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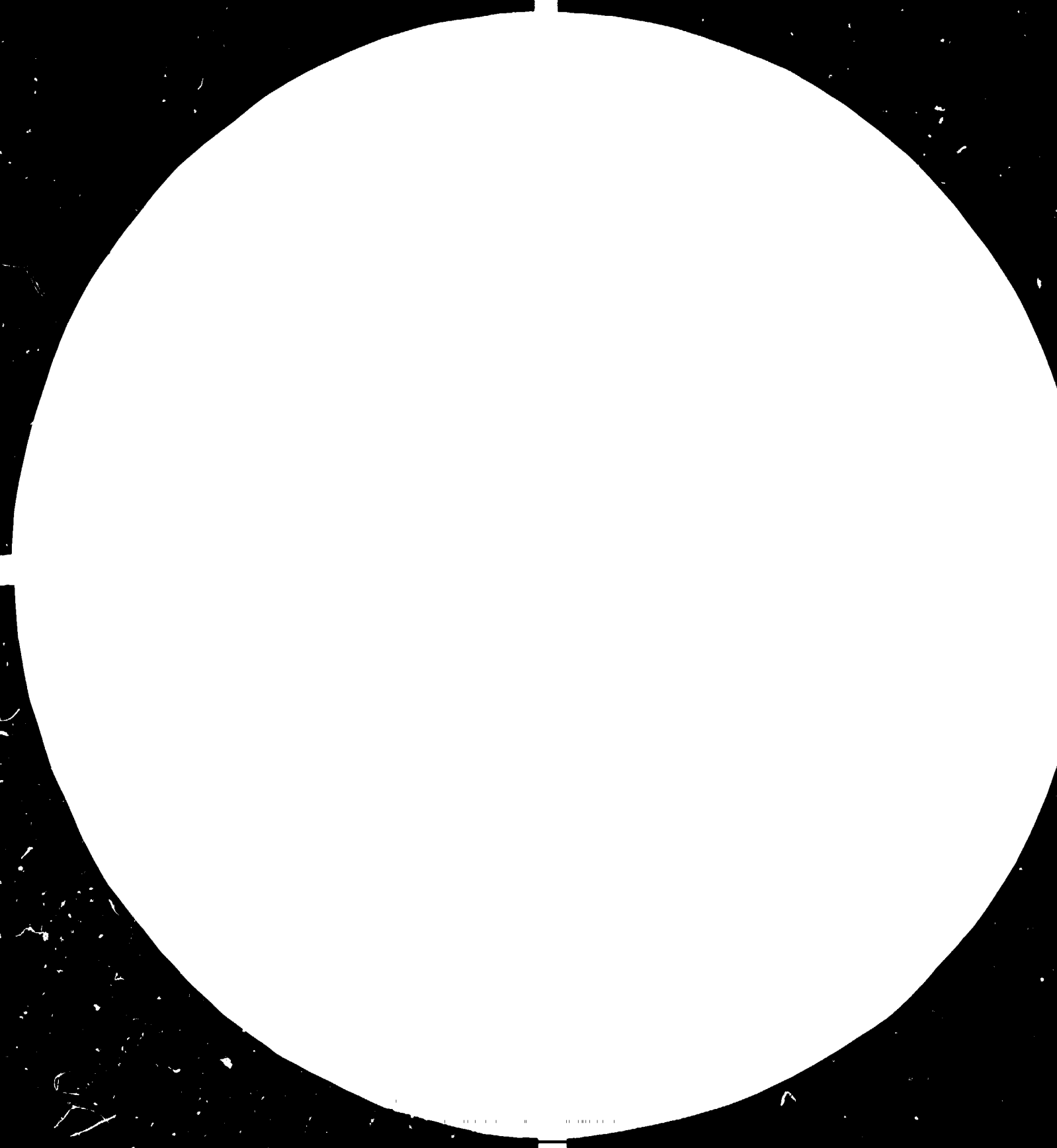
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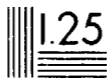
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ASSISTANCE TO THE TANZANIA INSTITUTE OF LEATHER TECHNOLOGY, MWANZA

UC/URT/84/062

The United Republic of Tanzania

Report of the Evaluation Mission*

S. Cimmino

N. Catipovic

Prepared for the Government of the
United Republic of Tanzania
by the
United Nations Industrial Development Organization

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SUMMARY

The purpose of the evaluation mission was to evaluate four completed UNIDO-executed projects in the leather sector in Tanzania (DP/URT/78/010, US/URT/79/240, RP/URT/82/005 and BR/URT/84/001) and to study the adequacy of design for the project, "Assistance to the Tanzania Institute of Leather Technology, Mwanza", as well as to ascertain the availability of Government inputs for the smooth implementation of this project.

