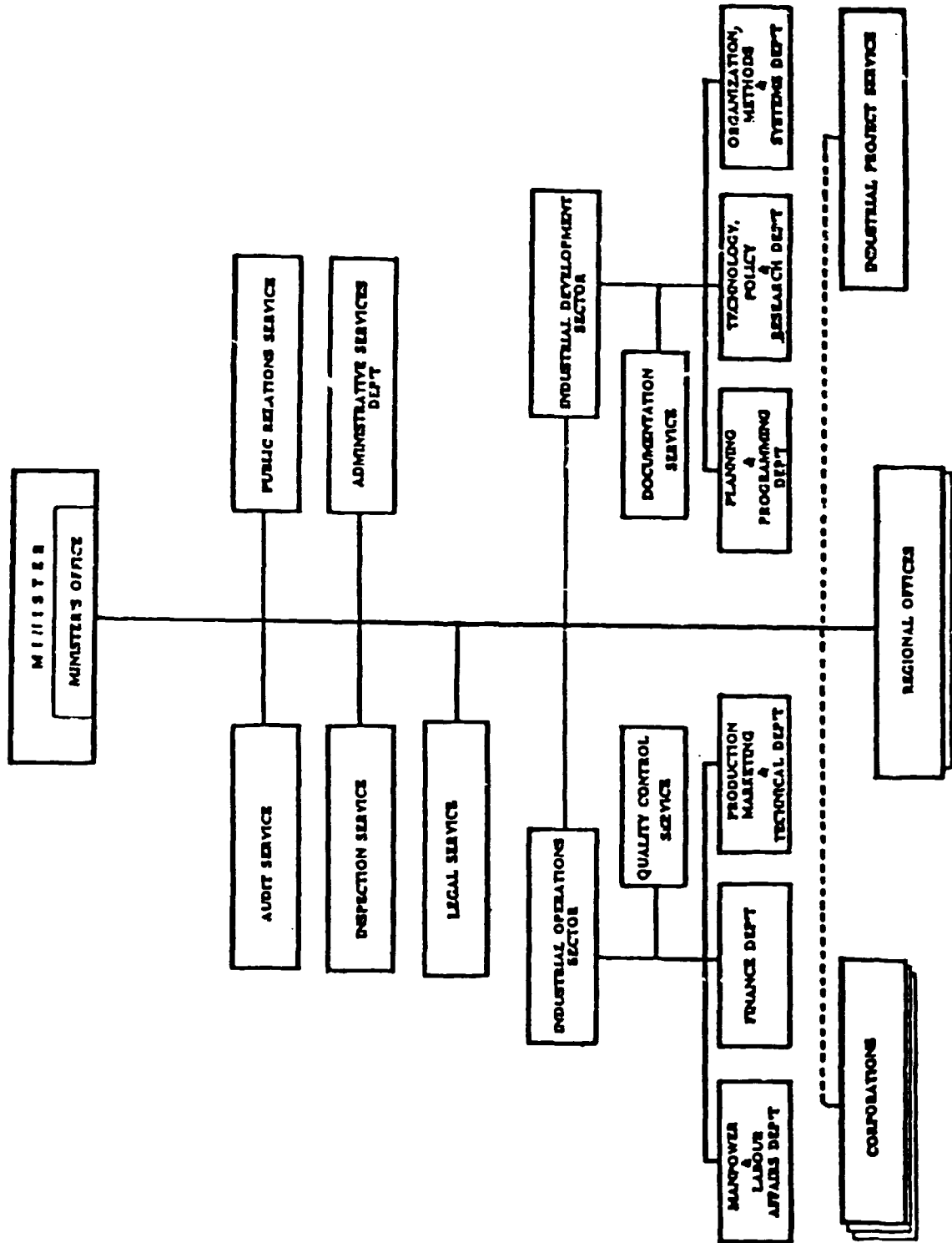
The Ministry of Industry has under its aegis two main divisions, namely: Industrial Operation Sector with Manpower and Labour Affairs, Finance, Production, Marketing and Technical Departments; and Industrial Development Sector with Planning and Programming, Technology, Policy and Research and O&M and Systems Departments (see the Ministry's organizational chart on page 12).

The main functions of the Industrial Development Sector includes:

- Policy studies;
- Investment planning;
- Investment budget preparation;
- Project appraisal and follow-up;
- Promotion of R&D;
- Study and selection of appropriate technology;
- Study, establish and develop modern information systems.

A large part of the phase II assistance activity represents direct support to selected industrial enterprises who are under Industrial Development Sector of the Ministry. The Industrial Projects Development Phase III project was developed, organized and managed by Industrial Development Sector with the Vice-Minister as National Project Co-ordinator.

Ministry of Industry Organization Chart



B. Project document

The project's development objective is stated as follows:

"The development objective of the project is to contribute towards:

- (a) The structural transformation of the national economy by increasing the share of industrial output in the total domestic product;
- (b) Increasing the quality and quantity of manufactured goods available to the Ethiopian population; and
- (c) Increasing exports of manufactured goods, resulting in a diversification of the country's export base and improvements in the balance of trade."

The project's immediate objectives are formulated as follows:

- "(a) To improve the operational performance of selected industrial enterprises by better raw material utilization, more efficient production methods, better product design, stricter quality control, and improved practices of machinery maintenance;
- (b) To increase the export value and volume of selected manufactured products by means of market research, product adaptation and export promotion activities; and
- (c) To strengthen the capacity of the Ministry of Industry to plan and implement the Government's industrial policies by establishing and developing an appropriate policy environment as well as effective management techniques for the existing and future industrial enterprises."

As correctly stated in the project document's 'Background and Justification' section, the project has been designed to address three different and yet essentially interlinked problems affecting the growth of industry:

- "(a) Those concerned with the country's industrial policy environment;
- (b) those related to the operations and management of existing industrial enterprises; and (c) those connected with the external marketing of selected enterprises."

The main problem with the objectives as they are presently stated is connected with the fact that the project is an "umbrella" project with many sub-objectives. The immediate objective is what the project itself is expected to achieve. It should be stated in terms of the specific change in behaviour or situation the project is intended to bring about. In this project many different changes were expected.

Thus the "umbrella" project had several overall aims:

- To strengthen the Ministry of Industry and the enterprises under it to perform specific tasks;
- To analyze specific strategies, policies, planned undertakings, existing operations, etc. at the Ministry of Industry and at the enterprise level and prepare detailed reports on these analyses;
- To provide "direct support" or services to industry to diagnose existing production practices, provide marketing advice, recommend improved management practices, etc.

- To help develop or adapt products and/or product technology for specific products.

A large variety of inputs were to be provided to carry out many activities during the life of the project to produce a large number of outputs and all of these have been duly recorded in Chapter III of this report. The results and use made of these have been substantial. Regrettably, however, the evaluation team cannot precisely assess the extent to which project output production has contributed to the achievement of the explicit and many implicit project objectives since the project objectives were formulated in a summarized fashion without assessable achievement indicators.

Many of the inadequacies of the immediate objective statements were, however, rectified in the output section where the intentions and expectations under each objective were elaborated in more detail.

Remarkably a better formulation of this project was accomplished in the original draft of the project which divided the "umbrella" project into sub-projects and project elements.

For example:

Project: Industrial Project Development, DP/ETH/83/013, Phase III
Sub-project: Operation performance improvement
Project element: Improving the operational performance of the leather sub-sector

Each project element had its own long-term objective, immediate objective, background and justification, outputs, activities, inputs, institutional framework, monitoring, reporting schedule, and budget.

It is regrettable that this excellent project design effort was not accepted by UNIDO. The format of the original project document could serve as a basis for a model for future "umbrella" projects of this kind.

The original design fully elaborates the project as a composite of many smaller projects under a central management structure. The original design demonstrates that good "umbrella" project design is possible.

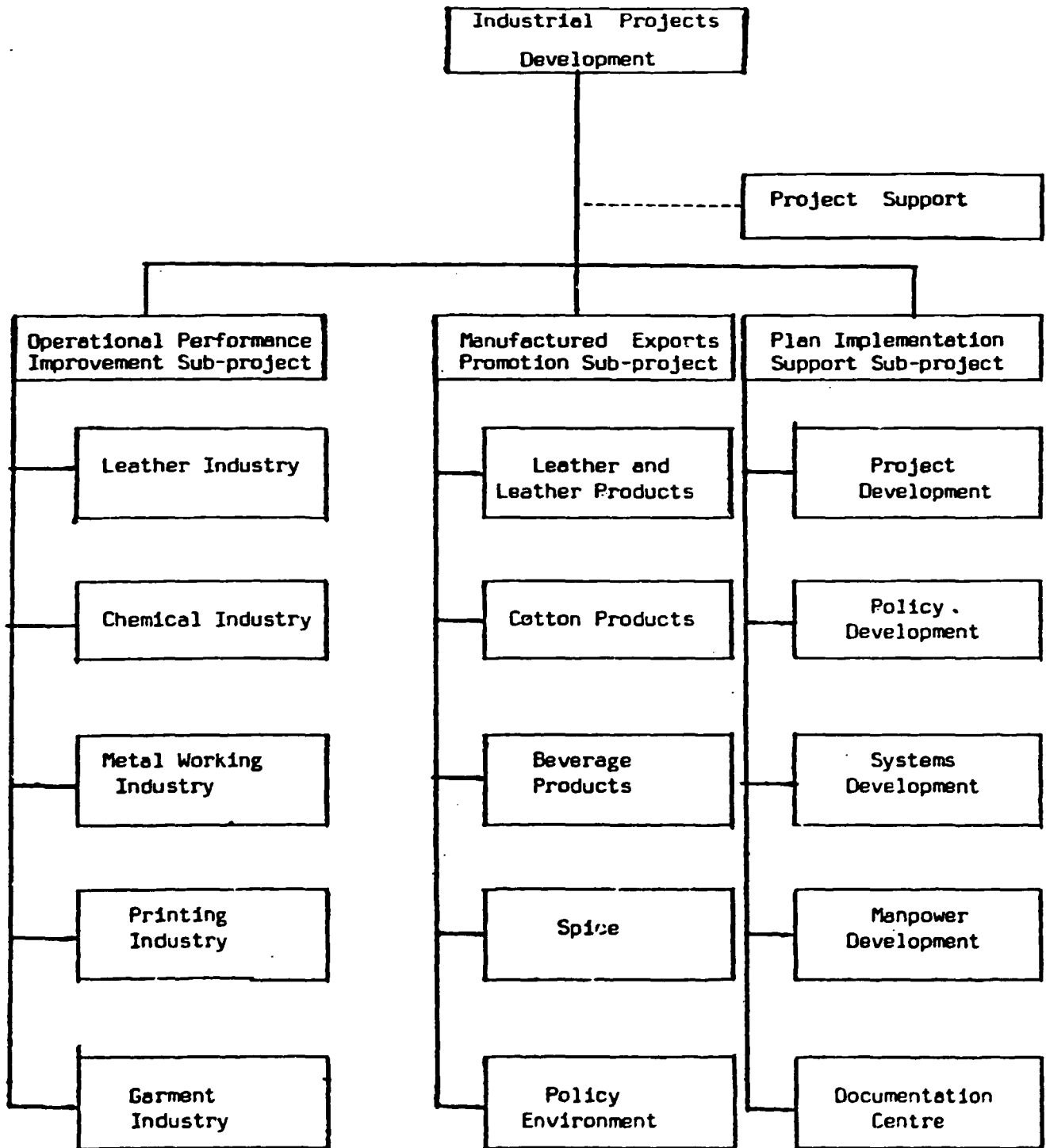
The approved project document does not have a detailed time-table for the main activities, except for an input delivery schedule. The nature of the activities planned and the institutional setting within which these activities were to be carried out would have also been useful. This information was included in the original draft.