Findings

1. The four completed projects, evaluated on the basis of planned outputs, have made significant accomplishments under difficult conditions (serious economic problems, power shortages, lack of foreign exchange, inadequate availability of raw hides and skins, etc.) and have laid the necessary techno-economic groundwork for the rehabilitation of the leather sector as a whole. Project management (both in the field and at headquarters) has been effective and has made timely adaptations of projects to the negative influences. However, increased capacity utilization, which was originally formulated as the objective of the technical assistance projects, could not be achieved.

2. In the course of these projects, a significant amount of preparatory work for the establishment of the Tanzania Institute of Leather Technology (TILT) has been performed. Further international assistance is now required to make TILT a viable industrial research and service institution serving the leather sector.

3. The Tanzania Leather Associated Industries (TLAI), although seriously hampered by financial constraints, has made significant efforts in building the premises of TILT in Mwanza and making final preparations for its start-up. The currently existing premises, facilities and installed equipment can be considered sufficient for the purpose of the proposed project with a 2.5 years duration. TILT could start regular operations by March-April 1985.

4. TLAI has prepared the Tanzania Institute of Leather Technology Act and submitted it to the Ministry of Industries for legal approval by the Government. A budget for TILT with sources of financing and a phased growth plan has also been prepared. Most of the staff planned for the institute in its initial phase has been earmarked.

5. The leather sector in Tanzania has a solid potential and could be very important in solving some of the present foreign currency restrictions in the country. However, the present situation is plagued by many problems. The sector is at a crossroads. A wide co-ordinated action is needed for a large-scale positive effect to be obtained. The situation and the possible course of action are described in detail in the terminal report of project BR/URT/84/001 - "Rehabilitation of the Leather, Footwear and Leather Products Industry". The establishment of TILT is, therefore, proposed at a particularly crucial moment for the sector. The method of operation of TILT and its services should be in tune with the rehabilitation programme and the immediate needs of the sector. TILT should develop its training activity, but much more gradually than planned and proposed in the project proposal for

UC/URT/84/062 or the report EP/URT 82/005. It should concentrate on establishing itself as an industrial research and service institution, focussing on problem-solving through support and extension services to a greater extent than planned in the mentioned documents.

6. The idea to have TILT established as a regional international centre can be considered only as a long-term orientation, after TILT develops and establishes itself in Tanzania.

Recommendations

1. Results of the evaluated UNIDO-executed projects, particularly BR/URT/84/001, form an excellent basis for initiating a wider co-ordinated action for the rehabilitation of the leather sector. The final report of BR/URT/84/001 - with its detailed survey, assessment, recommendations and financial feasibility analyses - should be utilized by TLAI to sensitize the Government (particularly the Ministry of Industries and Trade) to the possible significant benefits which could result from a timely and well-organized action. The importance and potential of the leather sector - as a foreign currency generating agro-based industry - should be stressed, considering the interest and possible sources of financing from the World Bank and bilateral donors.

2. Based on previous contributions by UNIDO-executed projects and the action undertaken by TLAI, the international assistance to TILT would be a logical follow-up to the efforts made in the past five years. The impact of TILT could be strong and felt in the sector if a wider rehabilitation action is initiated.

3. Considering the investment already made in TILT and the foreseen financing from a donor country through UNIDO, the Government should legalize the status of TILT and reach a decision regarding its commitments toward the operating budget of the institute as soon as possible. This would greatly facilitate the position of UNIDO in negotiating for a contribution from a donor country. Parallel to this action by the Government, TLAI should appoint a director of the institute and the staff for the initial three-year phase. After the reformulation of the project proposal, as described under recommendation No. 4, UNIDO should initiate negotiations with potential donors. During this process, the UNEP and SIDFA Office should keep UNIDO headquarters regularly informed about the developments related to the necessary action by the Government and TLAI.

4. Based on its findings in the field, the evaluation mission recommended that the existing project proposal for UC/URT/84/062 be reformulated and updated in order to: a) reflect the preconditions and prerequisites described under recommendation No. 3; b) reflect the current situation at the TILT site, as well as the current needs for the rehabilitation of the whole leather sector; c) reflect the required mix of functions (services) of TILT, with the training function not amounting to more than 30 per cent of TILT's activities in the first three-year phase, and not being confined only to classroom training; d) allow the possibility of involving an established institution, of a similar profile as TILT, in the start-up of the institute; and e) define in more specific terms the national personnel required in the initial phase.

In accordance with this recommendation, the project was reformulated by the Agro-Industries Branch and the Evaluation Unit of UNIDO. The detailed new proposal, attached to the final evaluation report as an annex, includes the terms of reference for subcontracting a large portion of the technical inputs of this institution-building project. The required budget is US\$ 1,038,753.

5. The appointed TILT staff should go ahead with the preparations for organizing initial short courses and making a survey of the most urgent needs of the sector with respect to possible extension and support services (list of priorities), while UNIDO seeks the necessary funding.

6. If the project funding cannot be negotiated within one year, UNIDO short-term assistance should be considered for starting up short (one-month) specialized courses in tanning, finishing or shoe (or leather goods) design, as well as priority extension and/or support services.

7. Assuming that a wider action to rehabilitate the leather and leather products industry is undertaken (the decision regarding sectoral priorities rests with the Government and is closely related to recommendation No. 1), the importance and scope of action of TILT would be increased. The proposed 2.5 years project may then not be sufficient to fully establish TILT as a polyvalent single-branch industrial research and service institution. In this case, the possibility of including additional assistance to TILT from UNDP financing should be considered during the forthcoming Country Programme exercise (to start in June 1985 for the 1987-1991 Country Programme Cycle).

1. INTRODUCTION AND BACKGROUND

The Government of the United Republic of Tanzania has made considerable efforts to develop its leather sector, which represents a significant potential for the country. Since 1979, UNIDO has been involved in the execution of several technical assistance projects dealing with the leather and leather products industries, the most significant one being DP/URT/78/010 - "Leather and Leather Products Industries Development". This project, supplemented by projects US/URT/79/240 - "Assistance to the Leather and Leather Products Industry Pilot Plant", and RP/URT/82/005 - "Industrial Training Advisory Services to the Tanzania Institute of Leather Technology", has made a significant contribution in the preparatory work necessary for the establishment of the Tanzania Institute of Leather Technology (TILT), a single-branch industrial research and service institution envisaged in the late 1970's. The terminal tripartite review meeting for DP/URT/78/010, held in June 1983, recommended that a project proposal be formulated by UNIDO for the actual start-up of the Institute. In spite of the importance of the project, recognized by all parties concerned, it was not likely to be included in the UNDP Country Programme, as a result of financial constraints. After the project proposal had been prepared by UNIDO and examined by the Government, an official request was made to UNIDO, through UNDP Dar-es-Salaam, to render the necessary technical assistance from its own financial sources.

The project UC/URT/84/062 - "Assistance to the Tanzania Institute of Leather Technology", with a total UNIDO contribution of \$822,685, was presented to the 56th meeting of the UNIDG Project Review Committee, held on 29 March, 2 and 3 April 1984. The Committee expressed appreciation for the detailed preparation of the project proposal, but recommended that before the project is presented to potential donor countries, an evaluation should be carried out by an outside consultant in close co-operation with the UNIDO Evaluation Unit, regarding the achievement of the forerunner projects.

The purpose of the evaluation mission was:

- (a) to evaluate projects DP/URT/78/010 and US/URT/79/240;
- (b) to study the adequacy of the project design of UC/URT/84/062 and ascertain the availability of Government inputs for the smooth implementation of the project.

The terms-of-reference for the mission are attached as Annex I.

The members of the mission were:

Dr. Salvatore CIMMINO, UNIDO Consultant (representing PISIE - Jesi, Italy) and
Dr. Nikola CATIPOVIC, Industrial Development Officer, Evaluation Unit, UNIDO.

The Government of Tanzania was invited to participate in the mission. Its representative was Mr. Ibrahim Nzawah, TILT Project Co-ordinator, Tanzania Leather Associated Industries (TLAI), who accompanied the UNIDO team throughout the mission and participated in all interviews, discussions and formulation of findings and recommendations. Originally it was planned that a representative of UNDP Dar-es-Salaam would be part of the evaluation team, but due to UNDP staffing problems at the time of the mission, this did not materialize. Mr. Erling Skjønberg, UNIDO JPO in Dar-es-Salaam, participated partly in the mission's activities.

The mission took place from 6 to 22 October 1984. In addition to the activities in Dar-es-Salaam, field visits were made to Mwanza, Moshi and Morogoro, sites of the most important factories and organizations in the leather sector. The schedule of the meetings held and visits made is given in Annex II. The list of persons met is given in Annex III. The reports and documents examined by the mission are listed in Annex IV.

The mission presented its preliminary findings and recommendations and discussed them with the General Manager of TLAI on 20 October, 1984. These findings and recommendations were also presented to the representatives of the Ministry of Industries and Trade on 25 October, 1984.

The two UNIDO evaluators wish to thank the General Manager of TLAI, Mr. A.S. Kasongwa, for his interest and support during the mission. Mr. I. Nzowah's efforts in making excellent field visit arrangements are highly appreciated. The mission is grateful to Mr. B. Svenson, UNIDO Chief Technical Adviser, for his generous availability and extensive help during the evaluation. Excellent typing of the draft report by Mrs. F. Lema, TLAI Secretary, is acknowledged.