Nevertheless, annual workplans were prepared and the project activities were carefully implemented and monitored by the Ministry of Industry and UNIDO.

The sub-sectors benefiting from the project inputs were clearly stated in many cases; however, the organizations or units which were to benefit were not provided. They were identified during the project's implementation phase. The diagram on page 15 illustrates the project structure as prepared by the Ministry of Industry.

Industrial Projects Development, Phase III
DP/ETH/83/013

Project structure



CHAPTER II. PROJECT IMPLEMENTATION

A. Delivery of inputs

UNDP/UNIDO inputs

In the original project document the UNDP contribution was planned at US\$1,910,000. In the latest budget revision "K", dated 8 February 1988, the UNDP input came to US\$2,309,611 (see Annex VI). The latest budget covers the period from January 1984 to end of 1988. It includes actual expenditures for 1987 and estimates for 1988 including financial bridging to permit continuity of activities which are expected to be carried over into the planned new project (DP/ETH/86/016).

It is not clear up to now whether the expenditure from 1987 onwards are charged to the project under evaluation or to the proposed new one. A decision has to be made soon.

As the evaluation refers to the third phase of the project which was implemented from 1984 to 1986 with some carry-over activity into 1987, the evaluation mission considered it necessary to first comment on the expenditures made until the end of phase III, i.e. end of 1986 and then record additional expenditures made in 1987.

The following analysis uses financial statements and figures received from the Ministry of Industry, National Project Officer's office (see Annex VII).

At the end of 1986 US\$1,797,420 had been spent out of an approved total of US\$1,910,000. The total amount spent during 1987 was US\$129,394 of which US\$ 102,348 was spent under DP/ETH/83/013 and the remaining US\$27,046 were spent in connection with the new project DP/ETH.86/016 (according to the budget distribution made by the MOI). If we accept this breakdown, at the end of 1987 the financial position was as follows:

1984-1986	US\$1,797,420
1987	" 102,348
Total	US\$1,899,768
Original budget	US\$1,910,000
still available	
at end of 1987	US\$ 10,232

The yearly distribution of the expenditures was as follows:

	US\$	%
Original budget	1,910,000	100
1984	184,000	10
1985	1,003,206	52
1986	<u>609,805</u>	<u>32</u>
Sub-total 1984-1986	<u>1,797,420</u>	<u>94</u>
1987	102,348	5
Not used	10,232	1

The above figures indicate that the project started very slowly. This was because of the delay in the approval of the project document and late submission of job descriptions and terms of reference, and the time it takes to organize training, field experts and deliver equipment. More than 50% of the budget was spent in 1985 and about 1/3 in 1986. In essence, the project input delivery came to an end by December 1986. The amount spent in 1987 was insignificant, i.e. only 5% of the budget.

Actual expenditures amongst the various budget components differed substantially from what was planned. The international experts component was significantly reduced from 114 m/m to 75 m/m or from US\$820,402 to 490,699 due to the fact the fewer short term experts were employed. The cost for sub-contractors was higher than originally estimated. The training component increased considerably because of a higher than planned number and cost per study tour participant. Finally, the equipment component was increased due to unforeseen EDP equipment and higher prices (details are in Annex XI). All budget changes were duly discussed and authorized during the course of implementation and, where inflation was not a factor, had the intention of making the project more effective and flexible to changing requirements.

Government inputs

The MOI assigned a senior Ministry official as National Project Co-ordinator (NPC) for the project, as planned. The NPC is in fact the Vice-Minister for Industrial Development. In addition, the Government assigned an adequate number of national professionals as counterparts to the experts, consultants and sub-contractor personnel employed under the project. The Government inputs were calculated at Birr 650,000. Estimates for the period from 1984 to 1986 come to a contribution of Birr 467,605 and a further Birr 40,460 for 1987 (see Annexes IX and X). It will be seen in Chapter III that a large part of the project's success can be attributed to the Government's strong counterpart contribution and high level support.

B. Implementation of activities

The third phase effectively started operation on 1 January 1984 using bridge money provided under the phase II project. The phase III project document was approved during July 1984. UNIDO was again designated as the project's executing agency and the Ministry of Industry was named as the Government's implementing agency.

1. Long-term experts

The two long-term experts used in the third phase had already started their assignment during the second phase. By and large, the outputs produced by both experts were considered satisfactory. The metal processing expert failed, however, to deliver the two outputs which were most expected from him: feasibility studies of new projects and rehabilitation/rationalization studies of existing plants.

The respective corporation stated that the system of preventive maintenance, which was introduced with the help of the tannery long-term expert, is now considered a model for all relevant corporations (see Annex III).

2. Short-term experts (individual and under sub-contracts)

During the third phase of the project 17 short-term expert/consultants for a total input of 46 m/m were delivered (for details see Annex III).

This was, compared with the original budget, only about 50% of the total m/m's planned. Furthermore, three sub-contractors were employed to prepare a strategy study for an MIS for the Ministry of Industry; a rehabilitation of existing wineries and the possible establishment of a new one; and an export marketing study for knitwear.

Some problems experienced with short-term experts can be summarized as follows:

- Some delays in submitting requests on time and serious delays encountered in locating and recruiting the requested experts, especially in the area of EDP;
- A few experts did not deliver their technical report, or their reports were considered unsatisfactory by the MOI and/or UNIDO;
- One expert had insufficient English language capability;
- Inability to make recommendations which are appropriate or suitable to Ethiopian conditions.

By and large, the work of the short-term experts was useful for the project (see Chapter III which lists the results achieved).

3. Training

It was the unanimous opinion of all parties contacted by the evaluation team that training, both in the form of fellowship and study tours, was one of the most important inputs of the project and that the various training and study tours brought substantial performance improvements to the industries which benefited. 33 fellowships were financed by the project and covered a wide variety of topics (see Annex IV). The evaluation mission interviewed a sample of the trainees. Important findings are listed below:

- All trainees considered the training abroad as useful or very useful;
- A training follow-up would be useful or necessary;
- The equipment in their respective place of employment is often not the same as that which was used for training;
- In some cases there was not time to prepare the trainees properly before leaving;
- In one case the training programme had a too low standard;
- Daily allowances were not always sufficient due to currency fluctuations (1985 especially). Trainees in the United Kingdom and Italy were affected the most.

In most cases training had excellent results. This is documented in Chapter III.

4. Equipment

The equipment acquired was principally for the EDP Centre, the Library and Audiovisual Centres of the Ministry of Industry and for the Spice Extraction Plant (for details see Annex XI).

Problems experienced in connection with the equipment are the following:

- The impossibility to recover shortland items;
- Complications faced with the acquisition of an inappropriate power stabilizer;
- Equipment not meeting specifications, i.e. lockable filing cabinets.

The Audiovisual Centre installed in the Ministry of Industry is used up to now only a minimum of its physical capacity, however, actions are under way to make fuller use of the facility.

Considerable efforts have to be undertaken to produce the software required for effective training activities. Expertise should be provided in strengthening the Audiovisual Centre's capabilities.

Regarding the EDP Centre and the envisaged strategy for the eventual industry-wide introduction of an electronic data processing system, it was noted that only preliminary steps have been taken up to now in the implementation of the foreseen pilot project. However, a core group of EDP personnel has been trained and software development has commenced for various sub-systems (see Chapter III).

The equipment is well maintained and is located in properly designed facilities.

5. Project management and backstopping

One of the most important success factors of this project was its local implementation management where the Vice-Minister/Head of the Ministry's Industrial Development Sector assumed responsibility as National Project Co-ordinator and was in this capacity invested with overall responsibility for the management, administration and implementation of the project in the country. The National Project Co-ordinator was assisted by a Project Support Unit with a National Project Officer and a full-time secretary. This arrangement provided the project with two very competent senior level national counterparts. This was rather fortunate and strongly contributed to the success of the project.

The success of any project, particularly complex "umbrella" projects, also depends on strong headquarters' backstopping support and substantive supervision. Contacts between the UNIDO backstopping section and National Project Co-ordination have been close and supportive. Other UNIDO technical sections/branches were called on for advice by the backstopping officer as needed, not always with success, however.

Substantive correspondence was extensively exchanged between the project and UNIDO headquarters which is a good indication of the care and attention given to this project by the national counterparts and by UNIDO.

The following well detailed reports were prepared by the project from 1984 to 1986:

- UNDP Progress Report, January-June 1984
- UNDP Progress Report, July-December 1984
- Performance Evaluation Report (PER) for the period 1984-1985
- Performance Evaluation Report (PER) for the period 1985-1986
- Terminal Report for phase III (an excellent evaluation of the project prepared by the MOI).

Activities which were carried out in 1987 are reported and commented in the Progress Report for both projects (DP/ETH/83/013 and DP/ETH/86/016) prepared in November 1987.

A well prepared final tripartite review meeting took place on 28 November 1986. A follow-up tripartite review meeting was held on 9 December 1987. Well prepared Minutes on these meetings were issued.

The MOI, upon arrival of the experts and sub-contractor teams, discussed their terms of reference point by point with them and made adjustments where required. A detailed work plan was then finalized and carefully monitored by the Ministry. Progress reviews were conducted during their assignments, and a final meeting with the NPC and NPO was always held. The Ministry also prepared the Minutes of these meetings, which recorded the purpose, reactions and decisions reached. Follow-up actions were listed along with the responsible organization and the time envisaged for implementation. All experts had several counterparts all of whom could benefit from the experts' assignment.

All persons who benefited from project sponsored training wrote reports on their training programme which were distributed to their supervisors and the MOI. Often the trainees were able to share their experiences with their colleagues in specially conducted courses prepared by them.

Moreover, most trainees interviewed were promoted to higher levels of responsibility in areas related to their training, and all returnees continued to work in areas relevant to their training.

The project can therefore be considered exemplary in terms of its management, monitoring, reporting and backstopping.

III. PROJECT RESULTS AND ACHIEVEMENT OF OBJECTIVES

A. Activities carried out and outputs produced

Output No.	Originally Planned	Realized	See Annex No.	Explanation and Comments*
1. <u>Activities and outputs related to the performance improvement of selected industrial enterprises</u>				
<u>Leather and leather products industry</u>				
		<u>Fellowships</u>		
01	Six technologists with overseas training in leather processing, design and pattern making as well as manufacturing and quality control for shoes.	Two in the area of leather technology Two in the area of shoe making One in the area of last production	IV,1,2 IV,3,4 IV,6 IV,5	Through the effective utilization of the acquired skills the sub-sector was able to increase its performance and output. Almost all staff trained received promotions and greater responsibility. Training application includes improved production layouts, increased material utilization, costing system established, introduced modern machines and techniques, seminars given by trainee to improve quality control and productivity. Shoe designer winning design awards, large number of existing designs attributable to new skills. Enabled another to formulate own chemical recipes for leather processing. Enabled a plant to advance from crust leather to finished leather, doubled capacity of factory by reducing soak times from 24 to 2 hours, same system is now being introduced to eight other tanneries. Testing guidelines prepared and in use. Quality control laboratory set up, able to export crust leather.