2. EVALUATION OF COMPLETED PROJECTS

The forerunner projects directly related to the proposed project UC/URT/84/062 are DP/URT/78/010, US/URT/79/240 and RP/URT/82/005. Although the terms-of-reference singled out DP/URT/78/010 and US/URT/79/240 for the evaluation, the mission considers RP/URT/82/005 so closely related to UC/URT/84/062 that it should be included as well. In addition, since the recently completed project BR/URT/84/001 - "Rehabilitation of Leather, Footwear and Leather Products Industry" - is an indirect result of all UNIDO efforts in the leather sector since 1979, and since it has significant implications for the proposed TILT project, the mission was of the opinion that it should be dealt with in this chapter. Only the draft final report of the project BR/URT/84/001, financed by the World Bank, is available at the present time; therefore, this project cannot actually be evaluated, but it will be commented upon.

2.1 DP/URT/78/010 - Leather and Leather Products Industries Development

2.1.1 Project formulation - The original project document, signed by the three parties in May 1979 (with a proposed budget of \$427,940) had very broad immediate objectives, including:

- better integrated and more efficient tanneries and leather products factories;
- increased capacity utilization and productivity (with some indicators given);
- improved leather products;
- balanced product mixes; and
- a well-functioning Leather Centre co-operating closely with the production units.

The seven outputs, included in the document, were very non-specific, with practically no elements of quantification.

This deficiency in project design was discussed at the first tripartite review on 23 January, 1981. It was stated that "many of the project's immediate objectives as specified in the project document were stated in a very general, open ended and non-quantified way and it was not possible for the meeting to arrive at an accurate evaluation of the status of project's achievements." At the same tripartite review meeting, a proposed draft revision of the project, increasing the budget to \$1,335,119, was discussed and it was decided that project outputs should be more specified and quantified.

In the project revision, signed by the three parties in April 1981, the development and immediate objectives remained as in the original version. While the development objective is stated in clear terms (to make the leather industry capable of processing all locally available hides and skins and to generate foreign exchange earnings), the immediate objectives remained unsatisfactory. The only addition to the original text was that "the objectives of the project are to improve processing technologies and product designs adapted to suit the locally available raw material qualities and characteristics".

However, the revised outputs represented a significant improvement over the original project design. They were specific, quantified and reflected, to a significant extent, the realistic situation in the leather sector in 1981.

The mission therefore considers that the outputs, rather than the immediate objectives, form a good and realistic basis for evaluating the completed project. In the project revision, the outputs were formulated as follows:

1. Better procedures for production planning and control for the three tanneries in Moshi, Mwanza and Morogoro; manual to be prepared during 1982.
2. Improved productivity and increased capacity utilization in the tanneries and leather products factories, quantified as specified in Annex I of the revised Project Document.
3. Complete manuals for effective preventive maintenance for three tanneries in Moshi, Mwanza and Morogoro, to be established by the Maintenance Engineer during 1981.
4. Concrete detailed proposal for the possible establishment and operation of a centralized maintenance service centre at the Morogoro industrial complex. To be elaborated by the Maintenance Engineer during 1982.
5. Technical assessment by 1982 of the present capabilities and future potential of the entire leather sector with emphasis on the three tanneries and Tanzania Shoe Company Limited, with concrete proposals for the phasing out and replacements of machinery, equipment, as well as of the needed additional requirements, factory by factory, according to a specific time schedule.
6. By the end of 1982 a survey of international marketing possibilities for leather and leather products, including the identification of specific markets along with concrete proposals for pricing policies and quality levels needed, to meet the requirements of international markets.
7. Proposals for possible new production units, including by-products industries, along with long term proposals for shifting towards a more developed finished leather and leather products industry in Tanzania. Final proposal to be submitted in 1983.
8. A comprehensive manpower development programme for the above mentioned tanneries and trained manpower in the field of hides and skins and leather processing, as well as in footwear. leather products manufacturing and designing, machinery maintenance and marketing.
9. The following manpower trained as middle level technical manpower through seminars and training courses and in-service training undertaken by the project personnel:

<u>Field of Training</u>	<u>No. of Trainees</u>
1) Leather processing and technology (Inspectors Level, Tanneries)	25
2) Shoe production and designing (Inspectors Level, Tanzania Shoe Company)	25
3) Leather marketing and selectors (Middle Management and Inspectors Level, Tanneries)	15
4) Maintenance category staff from tanneries (Tanneries)	10

10. The following people will be trained through the following programme of the project or through bilateral funds:

<u>Type of Courses</u>	<u>Duration</u>	<u>Number of Trainees</u>		
		<u>By Project</u>	<u>Other</u>	<u>Total</u>
Leather Technology	2 yrs	3	4	7
Shoe Technology	2 yrs	2	-	2
Shoe Design	2 yrs	-	1	1
Shoe Mould Making Techniques	6 mos.	1	-	1
Tannery Machine Maintenance	2 mos.	3	-	3
Leather Technology Inspector	3 mos.	-	8	8
Marketing of Leather and Leather Products	3 mos.	-	2	2
GRAND TOTAL		9	15	24

11. Proposal for the Leather Technology Institute at Mwanza, and the outline for its further development, to be submitted in 1981.

These outputs, together with work plans which were up-dated during implementation, give a clear picture of what was expected of the project. They are in line with the current UNDP and UNIDO guidelines and practices concerning design (formulation) of projects with a direct support function. The only problematic output is output No. 2. In principle, improved productivity and increased capacity utilization figures should not constitute an output of a technical assistance project. They can be indicators at the project (immediate) objective level. The executing agency can be held responsible only for producing results (outputs) which will, directly or indirectly, lead to the attainment of the objective -- results such as production planning procedures, preventive maintenance systems, etc. Since it cannot be responsible for import of spare parts and chemicals, collection of raw materials and other external factors affecting production, production figures should not appear as an output.

2.1.2 Project implementation and management - Very strong negative external factors influenced project execution from the very outset. Serious economic problems in the country, insufficient quantity and quality of raw hides and skins, problems related to the import of chemicals and spare parts and frequent power shortages are only some of them. These factors are examined in detail in the Terminal Project Report by the Chief Technical Adviser (CTA) of 4 June, 1984 (see reference I.8 in Annex IV). It should also be pointed out that the leather sector was rather unexpectedly excluded from the Country Programme during the mid-term review in 1982. This prevented the undertaking of some other actions mentioned in both the original and the revised Pro Doc (for example, a step-up in the activities related to the Institute and the engagement of associate experts), which were indicated as highly desirable if additional funding could be found.

The project management, both in the field and at UNIDO headquarters, was very responsive to the negative external influences and the frequent adaptation that had to be made in the project in order for it to make a contribution toward helping the leather sector in Tanzania. The mission found the project management, monitoring, reviewing and reporting to be significantly above the average for UNDP-financed and UNIDO-executed large-scale projects. Tripartite review meetings were held on 21 January, 1981, 18 November, 1982 and 28 June, 1983. All three of them were very carefully prepared. The UNIDO internal evaluation system was used very effectively both in the preparation of tripartite reviews and in semi-annual and final reporting. The mission believes that this very responsible project management contributed significantly to some major achievements by the project under very difficult external circumstances.

2.1.3 Project results and utilization - The project results and their utilization are very well documented in the Terminal Project Report (as well as in other technical reports listed in Annex IV). The mission therefore believes that it is not necessary to dwell on this subject in detail here. Suffice it to say that, through numerous field visits and discussions, the mission has verified the rather positive findings of the Terminal Report with respect to the production of planned outputs by the project.

One of the most significant achievements of the project was related to output No. 9. Not only was this training output quantitatively well above the target (by 155 per cent), but practically all of the industry representatives met in Tanzania stressed that seminars, short training courses and in-plant training conducted by the project experts had a very significant contribution in keeping the plant utilization rates at the levels achieved under extremely difficult conditions. The knowledge gained by the trainees enabled them to make adaptations to lower quality raw materials, inadequate supply of necessary chemicals and spare parts, etc.

With the exception of output No. 2, already discussed in section 2.1.1, all other outputs were produced at least as planned (some, as outputs 4 and 7, being adapted to the current situation in Tanzania). A good description of the status of outputs is given in Chapter III of the Terminal Report (pages 10 to 15). Regarding output No. 2, which should not have been included as an output, it should be said that capacity utilization was far from the level hoped for. However, efforts by the project team resulted in some process modifications and new production techniques which enabled capacity utilization to remain at levels recorded in spite of a series of difficulties related to factors external to the project (see pages 19 - 20 and 24 of the Terminal Report).

The strong negative external influences obviously prevented better utilization of the results produced. For example, the mission was told by representatives of the tanneries that the good preventive maintenance schemes produced by the project (output No. 3) cannot be applied effectively when there is a very serious shortage of spare parts. The same applies to a large extent to the production planning and control manuals (output No.1) which are being used only partly since capacity utilization is far below the levels expected several years ago. Another interesting case in point is output No. 5. The concrete proposals for the phasing out and replacements of machinery and equipment, as well as of the needed additional requirements factory by factory were produced as planned. However, thus far these proposals have been implemented, in part only, at the Bora Shoe Company. The detailed proposals for the tanneries, contained in the Terminal Report by

the Leather Manufacturing Expert (see Annex IV, item I.9), cannot be implemented while the current critical financial situation prevails. External financial assistance is needed.

The mission is convinced that the technical work of the experts involved in the project was of high quality. This was confirmed on numerous occasions by the Tanzanian representatives, who were highly appreciative of the work done by the international team under steadily deteriorating circumstances.

A significant contribution of project DP/URT/78/010 towards the efforts for improving the situation in the leather and leather products sector in Tanzania is the detailed diagnostic work, done over a period of several years, which served as a basis for other projects (SI/URT/82/802, BR/URT/84/001) and which contributed substantially to the formulation of a comprehensive rehabilitation programme (see section 2.4). In this sense, project DP/URT/78/010 produced more than was originally planned (see for example Chapter IV and Annex 8 of the Terminal Project Report regarding proposals for the improvement of collection and utilization of raw hides and skins).