* Comments provided next to a training activity are based on trainee interviews. The evaluation team only had time to interview a sample of the large number of persons trained.

02	Improvements in the design and quality of shoes as well as production increase at least 12% in the shoe industry.	Two UNIDO experts were fielded: - Mr. Don Russel, shoe-design - Mr. N.K. Rudra, shoe-making	III,5 III,6	The output of both experts were not fully satisfactory so that for both the second mission was cancelled. However, Mr. Russel helped set up a Centre for Excellence Plan, but was not implemented - management had changed. Mr. Rudra outlined improvement programmes which had to be modified later, no report left behind.
03	An operational pilot plant for the production of shoe lasts and a core of trained technicians to operate it.	Two UNIDO experts were fielded: - Mr. U.S. Paul, shoe-last - Mr. S. Corsico, shoe-last	III,9 III,11	A shoe-last pilot plant was erected. Problems arose with the rough core turning machine which was acquired second hand. Both UNIDO experts could satisfactorily solve production problems encountered. Mr. Paul instrumental in commissioning shoe last factory, repaired broken machinery, introduced measurement systems reactivated old machines by giving operational instructions, ability to make shoe lasts re-established, great import saving, able to respond to orders quicker and make shoes to Ethiopian size requirements. Mr. Paul is still helping with problems through correspondence!
04	An operational maintenance management system in at least one tannery.	One UNIDO expert was fielded: - Mr. M.H. Imam, tannery maintenance	III,2	Through the expert, tannery machine maintenance was improved. Furthermore an operational management system was installed in various tanneries. He helped to specify and select appropriate machines. Tannery plants have now very good maintenance system whose output was introduced by Mr. Imam, then transferred to others by corporation.

<u>Chemical sub-sector and related industries</u>		
	<u>Fellowships</u>	
05	Six technologists with overseas training in fields such as soap production, plastics processing, welding of special steels and operation/maintenance of steam boilers.	<p>Two in the area of soap production IV,11,12</p> <p>One in the area of fertilizer manufacturing IV,10</p> <p>One in the area of welding IV,12</p> <p>One in the area of operation and maintenance IV,9</p>
		<p>Although course not in specialized steel welding, welding very useful, fellow solving boiler problems in 15 plants, training his colleagues through workshop. However, one fellow did not return to job and another left the sector. Tremendous training needs identified.</p> <p>Fertilizer trainee learned how to evaluate fertilizer pre-investment proposals and new processes. However, did not see small plants appropriate for Ethiopia and had no clear programme.</p> <p>Plastic trainee able to advise on process change and improvement. Before used trial and error with a great deal of wastage. Only one in factory with knowledge of plastic material science. Providing on-the-job training. Now applies plastic cooling techniques which prevents burns and shrinks. Reactivated machines.</p>
06	Pre-feasibility or feasibility studies on the production of caustic soda, sulphuric acid and fertilizers.	<p>One UNIDO expert was fielded - Dr. Adhia, caustic soda III,10</p>
		<p>By the decision of Government the studies concerned with sulfuric acid and fertilizer were assigned to other donors. The study, however, which appraised, as planned, a caustic soda plant, was extremely helpful since it has enabled the selection of a better technology which saves 70 million Birr. Moreover, it uses simpler technology and raw materials which are available locally. The revised proposal received financing.</p>

07	A technical appraisal report with recommendations for the rehabilitation/rationalization of at least one enterprise in the chemical sub-sector.	Two UNIDO expert were fielded: - Mr. Santhia Pillai, soap production III,8 - Mr. Ramachandran, match production III,4	The two UNIDO experts investigated technical and technological problems in 5 soap factories and in one match making plant, respectively. The findings and recommendation of both experts are considered rather useful. Special reference is made to one recommendation of the soap-study which has entailed an annual saving of \$105 mil. in 1985. The introduction of palm oil as an alternate to tallow has decreased the need to use perfume. Additionally better quality control is being followed.
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Metal processing industry

Fellowships

08	Four technologists with overseas training in casting, forging, tool-making and metal processing in general.	One in design techniques and fabrication methods for steel structural elements and metal products. IV,29	The project management decided to utilize the amount indicated for this item for the extended training of one fellow. Due to the specific nature of the requested training programme, UNIDO could not manage to find a suitable placement in time.
09	Pre-feasibility or feasibility studies on at least two new project ideas in the metal processing	No activity	The long-term UNIDO expert was not able to prepare these studies despite a 3 m/m extension.
10	Technical appraisal reports with recommendations for the rehabilitation/rationalization of at least three enterprises in the metal processing sub-sector.	Appraisal report on the rolling mill section of the Ethiopia Iron and Steel Factory, prepared by the UNIDO long-term expert Mr. Mahalingam. III,1	Although the long-term expert failed to deliver the feasibility studies for new projects and rehabilitation/rationalization studies of existing plants, his assistance helped top leadership of the respective Corporation in their daily technical and technological problems.

Glass container production

- | | | | |
|----|--|-------------|--|
| 11 | All technologists at the Addis Glass Factory trained on-the-job in key aspects of glass production. | No activity | |
| 12 | The rehabilitation of the moulding machine at Addis Glass Factory and development of an appropriate mould maintenance scheme | No activity | The activities were taken out of the project as the Government opted for a different approach. |
| 13 | An increase by at least 10% in the production of bottles at Addis Glass Factory. | No activity | |

Asbestos Center & production

- | | | | |
|----|--|-------------|---|
| 14 | Improvements in the product quality and the cost-effectiveness of the asbestos cement plant in Addis Ababa as well as an increase by at least 6% in its production output. | No activity | The asbestos factory was transferred to the jurisdiction of another Ministry. |
|----|--|-------------|---|

Other industrial sectors

- | | | | | |
|----|--|---|--------|--|
| 15 | Completed studies of pressing technical problems, including proposals for their immediate remedy and long-term solution, e.g. improved production methods, quality control and preventive machinery maintenance. | Five UNIDO Experts were fielded | | |
| | | - Mr. S. Jannella, heelmatic machine expert | III,3 | He succeeded to recommission a non-operational heelmatic machine. |
| | | - Miss E.M. Nordberg, garment design & pattern making | III,13 | A garment factory has been introduced to a better approach in garment design and pattern making. |
| | | - Mr. J.C. Denbigh, energy audit | III,18 | A comprehensive study was undertaken for the whole sector. Suggestions were made about the possibilities that exist and the methods, approaches and practices to follow in energy conservation and/or substitution in various enterprises. The study served as a basis to obtain from the World Bank US\$ 500,000 of technical assistance for the national energy programme. |

- Mr. M. O'Donoghue, industrial policy, strategy & operation

III,12

Analysis and proposals were made to improve the export performance of the entire industrial sector considering the technical problems as well as the institutional and policy drawbacks. Expert report considered an eye opener, used as a basic strategy document for export of manufactures, including incentive systems and market guidelines.

- Mr. E. Kielbratowski, manpower planning and training

He assisted the MOI in evaluating projects and constraints for the exportation of manufactured goods, charted the policies and strategies and set up short, medium and long term targets. The expert's contribution was useful.

NOTE:

The usefulness of fellowships and study tours was emphasized by all participants who were interviewed by the Evaluation Mission.

Five Fellowships

16

Upgrading the skills of key technicians, e.g. through study tours to equipment supplies and/or to similar enterprises in other countries.

Two in a management course for chief executive officers

IV,
13,14

Two in a public enterprise management programme

IV,15,16

Courses in Ireland not structured enough. Wanted to learn about computers, marketing

One in the field of planning and appraisal of industrial projects

IV,33

Study Tours

Two participants in the field of printing industry and graphic arts

V,1,2

Five participants in manpower development and labour relations.	V,10-14	
Three participants in the area of finance and financial information systems.	V,15-17	Able to make valuable contributions to computerization of Corporation MIS. Set up new budget control system.
Five participants in the area of productivity, maintenance, marketing and distribution.	V,18-22	
A team of three in the area of works organization, planning and control (O&M).	V,23-25	
A group of two in the field of internal auditing as a tool of management control.	V,27-28	
A one-man party in the field of erection, maintenance and operation of oxygen/nitrogen producing plants.	V,26	Trainee promoted Chemical Corp. Technical Head. Training enabled erection of new gas plant, training also in plant operation and trouble shooting. Has trained engineers and mechanics in plant.
A contingent of three in the field of graphic arts (printing).	V,36-38	
A high-level official from ONCCP in the field of industrial project planning and implementation.	V,42	
A high-level official from Ministry of Industry in the area of technical cooperation and industrialization.	V,45	
One person in the field of technology acquisition and project preparation	V,39	

One expert in the area of occupational health and safety. V,40

One executive in the field of cement trade & transportation. V,41

One department head of the Ministry of Industry in the field of management and operation of public enterprises. V,46

An employee of the Ministry of Industry in the field of executive development for women managers. V,47

One technical man in the field of oxygen/nitrogen production. V,48

2. Increase in the export value of selected manufactured products

Export promotion of leather and leather products

17 Two marketing specialists trained abroad in sales techniques for leather and leather products.

Fellowships

One in export marketing of leather and leather products IV,25

Instead of training two fellows in the same field (as planned), it was felt more useful to convert the second one into the area of leather technology.

One in leather technology IV,27

18 Eight officials made familiar with the situation in international markets of leather & leather

Study Tours

Four in the field of leather and export marketing. V,32-35

National Leather and Shoe Corporation has been able to improve its export performance.

Export promotion of cotton knitwear

19	A market survey report for cotton knitwear covering the most important markets in Europe, Middle East, and Africa.	Export market study made by the sub-contractor: - AGRO Economic (Contract No. 58/55)		The report was submitted, the ideas generated, have only moderately contributed towards an increased volume of exports.
20	Two technologists trained overseas in quality control methods and pattern design for cotton knitwear.	No activity		This activity was taken out of the project as the Government opted for different approach.
21	Three officials made familiar with cotton knitwear markets in various countries.	One fellowship in the field of marketing and export trade development.	IV,26	Instead of sending three officials as originally planned, the government opted for a basic international marketing course for one person
22	Improvements in the quality and design of cotton knitwear products for export.	One UNIDO expert was fielded: Miss M.P. Paulett, knitwear design and pattern making	III,7	Through the UNIDO expert - proposals for the improvement of exportable underwear were made; - some new designs were developed; - the necessary training programmes for designers and producers were realized.

Export promotion for beverage products

23	Three marketing specialists trained overseas in sales techniques for alcoholic beverages.	No activity		The government opted for a different approach and took the activity out of the project.
24	Improvements in the production and storage methods for wine.	Feasibility study on the rehabilitation of existing wineries and the possible establishment of a new one was carried out by the sub-contractor - IFAGRARIA (Contract No. 85/42)		The final report was delivered in an acceptable manner and served subsequently as a basis for soliciting \$14 mill. from a bilateral source. Wine study, however, less than expected, especially weak on field work and on the marketing side. However, low cost of study precluded more elaborate survey work in this area. A study of beverage sector with extensive market research is still required.