Output No. 11 of the revised Project Document dealt with the proposal for the Leather Technology Institute at Mwanza. In this area, project DP/URT/78/010 is closely tied to project US/URT/79/240. Funds from the project were used for the following services:

- the services of an installation engineer for three and a half months to prepare a plant lay-out and detailed installation plans (report I.12a, Annex IV);
- preparation of a training programme and the identification of research-and-development activities in the field of leather industry (report I.12c, Annex IV);
- preparation of a training programme for footwear and leather goods (report I.12b, Annex IV).

The preparatory work of the project related to the Tanzania Institute of Leather Technology can be considered satisfactory.

It is interesting to note that, if TILT is started up in the near future and if a wider rehabilitation programme is initiated for the leather sector (see discussion in section 3.2), TILT could contribute considerably to better utilization of results produced by the project DP/URT/78/010.

2.2 US/URT/79/240 - Assistance to the Leather and Leather Products Industry Pilot Plant

2.2.1 Project formulation - The project was not clearly formulated in the proposal of 20 August, 1979 (see item II.1 of Annex IV) in that there is a contradiction between the immediate objective and the outputs. The immediate objective was "to obtain the equipment for the establishment of a pilot plant, training and demonstration centre for the leather and leather products industry", while the outputs address the services which will be provided to the industry. Since the original project budget had only an equipment component, the outputs are not relevant. The project was designed for a machinery and equipment delivery only, whereas the technical assistance component was expected to be handled partly under the project DP/URT/78/010. For the sake of this evaluation, project US/URT/79/240 is relatively straightforward, with the immediate objective being the only relevant basis for the evaluation.

2.2.2 Project implementation and results - The project, with a budget of \$533,126, was financed by the Government of Italy. The equipment selection and delivery went rather smoothly within the planned time framework. Reports II.2 and II.3 of Annex IV pertain to this activity. The most up-to-date list of machinery, equipment and spare parts supplied by the project is given in the recently completed Status Report on TILT (report II.5 of Annex IV).

In the course of the project, mostly through the efforts of the international team involved in project DP/URT/78/010, one splitting and one shaving machine were obtained through a donation from West Germany. This enabled a savings of about \$150,000 in the equipment component, which was transferred to expert services related to choice of other equipment, assistance in the installation of TILT, preparation of layout and finalization of documentation (described in detail in report II.5 of Annex IV). The donor country approved this transfer of funds on 13 August, 1983.

According to the latest figures presented in report II.5 of Annex IV, the project budget was used for:

- Machinery, equipment and support material	approx. US\$ 303,000
- Expertise	136,978
- UNIDO overhead	61,333

According to the latest figures obtained at UNIDO headquarters, the project shows an unspent balance of:

- Machinery (budget line 42-99)	US\$ 17,197
- Machinery engineer (budget line 11-03)	14,302

Owing to unfortunate delays in the construction of the TILT building, caused by budget constraints of the Tanzania Leather Associated Industries (details given in section 3.2.2), the machinery and equipment delivered through the project had to be stored in Dar-es-Salaam in the TLAI warehouse, and later in the warehouse of the Mwanza Tannery. In the process, some of the equipment was damaged and there is now a need for repair and delivery of additional spare parts. The exact specifications are given in report II.5 of Annex IV on the basis of offers by Italian companies Sideco and V. Casare. The amount needed is Lit. 14,902,400 and US\$1,141, which is within the unspent project balance. The evaluation mission therefore recommends that the unspent balance be used for the necessary repairs and spare parts.

As of October 1984, all of the machinery and equipment delivered through the project is at the TILT site in Mwanza and most of it has been installed (see details in section 3.2.3). A pilot plant which offers excellent possibilities in tanning technology and shoe and leather products technology is practically ready for start-up of operations.

In addition to the equipment described above, which resulted in a \$150,000 savings, the project also benefited from machinery which was transferred from the Morogoro Shoe Company to TILT and is now at the Mwanza site. This transfer, worth US\$51,252, was a result of efforts by the project team and their TLAI counterparts. Since this machinery just arrived at TILT site and since it is not specified in any of the reports related to project US/URT/79/240, the specification is given in Table 1a on page 10. At one time during the implementation of the project, it was thought

that some laboratory equipment could also be obtained from Morogoro Shoe. However, it is now clear that this is not possible. For the sake of completeness of this report with respect to the status of equipment, Table 1b specifies the laboratory equipment which could not be obtained.

One piece of equipment delivered through the project which is still not at the TILT site is the "Apple" computer, with disks, monitor and printer. It is currently in the TLAI warehouse in Dar-es-Salaam. Based on discussions in the field, the evaluation mission recommends that, until the time when TILT is fully operational, the computer be used at the Tanzania Shoe Company (BORA) in Dar-es-Salaam where it can be put to good use, rather than standing idle in a warehouse.

In conclusion, the mission is of the opinion that project US/URT/79/240 has fully achieved its immediate objective and has prepared ground for the start-up of operations of the Tanzania Institute of Leather Technology.

2.3 RP/URT/82/005 - Strengthening of Training Capacity of TILT

2.3.1 Project formulation - In addition to activities related to TILT in projects DP/URT/78/010 and US/URT/79/240, UNIDO provided six months of experts services for the definition or specification of the organizational structure and procedures at TILT, with particular emphasis on training activities. The project formulation, as per proposal of April 1982 (item III.1 of Annex IV) with a budget of \$49,900, is straightforward, with clearly specified outputs, as follows:

- a) An organizational plan for the training function, including identification and description of the posts required, job description and requisite qualifications for each post.
- b) Training outlines/guides for the initial training courses to be offered by the Institute. Such guides will have been prepared in consultation and co-operation with the technical experts (DP/URT/78/010) already on site, the officials of TLAI, the Managing Director and staff of TILT; and will include recommended training aids (models, films, case studies, diagrammes, etc.).
- c) A formal system (policies, application/CV forms, procedures, etc.) for the selection of trainees.
- d) A formal system for monitoring and evaluating trainees' progress.
- e) A formal system for the on-going identification of industry needs.
- f) Specific training programmes for the instructional staff of the Institute, including where necessary, local training and training abroad.

2.3.2 Project implementation and results - The starting point for the project was the work done on the same subject by project DP/URT/78/010. The two reports which describe the results in detail are

Table la. Machinery transferred to TILT from Morogoro Shoe Company

	Item	No. of Item	Unit Price	Total \$
1	Swing arm cutting machine	3	2803	8,409
2	Travel head cutting machine	1	6100	6,100
3	Edge folding machine	2	2400	4,800
4	Skiving machine	2	962	1,924
5	Flat bed, single needle sewing machine (Alfa 157)	5	761	3,805
6	Post bed, single needle sewing machine (Adler)	1	2150	2,150
7	Post bed twin needle sewing machine (Adler 68)	1	2700	2,700
8	Cylinder bed sewing machine (Adler 69-72)	2	2000	4,000
9	Cylinder bed sewing machine (Adler 105)	1	3202	3,202
10	Flat bed single needle (Adler 104)	1	3202	3,202
11	Eye letting machine (Sagitta MR 71)	1	1762	1,762
12	Heel nailing machine (Brustia)	1	6728	6,728
13	Benina zig zag sewing machine	1	1100	1,100
14	Spray cabinet	1	500	500
15	Singer sewing machine	1	870	870
				51,252

Table lb. Laboratory equipment which was not transferred to TILT from Morogoro Shoe

No.	Item	No. of item
1	Automatic rubfastness tester (STM 103)	1
2	Martindale abrasion machine (STM 105)	1
3	Maeser upper leather water proofness tester (STM 106)	1
4	Shoe flexing machine (STM 184)	1
5	Instant lastometer (STM 190)	1

reports III.2 and III.3 of Annex IV, the latter being made available to the mission in the field. Practically all outputs, with the exception of (e), are fully covered. In spite of some shortcomings -- such as the lack of sufficient quantification of course execution elements (number of participants per course, number of courses per year, etc.), the lack of polyvalence of training (the emphasis being only on classroom work), and the non-uniform format for presenting course details (the shoe technology courses presented differently from leather technology courses) -- the training programme of TILT is adequately specified. Particularly noteworthy is the proposed legal text for the establishment of TILT (the TILT Act), which specifies the various functions of the Institute. This text was not foreseen in the project proposal but proved to be a very important contribution of the project (see section 3.2.2). In addition, the project produced several suggested research-and-development topics which would be the core of possible extension and support services to be offered by the Institute.

The project results represent a solid basis for starting initial operations of TILT. However, certain modifications have to be made -- these are discussed in sections 3.2.4, 3.2.5 and 3.2.6. The training programme is over-ambitious and over-designed for the current status of the leather sector in Tanzania, while other possible TILT services are not fully analyzed. (It should be noted, though, that the project proposal did not cover these.)

2.4 BR/URT/84/001 - Rehabilitation of Leather, Footwear and Leather Products Industry

2.4.1 Background - Project BR/URT/84/001 originated from the World Bank interest to prepare a plan of action for increasing the capacity utilization of the problem-riddled Morogoro Shoe Company (MSC), which was built with a long-term World Bank loan. However, based on the UNIDO experience with the leather sector in Tanzania, it was decided that a realistic plan of action for MSC cannot be formulated without a detailed plan of action for rehabilitating the leather sector as a whole. The project was therefore directed at producing an integrated master plan for the rehabilitation of the entire leather, footwear and leather products industry of Tanzania, with special reference to the financial viability of recommendations. The rehabilitation plan was to be presented to the Government of Tanzania and the International Development Association. UNIDO was the executing agency with the project budget being US\$99,892. The UNIDO team consisted of five experts in various fields and two headquarters technical officers.