25	A marketing strategy document for beer, wine, other alcoholic beverages, and mineral water.	No activity		As the government decided to concentrate only in wine, the realization of this output was not pursued.
<hr/>				
	<u>Export production for spices and essential oils</u>	<u>Two fellowships</u>		
26	Three technologists trained overseas in spice extraction techniques.	- One in solvent extraction of spice and distillation of essential oils as well as in operation and maintenance of equipment of gas chromatography	IV,7	For UNIDO it was difficult to find a practical training programme for the nominees. However, production manager gained self-confidence to start research programme particularly to set up pilot production lines, also quality control lab operational and sophisticated equipment is properly utilized.
		- One in the field of theoretical and practical training in extraction and distillation technologies of spice and essential oils	IV,24	Full training would require one year compared to 3 months provided. Agricultural and University co-operative research programme established.
<hr/>				
27	Diversification of the export programme of the Ethiopian Spice Extraction Company through production and marketing of new types of oleoresins, various essential oils and assorted spices.	One UNIDO expert was fielded: - Mr. Kaplan, Oleoresin expert	III,19	Due to successful introduction of new products, exports have increased dramatically over the last years. Expert has helped during last and present project to solve production problems, increase quality, help capture new markets, diversified production, helped factory produce refined oils. Exports of new product increased dramatically from zero in 1982 to 128 tonnes in 1987. Expert has even visited Ethiopia on his own expense. Further assistance is required.

28	Expansion of the laboratory facilities and quality control capacity of the spice facilities and quality control capacity of the Ethiopian Spice Extraction Company.	Laboratory equipment for the expansion of the laboratory facilities and quality control capacity of the Ethiopian Spice Extraction Company was delivered.	XI	According to factory management, all required equipment and instruments have been received, properly installed and made operational. Production and quality has increased.
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3. Development of an appropriate policy environment and effective management techniques for the industrial sector

Policy development

29	Seven policy papers on (1) industrial development policies (including pricing of industrial goods as well as industrial employment, wage incentives and remuneration); (2) industrial sub-sector structure; (3) industrial technology alternatives; (4) industrial export policies; (5) industrial export legislation; (6) industrial joint ventures legislation and (7) domestic distribution of industry and regional cooperation with neighbouring countries in the field of industry.	<p>The following 15 research papers were prepared by national experts:</p> <ol style="list-style-type: none"> 1. The Structural Analysis of the the Industrial Sector of Ethiopia; 2. The Ethiopian Industrial Labour Force and Manpower Development; 3. Marketing and Distribution of Industrial Products in Ethiopia; 4. Management of Industrial Enterprises in Ethiopia; 5. Price and Pricing Policies for Industrial Products in Ethiopia; 6. Prospects and Constraints in Promoting Export-Oriented Industries in Ethiopia; 7. Dependency of the Ethiopian Manufacturing Sector on Foreign Inputs & Technology; 	<p>Studies prepared for a successful symposium.</p> <p>The job description for the national experts and their selection took a rather long period of time</p> <p>The first 13 papers were prepared by national experts, No. 14 by Ethiopian Industrial Projects Service, and No. 15 by D.H.I. Seviter.</p>
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8. Regional Distribution of Industry in Ethiopia;
9. Possibilities and Constraints of Developing Heavy Industries in Ethiopia
10. The Impact of Industrial Development on Employment Generation in Ethiopia;
11. Issues Related to Choices of Appropriate Technology;
12. Industrial Laws and Regulations in Ethiopia;
13. Small Scale & Handicraft Industries in Ethiopia;
14. Preparation and Implementation of Industrial Projects in Ethiopia;
15. Financial Management and Information Systems in Public Industrial Plants in Ethiopia.

30 Two national symposia on particular aspects of Ethiopia's industrial development, attended by senior representatives of relevant government institutions such as ministries, industrial corporations, industrial enterprises, and universities.

One National Symposium on Industrial Development

The 15 research papers mentioned under output no. 29 and five background papers served as a basis of discussion during the symposium, which was considered a worthwhile exercise with very good recommendations for future industrial development. Reports and studies published in a five volume book distributed to pertinent decision makers. Many recommendations are being actively considered for implementation.

<u>Project development</u>			
31	Five completed prefeasibility studies on new project proposals in various industrial sub-sectors.	<p>One UNIDO expert was fielded:</p> <p>- Mr. P. Chandra SAH, project preparation, identification and evaluation</p>	<p>III,14</p> <p>The manual produced by the expert in the subject area is considered useful. Manual discussed project cycle activities. Guidelines for all aspects prepared. No pre-feasibility studies were prepared or requested from the Government.</p>
<u>Study Tours</u>			
		One person in the area of fertilizer project preparation	V,4
		Five persons in the field of overall project studies.	V,5-9
32	Completed evaluation of three comprehensive reports on investment proposals.	<p><u>Study Tours</u></p> <p>1 person in the field of evaluation of a match project.</p> <p>3 persons in the area of appraisal of an appropriate technology for a textile project.</p>	<p>V,3</p> <p>V, 29-31</p> <p>The government has not submitted any request to UNIDO for evaluations under this output. The study tour contributed to the evaluation of a match project under consideration. The mentioned study tour enabled the Textile Corporation to have a clearer picture of the competing technology.</p>
<u>Manpower development</u>			
33	Twenty professionals trained during an intensive local workshop of industrial project preparation.	No activity	The planned in-country training was abandoned.
34	Twenty professionals trained during an intensive workshop on industrial project management.	No activity	

35	Three university graduates with post graduate training overseas in management and economic analysis of industrial projects.	<u>Six Fellowships</u>	1 person in Financial Accounting and EDP IV,28
			5 persons in the field of project engineering. IV, 18-22 The approved programme was mainly engineering but the participants wanted training on the full cycle of planning of projects. So the programme had to be changed after 4 months. All five who have returned from training assumed positions of higher responsibility. One is now on UNIDO large scale project Engineering Design and Tool Centre as National Project Coordinator. Another fellow is managing a tire factory and another an oil factory.
36	A revised manpower planning and manpower development scheme for the Ministry of Industry as a whole.	One UNIDO expert was fielded: - Dr. G.A. Jecchinis, manpower planning & training	III,15 The expert improved the Ministry's approach to manpower planning and development and made recommendations for new approaches devising forms and formats for further research.
	<u>Data processing</u>		
37	A complete proposal for a small-scale pilot project introducing electronic data processing equipment and techniques to the Ministry of Industry for training and demonstration purposes.	A strategy study of the requirements for a Management Information System was prepared by the sub-contractor, LOGICA.	The findings and recommendations of the study were found to be acceptable so that the hardware, software, and required consumables could be acquired (see Item No. 39). Overall the study considered very useful in guiding the Ministry of Industry in setting up MIS systems.

38	One professional trained overseas in the use of small-scale electronic data processing in planning and industrial management.	<u>Fellowships</u>	IV,23	Training has been provided for those who constituted the nucleus of EDP staff.
		1 person in the field of Computer Science		
		2 persons in the field of Data Processing.	IV, 30-31	One professional was trained in use of small scale electronic data processing planning and industrial management. Two are still on training course.
39	An operational small-scale electronic data processing facility for pilot operation and demonstration purposes.	The following equipment was required for the EDP pilot project:		A basic training course on the HP 3000 was organized and realized for the core staff members.
		1 IBM Personal Computer XT		The power stabilizer failed to serve the purpose. New one now installed. Project does not know what to do with the old one.
		1 Mini Computer HP 3000/37		
		1 HP PC for word processing		
		Peripherals and accessories		
		1 power stabilizer		
		One UNIDO expert was sent: - Mr. Seppala, Systems Expert	III,17	The programmes which were developed by the expert proved to be inadequate. Problem of language and expertise.
		<u>Study Tours</u>		
		2 persons in the field of EDP	V, 43-44	The purpose of the tour was to facilitate the selection of the hard ware. EDP Centre has two professional staff and some operators. Core staff and users in the Ministry of Industry were trained locally by a Hewlett Packard supplier. To gain experience EDP staff have developed payroll, personal

data, annual leave system for head-quarters, a regression analysis programme for the Planning Department; a telephone directory, and are working on a computerized library catalogue system. Model data base on employees of 10 corporations; and production, sales and exports also developed. Textual data bases programmes are also being acquired to store texts on tender documents, terms of reference, technical agreements, occupational health and safety reports, various contracts, list of consultants. Other projects include annual budgetary activities and profiles of industrial projects. The EDP centre reports that if planned data bases are fully developed they would need to increase their storage capacity from 132 MB to 404 MB. Which along with extra equipment i.e. terminals, plotter and printer would cost approximately \$40,000.

40 A complete proposal for the establishment of a large-scale integrated management information system for the Ministry of Industry, including specifications for the necessary hardware and software.

See item no. 37

The study prepared by the sub-contractor LOGICA has also covered the question of the establishment of a comprehensive and integrated MIS.

Documentation

41 An expanded and upgraded Documentation centre within the Ministry of Industry, providing access to a large selection of technical literature.

Fellowships

1 person in the area of audiovisual programme

IV, 32

The following equipment was acquired:

The library of the Ministry of Industry is now well equipped and offers a variety of good technical books, studies, reference books, text books, industry standards, etc. The library is neat and orderly and has a catalogue system. Approximately 20 users per day. Micro-fiche system will soon be established.

- Audio-visual equipment
- Microfiches
- 1 electric typewriter
- 1 drawing machine
- 1 binding machine
- some 900 books

The audio-visual centre is also well equipped. Utilization is however, very low at the moment. Strengthening of film production activity in terms quantity and quality is required.

42 An operational printing unit for technical documents and reports required by the Ministry, industrial corporations and enterprises, as well as other government institutions.

No activity

A preliminary investigation revealed that the acquisition of a off-set printing unit was not feasible. Equipment for item 41 was procured instead.

B. Achievement of immediate objectives

The project had three immediate objectives which remained unaltered during the entire period of its implementation:

- (a) To improve the operational performance of selected industrial enterprises by better raw material utilization, more efficient production methods, better product design, stricter quality control, and improved practices of machinery maintenance;
- (b) To increase the export value and volume of selected manufactured products by means of market research, products adaptation and export promotion activities;
- (c) To strengthen the capacity of the Ministry of Industry to plan and implement the Government's industrial policies by establishing and developing an appropriate policy environment as well as effective management techniques for existing and future industrial enterprises.

It can be stated that by the end of 1986 almost all of the planned outputs were produced and made major contributions towards the achievement of the immediate objectives. The project has therefore been overall very effective.

The following contributions can be highlighted:

1. In area of operational performance of selected industrial enterprises:
 - 1.1 The preventive maintenance systems that are developed and installed in all tanneries have brought about reduced downtime, better product quality, increased volume of production, and reduced investment cost in machinery - the successful overhauling by the project's expert of two role calenders, which were about to be discarded, alone has entailed a saving of some Birr 300,000.
 - 1.2 Production of locally made shoe-lasts for the first time ever has given the shoe factories greater flexibility in changing models.
 - 1.3 The introduction of a conveyor system in the production line at the Eritrea Shoe Factory based upon the advice rendered by a UNIDO expert has resulted in substantial improvement of productivity.
 - 1.4 The shoe factories can now produce some of the PVC heels that they need.
 - 1.5 The soap factories are now saving about Birr 1 million per year as a result of raw material substitution that they have introduced based upon the recommendation of the project's soap expert.
 - 1.6 The clear action plan developed in line with the recommendations of the related study which was undertaken, is expected to entail a substantial saving in the cost of energy when the plan will be implemented shortly with the assistance from the World Bank.
 - 1.7 The planned development and utilization of management standards is expected to materially enhance the quality of management in the industrial sector.
 - 1.8 Though a time lag is involved, the various training and study tours are bound to bring about improvements in very many areas. Many applications of skills and knowledge gained are documented in Chapter III.A.

2. In the area of increasing export value:

- 2.1 The export of extracted spice has more than tripled over the life of the project - a great deal of this success can be attributed to the project.
- 2.2 The assistance provided by the project to different areas of the leather and shoe sub-sector is partially instrumental for a significant increase in exports and import substitution ability.
- 2.3 The foreign market study undertaken and the varied assistance given to the knitwear producing plants should be able to contribute toward increasing the value and volume of textile exports.
- 2.4 As a result of the in-depth studies undertaken, greater clarity of direction and objectives are now obtained in so far as the export of manufactured goods as a whole are concerned.

3. In the field of plan implementation capacity building:

- 3.1 The project manual that was prepared by the expert of the project has now systematized the work flow from identification to commissioning of projects both at the Ministry and Corporation levels, and has proved to be a useful source of information and instructions for all those concerned in project preparation and implementation.
- 3.2 The change of the project concept based upon the advice received from the caustic soda expert has not only resulted in the reduction of the investment cost of the planned caustic soda plant, now under contract negotiation, from Birr 110 to Birr 15 million, but has also made it possible to avoid undesirable by-products - which have no domestic demand and with a potentially environmentally hazardous effect if not properly disposed of.
- 3.3 The first National Symposium on Industrial Development had very good results in the development of policies that will conducive to an effective and efficient implementation of the Ten-Year Perspective Plan.
- 3.4 The MOI's strategy study undertaken on the subject matter for the sector as a whole has brought about clarity of objectives and of direction in so far as the development of a sound electronic data processing system and the introduction of useful management information systems are concerned.
- 3.5 The strengthened documentation centres at the Ministry and some of its corporations are now facilitating the effective undertaking of policy studies, research work, project preparations and appraisal.

While acknowledging the above it has to be mentioned that the following activities were not carried out:

1. On-the-job training for the technologists of the Addis Glass Factory;

2. The rehabilitation of the moulding machine at the Addis Glass Factory and the development of an appropriate mould maintenance scheme;
3. Activities that would have attempted to bring about production increases at the Addis Glass Factory;
4. Activities that would have tried to entail improvement in quality and reduction in cost in the manufacturing of asbestos products;
5. The training of two people in quality control and pattern designing of knitwear;
6. The training of marketing specialists for alcoholic beverages;
7. The development of marketing strategy for beer, mineral water and other alcoholic beverages;
8. The preparation of a complete proposal for the establishment of a large-scale integrated management information system for the Ministry of Industry.

The following explanations are given by the Government:

- (a) Preference of the Government to utilize other financing sources rather than those that could have been provided by the project.
- (b) Activities that were over-taken by events such as the transfer of would-be beneficiary factories to the supervision of other ministries.
- (c) The longer than expected lead time required to complete preparatory activities before embarking on full implementation of an integrated management information system.

C. Contribution to the achievement of the development objective

Whether the project has made a significant contribution to the structural transformation of the national economy by increasing the share of industrial output in the total domestic market could not be thoroughly assessed given the time available to the team to carry out its work. To what extent attribution can be given to the project for any positive economic development in Ethiopia would in any case be difficult given the size of the overall project and the extensive range of project activity.

The project has, however, successfully contributed to increase the quality and quantity of manufactured goods available to the Ethiopian population. Its impact on the national leather and shoe industry has been recognized by all parties involved in the project. The quality standard of the Ethiopian leather and shoe industry could be noticed at the Ethiopian leather trade fair the evaluation team visited in Addis Ababa. The following figures underline the above statement.

Leather and shoe industry production value
at 1980/1981 constant price

(in thousand Birr)

Sector	1983/84	1984/85	1985/86	1986/87
Leather	94,171	90,363	104,979	113,840
Shoe	79,678	74,868	75,108	93,216
Leather goods	-	1,598	1,044	2,239
Total	173,849	166,868	181,131	209,295
X	100	96	104	120

The project has also successfully contributed to increase Ethiopia's exports of manufactured goods, resulting in a diversification of the country's export base and improvement in its balance of trade. The most outstanding example is the case of the Ethiopian Spice Factory where the export of extracted spice has more than tripled over the life of the project.

Project training activity should in the long run have an impact on Ethiopia's industrial performance. Positive results are already reported at the enterprise level.

D. Need for further international assistance

Toward the eventual development of an integrated MIS in the MOI, its corporations and enterprises, the evaluation team has reviewed two basic approaches with the Ministry. The first approach (see Annex XII) is to begin with a phased development at the plant level in co-operation with the parent corporation. This effort could serve as a pilot for expansion to other enterprises and corporations. This approach would need to be eventually followed in any case if a truly integrated MOI system is to be developed. Once such a pilot system is established and tested it could be readily duplicated and adopted throughout the Ministry's establishment.

The problem with this potentially cost and time effective approach is that the chances of failure are high since great reliance will need to be placed on the competence and efficiency of the sub-contractor team required to develop and implement the pilot system. Moreover, the industrial environment may not be sufficiently prepared to accept such a rapid approach.

The approach favoured by the Ministry follows the recommendations of the LOGICA Strategy Study for MIS and represents a more conservative longer term strategy. Before embarking on the development of an integrated MIS the MOI would like to develop data bases at the Ministry level to generate industrial data and to be able to carry out analyses urgently required by the Government. In the process they would develop a cadre of trained and experienced staff who would eventually be able to manage the development and introduction of an integrated system. The Ministry is also of the opinion that the system development work envisaged under the new project will enable them to better evaluate and determine the requirements i.e. software, hardware, staff, training, management etc, required for the development of a complete system.

Parallel to the development of data bases the Ministry would like to develop model manual cost accounting systems. This would not be required under the approach suggested by the evaluation team. Since cost accounting output would be a by-product of the computerized financial system. It is however expected that the exercise of developing model cost accounting systems will provide good training and greater clarity on the utility of effective cost accounting systems.

The Government's approach is not only in harmony with the comprehensive LOGICA MIS strategy study, but is also based on the negative experience the industry has had in attempting to establish EDP systems at the plant level, due to poor planning and inadequate preparation. The MOI's position is therefore quite defensible. The team, however, would like to request the Ministry and UNIDO to continuously review the approach suggested by the team as an alternative strategy as experience and confidence is gained during implementation of the proposed new project.

CHAPTER IV. CONCLUSIONS

Related to project document

1. Although "umbrella" projects have a bad name within the UN tripartite system, it was effective in this case. This "umbrella project" was a success because it delivered a well co-ordinated programme of assistance to meet carefully identified yet diverse needs under a centralized management structure at the appropriate senior level.
2. Moreover, the alternative for the MOI and the UN would have been a large number of separate small-scale projects requiring unneeded duplication of effort at several points during the project cycle. A large number of separate small projects, even if the same organization benefits, would in many instances result in unnecessary procedural complexity throughout the project cycle. i.e. repetitive project formulations; separate approval actions; likelihood of different backstopping officers becoming involved at UNIDO headquarters, perhaps working at cross purposes to each other; the need for separate progress internal evaluation and terminal reports etc.
3. The draft project document formulated by the MOI before the final version was developed and approved was in principle superior to the approved version. The draft version was originally formulated by the Ministry in two volumes, Volume I, the main project document and Volume II, contained a detailed compilation of sub-projects (project elements) the total of which comprised the "umbrella" programme. Each sub-project had its own development objective, project objective, background and justification outputs, activities, inputs and budget. Although the actual formulation of the various project elements was not fully in compliance with UNDP/UNIDO design standards the concept appears to have been correct.

Each sub-project in Volume II represents an output of the "umbrella" project. Using this approach the present forty-two outputs could have been reduced to seventeen or even less and thereby making the project more manageable.

4. Otherwise the project document design served as an adequate guide for the project's implementation while retaining the flexibility required to meet changing priorities. The objectives and outputs were explicitly stated and its direct support project designation was correct.

Whom the project was to benefit was clearly stated. How they were to benefit could have been stated more precisely.

Related to project implementation

5. Major increases in some budget components were due to the accumulated effects of the devaluating dollar, increases in study tour demands, and the need for more inputs than anticipated. For example, actual expenditures for training substantially exceeded standard costs. Project expenditure was well controlled and major expenditure changes reflected flexible responses to priority changes.
6. Government inputs in terms of providing counterparts, facilities and other support envisaged was provided as planned and as required for the activities actually carried out. No major problem were encountered in this area.

7. The implementation of main activities planned and revised during the life of the project were essentially completed as well as can be expected, short falls were several however and are discussed in the preceding sections of the report.

8. In most cases the project had considerable success in providing effective assistance and the beneficiary organizations were well pleased. However, some difficulties encountered included getting well qualified experts able to provide advice which was responsive to the very demanding requirements of the project counterparts.

The terms of reference for experts were on the whole too demanding considering the time available. However, the Ministry discussed the terms of reference with the experts upon arrival and agreed on what could reasonably be accomplished within the time allotted and the skills the expert was able to effectively apply. The work of the experts was very carefully monitored, evaluated and followed-up by the Ministry.

9. The substantial successes the project has had can to a large extent be credited to the combined team work of the UNIDO backstopping officer, the National Project Coordinator and the excellent support and organizational ability of the National Project Officer especially hired to backstop the project in the Ministry of Industry. Coordination could be even further improved by designating project focal point staff at the corporation level. The Ministry has already decided to do this in the future.

10. On the whole project monitoring and reporting was excellent, especially the terminal (evaluation) report prepared by the Ministry of Industry and the Progress Reports. Communications between the national project management, UNIDO/UNDP field representatives and the backstopping officer were highly effective.

11. In England and Italy fellows reported severe difficulties with respect to the adequacy of their daily allowances. Especially in London and in Milan.

CHAPTER V. RECOMMENDATIONS AND LESSONS LEARNED

Related to project document design - lessons learned

1. If the Government requires many small yet diverse international technical co-operation inputs in order to carry out a larger national programme, the "umbrella project" approach as followed by this project can be very effective. However, careful planning, a well designed project document and special project management arrangements are required for project success.

To help ensure that other "umbrella" projects are equally successful particularly in the identification, formulation and implementation stages, the UNDP needs to develop criteria for deciding on this approach; and policies and guidelines concerning "umbrella" project design, formulation, management, monitoring/reporting and evaluation.

UNIDO may wish to support and assist UNDP in this effort.

2. That UNDP and UNIDO use the approach taken in the original draft version of the project document in formulating future 'umbrella' projects (see discussion Chapter I.B).

The design of the original document developed a series of mini project documents for each problem the "umbrella" project intended to address. Such sub-projects should at least contain: (a) a distinct sub-project objective, and (b) a description of the problem the project will address and the contribution it will make to the "umbrella" project objectives. Using the ETH/83/013 as a case in point, all activities related respectively to leather and shoes, chemicals, edible oils, strengthening of planning implementation capability should each form a separate and distinct sub-project each with its own objective, outputs, activities and inputs. Progress reporting would need to be carried out on specially designed progress report forms.

Related to implementation - lessons learned

3. That broad complex projects of this kind which are expected to provide flexible responses to changing requirements need particularly careful and very time consuming administrative and monitoring support in the field to maintain control and direction. The idea of having a national project co-ordination office in the Ministry of Industry to spend full time on administering and monitoring the project was a major project success factor. Future projects of this kind in Ethiopia will require a similar arrangement. Therefore, attention has to be given to the fact that according to a new Ethiopian Government policy NPCs and NPOs must be financed by the Government.

Related to future assistance

4. The equipment acquired for the Audiovisual Centre of the Ministry of Industry needs to be put to greater use. Know-how and necessary software need to be developed.

Especially the educational film production activity in terms of quantity and quality needs to be strengthened.

5. The major issue concerning future assistance, revolved around the development and implementation of MIS systems. This is discussed in Chapter III.D. In summary the approach selected by the Ministry towards the

realization of MIS goals was considered by the evaluation team to be justified. However, progress would need to be carefully monitored in the light of comments made in this report. A mid-term technical review of MIS development programme should therefore be carefully considered by UNDP and Government.

Otherwise the project objectives of a follow-up project proposal were found to be fully justified considering the industrial development needs expressed by all the organizations the team was able to interview.

An appraisal of the project design was not requested by UNDP and Government in the evaluation terms of reference, however, it is suggested that if the present design is considered acceptable by UNDP that it be revised for management purposes at the start of implementation along the lines discussed in Chapters I.B, IV - paras. 1-4 and V - paras. 1-2.

Given the success of the Phase II project and the ability of the industrial sector to absorb and make effective use of the assistance provided so far, the evaluation team recommends favourable consideration of the new project proposal bearing in mind the comments made in the report.

Annex I

T E R M S O F R E F E R E N C E

FOR

A JOINT EVALUATION MISSION

OF

THE GOVERNMENT OF THE PEOPLE'S DEMOCRATIC REPUBLIC OF ETHIOPIA,

UNDP, AND UNIDO

OF

DP/ETH/83/013--INDUSTRIAL PROJECTS DEVELOPMENT, PHASE III

I. Background

"Industrial Projects Development" was initiated in 1975 as a UNDP/UNIDO technical assistance scheme to the industrial sector of Ethiopia.

Its first phase, under the designation of DP/ETH/75/008, was implemented from 1975 to 1979. The immediate objectives that were pursued at the time were outlined in the related project document as follows:

- 1) Build up a pipeline of industrial projects in priority sectors (textiles, food, leather and leather products) and help ensure their implementation.
- 2) Contribute to the performance of existing enterprises through techno-economic analysis and improvements.
- 3) Assist in industrial development planning within the competence of the team, including establishment of priorities.
- 4) Train Ethiopian team members in the needed skills.

The second phase which was identified as DP/ETH/80/013 was implemented from 1980 to 1983. Its specific missions as pointed out in the associated project document were the following:

- a) A comprehensive analysis of two industrial sub-sectors, viz. chemicals and metal processing, to identify ways and means of enhancing the efficiency of existing factories and to develop fresh investment opportunities for increasing and diversifying production;
- b) The identification, preparation and implementation of industrial projects in each of the five subsectors (textiles, food, building materials, chemicals and metal processing) taking into account, inter alia, the condition of existing plants, the natural resource base, market possibilities, energy requirements and alternative technologies, as well as the availability of skills;
- c) Bette: preparation and presentation of industrial investment proposals by the production corporations; and
- d) An improvement of general and technical knowhow within the production corporations by giving practical assistance at the successive stages of design, establishment, startup and operations of industrial plants.

The third phase which was code-named DP/ETH/83/013 took place from 1984 to 1986. The need for the third phase arose due to the shortages of skilled industrial manpower, the absence of adequate systems, the existence of a limited managerial capability, the major dependency on foreign inputs, the inability of the sector to generate at least its own requirement of foreign exchange, the absence of the requisite

capability for effectively carrying out the sector's medium and long term plans, etc. that were being faced then. The third phase, therefore, set out to pursue the realization of the following major immediate objectives:

- a) to improve the operational performance of selected industrial enterprises by better raw material utilization, more efficient production methods, better product design, stricter quality control, and improved practices of machinery maintenance;
- b) to increase the export value and volume of selected manufactured products by means of market research, product adaptation, and export promotion activities; and
- c) to strengthen the capacity of the Ministry of Industry to plan and implement the Government's industrial policies by establishing and developing an appropriate policy environment as well as effective management techniques for existing and future industrial enterprises.

The third phase had as many as forty-two outputs to deliver. And the tripartite review meeting that was held in November 1986, on the eve of the project's conclusion, has registered its satisfaction on the rather outstanding performance attained by such a complex project.

A tripartite indepth evaluation of the first and second phases was undertaken in May 1985. The one for the third phase is hereby being provided for at the request of the UNDP. The findings and recommendations of this evaluation are expected to serve as basis for the determination of the nature of future technical assistance to the industrial sector.

II. Scope and Purpose of the Joint Evaluation

The evaluation team is expected to:

1. Reappraise the objectives, outputs, activities, inputs, and targeted problem areas of the third phase with the view to determine precision, verifiability, consistency, propriety, suitability, design, structure, etc. of the project such that future project preparations may benefit from such an overall assessment;
2. Assess the degree of the attainment of the project's outputs and objectives not only to find out what has transpired but also to draw the appropriate lessons for the handling of similar undertakings in the future;
3. Evaluate the project's impact on the industrial sector for the same reasons as those indicated for No. 2 above.
4. Look into the difficulties and opportunities that one is likely to run into when designing and implementing such an unusual multi-faceted umbrella project; and
5. Draw the overall lessons that can be appropriated from the whole exercise.

III. Composition of the Mission

The mission shall be composed of one independent consultant representing UNDP, one representative of the Government, and one representative of UNIDO.

IV. Consultation in the Field

The mission will maintain close liaison with the UNDP Resident Representative in Ethiopia, the National Project Coordinator, the SIDFA, and concerned agencies of the Government.

While the mission has all the freedom to discuss all relevant issues with those concerned, it does not have the authority to make commitments on behalf of the Government, UNDP, and/or UNIDO.

V. Timetable and Report of the Mission

Briefings will be given to the independent consultant both at UNDP and UNIDO headquarters prior to the commencement of the field work. At the field, the mission will be briefed by the UNDP Resident Representative, the National Project Coordinator, and the SIDFA. The necessary administrative support for the mission shall be provided by the SIDFA's office.

The field work is expected to take no more than two weeks. And the resulting draft report of the mission should be discussed with the Resident Representative of UNDP, the National Project Coordinator, and the SIDFA prior to the departure from the field so that should the need arise for additional information, discussion, etc., it will be taken care of right there and then. Finally, the independent consultant will be debriefed at UNDP and UNIDO headquarters. The final report of the mission will then simultaneously be submitted to UNDP and UNIDO which in turn will, by mutual consent, submit it to the Government.

Annex II

List of Persons Met and Organizations Visited

UNIDO/UNDP

Mr. G. King	UNDP, DRR
Mr. R. Rajan	" "
Mr. K. Vencatachellum	UNIDO, SIDFA
Mr. G. Dossi	" JPO
Ms. Daphne Casey	UNDP Asst. RR, Programme

Ministry of Industry

Ato Tadewos Haregework	Vice Minister, Industrial Development, NPC
Ms. Raehl Tsige	NPO
Ato Bekele Alemu	Former NPO
Ato Befekadu Dessalegn	Head, Organization, Methods & Systems Department
Ato Sirak Yohannes,	Computer Center, Project Manager
Ato Demissie G/Michael	Head, Finance Department Trainee Interviewed

Office for the State Committee for Economic Relations (OSCFER)

Ato Lemma Arity	Head, UN Department
Ato Bekele Desta	Senior Expert, Evaluation Team Member

Office of the National Committee for Central Planning (ONCCP)

Ato Becry Yusuf	Head, Industry Department
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Ethiopian Food Corporation

Ato Fikre Yifru	Deputy General Manager
Ato Debre Melaku	Spice Extraction Factory
Ato Belay Dechassa	Production and Technical Manager Trainee Interviewed

Ethopian Food Corporation (Contd.)

Ms. Nigist Asfaw Senior Chemist, Trainee Interviewed
Ato Megersa Wakjira Head, Planning Dept, Evaluation
Team Member

National Chemical Corporation

Ato Worku Wondimu General Manager
Ato Bekele Kebede Head, Maintenance, Trainee
Interviewed
Ato Lelissa Daba Project Engineer, Trainee
Interviewed
Ato Wondwossen Ketema Head, Technical Dept., A.A. Foam,
Factory, Trainee Interviewed

Ethiopian Beverages Corporation

Ato Tesfa Endrias Hintsa General Manager
Ato Demessie Disasa Head, Planning & Project Dept.
Ato Gizachew Belay Finance Manager, Participant of
Study Tour Interviewed
Ato Jemil Mohamed Project Manager, Mineral Water
Trainee Interviewed
Ato Getachew Obsse Deputy General Manager. Trainee Interviewed

National Leather and Shoe Corporation

Ato Yilma Adamu General Manager
Ato Asnake Erqou Head, Technical Dept., Trainee
and participant of study tour
Ato Legesse Gebeyehu Production Department, Head
Ato Solomon Belayneh Designer, Design Center, Trainee
Interviewed
Ato Solomon Tesfamariam Division Head, Trainee Interviewed
Ato Hailemeskel Hailu Technical Manager, Trainee
Interviewed

Annex III

DP/ETH/83/013

Industrial Projects Development, Phase III

International Experts and Consultants

NO.	N A M E	NATIONALITY	P O S T	DURATION M/M
1	Mr. K.P. Mahalingam	Indian	Metal Processing Expert	15
2	Mr. M.H. Imam	Indian	Tannery Maintenance Expert	14.3
3	Mr. Santo Iannella	Italian	Heelmatic Machine Expert	0.5
4	Mr. S. Ramachandran	Indian	Match Making Expert	1.3
5	Mr. Don Russell	British	Shoe-Design Expert	2
6	Mr. N.K. Rudra	Indian	Shoe-Making Expert	3
7	Miss M. Prodeyrol Paulett	French	Knitwear Design & Pattern Making Expert	6
8	Mr. J.R. Sainthiapillai	Sri Lanka	Laundry & Toilet Soap Expert	2
9	Mr. Uday S. Paul	Indian	Shoe-Last Expert	3
10	Dr. Jayant Adhia	Indian	Caustic Soda Expert	3.7
11	Mr. Silvio Corsico	Italian	Lincoma Expert	
12	Prof. Martin O'Donoghue	Irish	Industrial Policy, Strategy & Cooperations Expert	5.4
13	Miss Eva M. Nordberg	Swedish	Garment Design & Pattern Making Expert	3
14	Dr. Pramed Chandra Sah	Indian	Project Preparation, Indentification and Evaluation Expert	4.6
15	Dr. Chris A. Jecchinis	Canadian	Manpower Planning and Training Expert	1.5
16	Mr. Krzyzlof Kielbratowski	Polish	Specialist in the Export of Manufacturing Goods	3
17	Dr. Seppala	Finn	Systems Expert	3
18	Mr. J.C. Denbigh	British	Energy Audit Expert	3.2
19	Mr. Kaplan	American	Olfioresin Expert	0.9
	Total			75.4

* The cost is charged to the project DP/Eth/78/001

Annex IV

DP/ETH/83/013

Industrial Projects Development, Phase III
Fellowships

No	Name	Beneficiary Organization	Field of Study	Place of Study	Duration
1	Ato Legesse Gebeyehu ¹	National Leather & Shoe Corporation	Shoe Technology	England	7 m/m
2	Ato Solomon Tesfamariam	"	Leather Technology	UK & FRG	"
3	Ato Frew Kebede ¹	"	Shoe	UK	"
4	Ato Hailemeskel Hailu ¹	"	Leather	UK & FRG	"
5	Ato Solomon Belayneh	"	Shoe Design Technology	"	12 "
6	Ato Kassa Mengistu	"	Shoe Last Technology	Italy	3 "
7	Mrs. Nigist Asfaw	Eth. Spice Extraction S.C.	1) Solvent Extraction of Spice & Distillation of Essential Oils	Sri Lanka	3 "
			2) Operation & Maintenance of and Trouble-Shooting Work on Gas Chromato- graphy	Ireland	
8	Ato Lelissa Daba	National Chemical Corporation	Fertilizer Production and Distribution	Italy	2 "
9	Ato tesfu Fantaye	"	Operation & Maintenance of Steam Boilers	UK	2 "
10	Ato Wondwossen Ketema	"	Plastic Technology	UK	3 "
11	Ato Adugna Mengistu	"	Soap Making Technology and Techniques	UK	3 "
12	Ato Aklilu Berhane	"	"	UK	3 " (did not return back)
13	Ato Tafesse Gelewa	Ethiopian Printing Corporation	Chief Executive Programme	Ireland	2.3 m/m
14	Ato Seleshi Berhane	National Textiles Corporation	"	"	"

1. Course started under DP/Eth/78/001 but was taken over as of January 1984 by DP/Eth/83/013, however, total cost is charged to DP/Eth/78/001

No.	Name	Beneficiary Organization	Field of Study	Place of Study	Duration
15	Ato Abate Lemenhi	Ethiopian Food Corporation	Public Enterprise Management In-Plant Training Programme	Ireland	1.5 m/m
16	Ato Getachew Obsse	Ethiopian Beverages Corporation	"	"	"
17	Ato Bekele Kebede	National Chemical Corporation	Fabrication and Welding Project Engineering	UK	3 m/m
18	Ato Daniel Debessay	Ethiopian Food Corporation	Project Engineering	UK	10 m/m
19	Ato Fikremariam Yifru	"	"	"	"
20	Ato Solomon Retta	"	"	"	"
21	Ato Jemil Mohammed	Ethiopian Beverages Corporation	"	"	"
22	Ato Margaye Azeze	Ethiopian Cement Corporation	"	"	"
23	Ato Cherinet Keefelegn	National Leather & Shoe Corporation	Computer Science	"	13 "
24	Ato Belaye Dechassa	Eth. Spice Extraction S.C.	Theoretical & practical training in extraction and distillation technologies of spice and essential oils	Thailand	4 m/m
25	Ato Hailu Tujuba	National Leather & Shoe Corporation	Export Marketing of Leather & Leather Products	Netherlands	3 m/m
26	W/o Christin Seifu	National Textiles Corporation	Marketing and Export Trade Development	"	"
27	Ato Asnake Erqou	National Leather & Shoe Corporation	Leather Technology	Holland & FRG	3 m/m
28	Ato Demissie G/Michael	Ministry of Industry	1) Professional Accounting 2) EDP	UK	9 m/m
29	Ato Gebre Habte	Nat. Metal Works Corporation	Design techniques and fabrication methods for steel structural elements and metal products	UK	6 m/m
30	Ato Ketema Samuel ²	Ministry of Industry	Data Processing	Greece	3 m/m
31	Ato Mujahid Abubeker ²	"	"	"	"
32	Ato Gizaw Kebede ²	"	Audio-Visual Programme	Japan	"
33	Ato Megersa Wakjera ²	Ethiopian Food Corporation	Planning and Appraisal of Industrial Projects	UK	"

2 Course undertaken in 1987 and 1988.

Annex V

DP/ETH/83/013

Industrial Projects Development, Phase III

Study Tour

No.	Name	Beneficiary Organization	Field of Study	Place of Study	Duration
	<u>STUDY TOUR</u>				
1	Ato Yilma Adana ¹	Ethiopian Printing Corporation	1) Printing Industry 2) Graphic Art	Italy, FRG & England	2 weeks
2	Ato Asfaw Kebede ¹	" " "	"	"	"
3	Ato Tadewos Haregework ¹	Ministry of Industry	March Project	India, Thailand & Malaysia	1 week
4	Ato Asrat Bulbula	National Chemical Corporation	Fertilizer Production System	India, Singapor Thailand, Malaysia & Indonesia	3 weeks
5	Ato Gizachew Sniferaw	Ministry of Industry	Industrial Development	Tanzania, India Thailand & Korea	5 weeks
6	Ato Admassu Getanah	" "	" "	"	"
7	W/t Melkirist Mailu	" "	" "	"	"
8	Ato Kanaa Jaletta	" "	" "	"	"
9	Ato Legesse Tashu	" "	" "	Tanzania	4 days
10	W/o Meseret Shiferaw	" "	Manpower Development and Labour Relations	W.Germany, Hungary, Italy & Yugoslavia	4 weeks
11	Ato Getachew Worku	National Chemical Corporation	" "	"	"
12	Ato Takele Jembere	Ethiopian Food Corporation	" "	"	"
13	Ato Fekremariam Seyoum	Ministry of Industry	" "	"	"
14	Ato Waddeneh Tadesse	Ethiopian Sugar Corporation	" "	"	"

No.	Name	Beneficiary Organization	Field of Study	Place of Study	Duration
15	Ato Abera W/Michael	Ministry of Industry	EDP Applications and Management Information Systems & Financial Management	England, Rotterdam Yugoslavia Koopsool	5 weeks
16	Ato Gezachew Belay	Ethiopian Beverages Corporation	"	"	"
17	W/o Zewditu Yayeh Yirad	Ministry of Industry	"	"	"
18	Ato Kebede Woldu	" "	Industrial Operations	Italy, Yugoslavia Czechoslovakia and GDR	4 "
19	Ato Temesgen Geletta	" "	"	"	"
20	Ato Asnake Erqou	National Leather & Shoe Corporation	"	"	"
21	Ato Yonannes Tekle	Ethiopian Management Institute	"	"	"
22	Ato Milkias T/Giogris	National Textiles Corporation	"	"	"
23	Ato Kiuru Mekonnen	National Chemical Corporation	Work Organization, Planning & Control	U.K. & Yugoslavia	4 " did not return back)
24	Ato Regussie Zeleke	Nat. Metal Works Corporation	"	"	"
25	Ato Bayou Ketta	Ministry of Industry	"	"	4 weeks
26	Ato Abubaker Hashim	National Chemical Corporation	Erection, Maintenance and Technological Process on an Oxygen/Nitrogen Plant	Italy	4 weeks (did not return back)
27	Ato Hashim Yusuf Sadik	Ethiopian Food Corporation	Internal Audit as a Tool of Management Control	Yugoslavia GDR & UK	3 weeks
28	Ato Temesgen T/Mariam	Ministry of Industry	"	"	"
29	Ato Fikre Hugiame	National Textiles Corporation	Transfer of Technology & Operational Spinning	Belgium, UK W/Germany & Switzerland	4 weeks
30	Ato Teralign Seifu	" "	"	"	"
31	Ato Koidesalassie Habteab	" "	"	"	"
32	Ato Girma W/Aregai	National Leather & Shoe Corporation	Leather & Leather Goods Production and Export Marketing	Pakistan, Singapore & India	3 weeks

1. Activities relate to DP|ETH|83|013, but are charged to DP|ETH|80|013.

No.	Name	Beneficiary Organization	Field of Study	Place of Study	Duration
33	Ato Hailemeskel Abebe	National Leather & Shoe Corporation	Leather & Leather Goods Production and Export Marketing	Pakistan, Singapore & India	3 woe
34	Ato Emiru Woldeyes	"	"	"	"
35	Ato Amde Akalework	"	"	"	"
36	Ato Sahle Haile	Ethiopian Printing Corporation	Printing and Paper Converting & Graphic Arts	Sweden, GDR, FRG & UK	3 "
37	Ato Amanuel Tewolde	"	"	"	"
38	Ato Sileshi Tilahun	"	"	"	"
39	Ato Kahsay K/Mariam	Nat. Tobacco & Matches Corp.	Training Workshop on Technology Acquisition and Project Preparation	Poland	4 weeks
40	Dr. Asmerom Fekadu	Ministry of Industry	Occupational Health and Safty	Kenya, UK & GDR	4 weeks
41	Ato Nenna Tewahade	Ethiopian Cement Corporation	The First International Conference on Trade, Transportation and Handling of Cement	UK	8 days
42	Ato Bacry Yusuf	Office of the National Committee for Central Planning	Industrial Projects Planning and Implementation	Ireland, Norway, Vienna Czechoslovakia & FRG	3 weeks
43	Ato Bekele Alemu	UNIDO	Electronic Data Processing	Vienna & UK	3 weeks
44	Ato Befekadu Dessalegne	Ministry of Industry	"	"	"
45	Ato Tadewos H/Work	"	Technical Cooperation/Industrialization	Vienna, Rome Milan, New York & Mouritious	4 weeks
46	W/o Meseret Shiferaw	"	Management Operation & Privatization Seminar of Public & Parastatal Enterprises	New York	3 weeks
47	W/o Ansale Gizaw	"	Executive Development for Women Managers	Kenya	2 weeks

Annex VI

DP/ETH/85/013
Original and Latest UNDP/UNIDO
Budget and Comparison of Both

Budget Line	Original Project Document		Project Budget "K"		Differences	
	m/m	\$	m/m	\$	m/m	\$
11-XX	114.2	820,402	80.7	555,881	-35.5	-284,521
13-00		40,500		32,891		- 7,609
15-00		25,113		13,085		- 12,028
16-00		18,000		38,364		+ 20,364
17-01	24.0	42,797	40.0	60,662	+16.0	+ 17,865
17-50	44.0	36,000	70.0	80,195	+26.0	+ 44,195
18-00	-	-	-	- 12,055		- 12,055
1X-XX	182.2	982,812	190.7	749,045	+ 8.5	-255,767
21-00		225,000		406,715		+181,715
28-00		-		- 1,015		- 1,015
31-00		556,002		405,611		+ 50,609
32-00		111,000		512,954		+201,954
33-00		50,000		27,869		- 25,151
38-00		-		- 8,475		- 8,475
3X-XX		517,002		757,959		+220,957
41-00		15,937		65,026		+ 47,089
42-00		149,228		555,656		+186,428
48-00		-		- 7,241		- 7,241
4X-XX		165,165		391,441		+225,276
51-00		20,021		25,466		+ 5,445
Total	182.2	1,910,000	190.7	2,309,611	+8.5	+399,611

Source: UNDP and UNIDO Documents

Annex VII

Statement of UNDP/UNIDO Reports from 1984-1986

Budget Line	Description	EXPENDITURES IN US\$			
		Total (Actual)	1984 (Actual)	1985 (Actual)	1986 (Actual)
11-99	International Experts (details see page 2)	490,699	121,013	264,888	104,798
13-00	Support Personnel	27,271	2,714	11,706	12,851
15-00	Experts Travel	6,739	2,177	3,760	802
16-00	Other Personnel Cost	17,364	2,105	12,236	3,023
17-01	National Project Officer	40,006	13,797	12,746	13,463
17-51-63	National Experts - 13 experts	46,395	-	37,028	9,367
17-99		86,401	13,797	49,774	22,830
18-99	In experts	(12,033)	-	(670)	(11,363)
21-01	EDP sub-contract - Logica (Contract No. 85/26)	99,070	-	90,008	1,062
21-02	Winery sub-contract - Ifagraria (Contract No. 85/42)	53,848	-	53,848	-
21-03	Knitwear sub-contract - Agro Economic (Contract No.85, Management Standards sub-contract - Computer maintenance " " - SERIC	62,745	-	62,745	-
21-99		215,663	-	214,601	1,062
31-00	Fellowship	339,611	24,756	191,338	125,517
32-00	Study Tour	271,904	10,651	194,692	66,561
33/35-00	Insercice	27,869	-	12,570	15,299
38-01/02		(8475)	-	(3649)	(4826)
41-99	Expendables	49,026	4,138	9,039	35,849
42-99	Non-expendables	267,527	267	34,381	232,879
51-99	Sundries	17,854	2,791	8,540	6,523
99-99	G R A N D T O T A L	1,797,420	184,409	1,003,206	609,805

(2) a lump sum amount is given for sub-contracts and Equipment

Source: Ministry of Industry

DF/ETH/83/013
Industrial Project Development, Phase III
Statement of UNDP Inputs in the period 1984-86

Budget Line	Description	Duration	EXPENDITURES IN US\$			
			Total (Actual)	1984 (Actual)	1985 (Actual)	1986 (Actual)
11-01	Metal Processing Expert - Mr. Mahalingam	(12 m/m)	89,179	89,179	-	-
11-02	Tannery M/C Maintenance Expert - Mr. Iman	(5 m/m)	30,366	30,366	-	-
11-09	Last M/C Expert - Mr. Paul	(3 m/m)	24,438	-	24,438	-
11-51	Pencils Production Expert - Mr. Miebs (1)		1,475	1,475	-	-
11-52	Shoe Technologist - Mr. Rudra	(3 m/m)	14,182	-	14,182	-
11-53	Shoe Design Expert - Mr. Russel	(2 m/m)	12,384	-	12,384	-
11-54	Caustic Soda Expert - Dr. Adhis	(3.7 m/m)	18,042	-	18,042	-
11-62	Olioresin Expert - Mr. Kaplan	(0.9 m/m)	2,635	1,846	789	-
11-63	Tannery M/C Maintenance Expert - Mr. Iman	(9.3 m/m)	44,979	-	44,650	329
11-64	Metal Processing Expert - Mr. Mahalingam	(3 m/m)	18,710	-	18,710	-
11-66	Knitwear Expert - Ms. Pradyol	(6 m/m)	35,237	-	35,846	(609)
11-68			(1,853)	(1,853)	-	-
11-70	Garment Expert - Ms. Nordberg	(3 m/m)	22,888	-	22,071	817
11-71	Soap Expert - Mr. Santhipillai	(2 m/m)	13,343	-	13,343	-
11-72	Heelmatic M/C Expert - Mr. Iannella	(0.5 m/m)	5,334	-	5,334	-
11-73	Matches Expert Mr. Ramachandran	(1.3 m/m)	9,771	-	9,771	-
11-74	Industrial Projects Expert - Dr. Sah	(4.6 m/m)	26,277	-	-	26,277
11-75	Energy Audit Expert - Mr. Dengign	(3.2 m/m)	26,504	-	-	26,504
11-76	Export Marketing Specialist - Mr. Kielbratowski	(3 m/m)	20,759	-	17,201	3,558
11-77	Systems Expert - Dr. Seppala	(3 m/m)	20,220	-	-	20,220
11-82	Manpower Expert - Dr. Jecchinis	(1.5 m/m)	11,238	-	11,238	-
11-83	Industrial Policy Expert - Prof.O'Donoghue	(5.4 m/m)	44,591	-	16,889	27,702
11-99	International Experts	75.4	490,669	121,013	264,888	104,798

(1) Phase II activity

DP/ETH/83/015

Industrial Projects Development, Phase III

UNDP/UNIDO Expenditure Corresponding to 1987

Budget Line	Description	Expenditures in 1987 ⁽¹⁾			
		M/M	Total	Applicable to DP/Eth/83/013	Applicable to DP/Eth/86/016
11-83			1720	1720	-
11-84		0-8	7425 ⁽²⁾	-	7425
11-99		0-8	9145	1720	7425
13-01			6374	6374	-
15-01			3120	3120	-
17-01		12-0	14690	14690	
17-55			966	966	
17-99		12.0	15656	15656	
21-01			2881 ⁽²⁾	2881	
31-20			10	10	
31-22			26	26	
31-24			19	19	
31-31			17730	17730	
31-34			11782	11782	
31-99			29567	29567	
32-26			31	31	-
32-27			674	674	-
32-30			3751	-	3751
32-99			4456	705	3751
41-12	Expendable		4303	3303	1000
42-01	Non-Expendable		50356	35486	14870
51-11			171	171	
51-22			654	654	
51-30			532	532	
51-40			1837	1837	
51-41			342	342	
51-99			3536	3536	
99-99		12.8	129394	102348	27046

(1). Budget line 18-00, 38-00, 48-00, 58-00, are not included

(2). Current year obligations as per the project delivery report as at 12-31-87 are not included

Source: Ministry of Industry

Annex IX

DP/ETH/83/013

Industrial Projects Development, Phase III

Estimated Government Contribution

As at Dec. 31, 1986

	<u>Birr</u>
1. Salary paid to National Coordinator for that portion of his time (1/6) that he spent on project activities	16,200.-
2. Salaries of counterparts to international experts (Birr 1,200 x 74.9 m/m)	89,880.-
3. Salaries of fellows while on training (Birr 1,000 x 172.6 m/m)	172,600.-
4. Salaries of study tour travellers while on tour (Birr 1,500 x 41.4)	62,100.-
5. Administrative support (same assumptions as in the project document)	7,500.-
6. Domestic travel and transportation of foreign experts (same assumptions or in the project document)	37,450.-
7. Office space and facilities (same assumption as in the project document)	18,725.-
8. Supplies	37,450.-
9. Cash outlay for vehicle insurance, vehicle maintenance, inland handling and transportation of equipment, maintenance of office equip.	25,700.-
Total	<u>467,605.-</u>

Source: Ministry of Industry

Annex X

DI/EPE/83/011

Industrial Projects Development, Phase III

Estimated Government Contribution

For 1987

	<u>Birr</u>
1. Salary paid to National Coordinator for that portion of his time (1/6) that he spent on project activities	5400
2. Salaries of counterparts to international experts	960
3. Salaries of fellows while on training	5500
4. Salaries of study tour travellers while on tour	1200
5. Administrative support	-
6. Domestic travel and transportation of foreign experts	400
7. Office space and facilities	5000
8. Supplies	1200
9. Cash outlay for vehicle insurance, vehicle maintenance, inland handling and transportation of equipment, maintenance of office equip.	22800
	<hr/>
Total	40460
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Source: Ministry of Industry

Annex XI

DP/ETH/83/013

Industrial Projects Development, Phase III
List of Equipment Procured by the Project

	<u>Cost in US\$</u>
1. Laboratory equipment for a Spice Extraction Plant	8884
2. A binding machine for the Documentation Centre of the Ministry of Industry	1425
3. An executive desk for the national project office	761
4. A drawing machine for the Documentation Centre of the Ministry of Industry	1236
5. Library accessories for the Library of the Ministry of Industry	3 8242
6. An IBM P.C. personal computer for the Electronic Data Processing (EDP) pilot project & accessories	14449
7. A mini computer (Hewlett & Packard) for the EDP pilot project and accessories	82738
8. Audio-visual equipment for the Documentation Centre of the Ministry of Industry	48607
9. Microfiche for the Documentation Centre of the Ministry of Industry	3 27432
10. An electric typewriter for the Documentation Centre of the Ministry of Industry	1195 ²
Total	194865 =====

1. As per the figures indicated on the 1987 year-end physical inventory sheet
2. Refers to '87 purchase.
3. Local purchase and recent foreign purchase of microfiche equipment not reflected on the physical inventory sheet.

Source: Ministry of Industry

Alternative approach for the development of an integrated management system (MIS) in the industrial sector

It is generally agreed that there is a need for an MIS not only in the MOI and in the corporations, but also in the factories of the sector. The reasoning behind this is that without relevant, accurate and timely information the enterprises can hardly be managed and the data coming from them to the MOI and to the corporations would be of little use. An industry-wide MIS can only be as good as the data produced by the enterprises where the primary data is generated.

An ideal MIS should produce and deliver the data required by the Ministry of Industry for policy, strategic and management decisions as a by-product of the operational data generated during the day-to-day operation of the enterprises and corporations without major additional work and costs. For this reason systems development should start with the improvement of the enterprise financial and cost accounting systems as the first step to realize an industry MIS.

It is known that almost all factories within the sector require a more effective cost accounting systems. To improve this situation an integrated system of financial accounting with cost accounting should and can be developed whereby cost accounting output is generated as a by-product of the financial accounting system. This can be accomplished by an EDP system which allocates costs by type, product and cost centre.

The introduction and operation of an EDP accounting system is in some respects easier to accomplish than improving manual system only, since computers can make up for the deficiencies of inexperienced staff by carrying out the most difficult and time consuming operations within minutes. The effort required to design and introduce necessary data collection sub-systems is similar for both manual and EDP systems.

A fully responsive and efficient EDP management accounting system should and can readily include the capability to not only process information denominated in financial terms but in terms of physical quantities used and produced. Such information should be produced monthly or at least quarterly and on tir .

The first step to realize an MIS should be to improve and install automated systems at the enterprise level. The needs of Ministry of Industry and the Corporations must be known from the very beginning and considered in the design of enterprise systems. A pilot system could be developed for one corporation and the corporation could serve as an EDP accounting centre with specialists to advise enterprises in the development of their respective systems.