2.4.2 Draft final report and its significance - The draft final report for the project has just been completed and distributed to interested parties for comments (10 October, 1984). It proposes a very detailed rehabilitation programme for the leather sector, starting with measures related to a more effective collection of raw hides and skins and ending with financial viability analyses for the whole programme as a function of exchange rates of the Tanzanian currency. Five years of UNIDO involvement in the leather industry in Tanzania are reflected in the report. This comprehensive work is probably the most significant achievement of the UNIDO involvement. A detailed analysis of the current problems is given with proposals for their resolution. The costs of the rehabilitation

programme is estimated at US\$11.6 million and Tanzanian Shillings 53 million over a five year period. Particularly interesting are the foreign currency generation elements described in the report, related mostly to the output of the tanneries. A yearly export of wet blue and crust leathers, as well as some finished leather, worth around US\$ 9 million is foreseen (with the necessary initial tanneries rehabilitation and stock-filling cost estimated at US\$ 6.7 million).

The comprehensive technical analysis, combined with the financial viability schemes, should form a very solid basis for the Tanzanian Government to make decisions regarding the future of the very important and potentially very promising leather sector. The sector could be crucial in solving some of the current foreign currency constraints in the country. However, the present situation is plagued by many problems and the sector is at a crossroad. A wide, co-ordinated action is needed for a large-scale positive effect to be obtained. This action is thoroughly covered in the proposed rehabilitation programme.

It should be mentioned that the draft report of BR/URT/84/001 also discusses the possible role of TILT in the rehabilitation scheme. The Institute is envisaged as a valuable instrument in the rehabilitation and the improvement of performance. The relationship of TILT to the rehabilitation programme is discussed in detail in Chapter 3 of this evaluation report.

A note should be made regarding the discussion which the evaluation mission had with the World Bank Resident Representative in Dar-es-Salaam. The interest of the World Bank in the leather sector dates back to the extensive involvement in the MSC. The likely line of credit by the World Bank to Tanzania (mostly interest free) currently under negotiation between the Government and the IMF -- to be used by mid-1986, is approximately US\$ 50 million. Agriculture-related activities with foreign currency generating potential would have a priority. However, the decision as to the priority sectors to be included in this package rests with the Government of Tanzania. The funds necessary for the rehabilitation of the leather sector could originate from this source, but could also come from bi-lateral inputs.

2.5 Summary of UNIDO Involvement and Achievements

1. The four completed UNIDO-executed projects (DP/URT/78/010, US/URT/79/240, RP/URT/82/005 and BR/URT/84/001), evaluated on the basis of planned outputs, have had the following significant accomplishments:

- production management and preventive maintenance systems elaborated and presented to the tanneries;
- production and technology improvements and modifications introduced in the tanneries and Bora Shoe Co.;
- contribution to the establishment of leather standards and test methods;
- manpower development (the number of people trained through short courses and fellowships) far exceeded the number originally planned;
- equipment for TILT selected, delivered and installed; quality and quantity of equipment exceeds the original expectations;

- framework for TILT activities established (organization, definition of activities, syllabi, text for legal act); and
- detailed survey and assessment of the leather sector made and an in-depth rehabilitation programme formulated and proposed (including a financial viability analysis).

2. Factors external to the project (serious economic problems, power shortage, lack of foreign exchange for chemicals and spare parts, inadequate availability of raw hides and skins, etc.) prevented a wider utilization of project results. Increased capacity utilization, which was originally formulated as the objective of the technical assistance projects, could not be achieved.

3. Project management (both in the field and at UNIDO headquarters) has been effective and has made timely adaptation of projects to these negative influences. As a result, the projects have laid the necessary techno-economic groundwork for the rehabilitation of the sector as a whole, which is a major accomplishment.

4. Work by a large team of experts over a period of five years shows a high level of technical competence. Their efforts have clearly been appreciated by the Tanzanian counterparts.

5. In the course of these projects, a significant amount of preparatory work for the establishment of TILT has been performed. This preparatory work has led to the present stage where a project proposal for actually starting up TILT operations has been made.

3. ANALYSIS OF PROPOSED PROJECT UC/URT/84/062 AND FACTORS AFFECTING IT

3.1 Formulation of the Project

3.1.1 Main characteristics - The project UC/URT/84/062 - "Assistance to the Tanzania Institute of Leather Technology, Mwanza", as submitted to the UNIDO Project Review Committee, has institution-building as its sole function. The project proposal foresees the establishment of an institute which will be capable of providing training, quality control, information and research-and-development services to the leather and leather products industries with particular emphasis on the training function. The duration of the project is 2.5 years, with the initial counterpart staffing of 18. The proposed budget is US\$822,685, with UNIDO inputs consisting of a Chief Technical Adviser, a leather technologist, a footwear technologist and 12 man-months of short-term consultants, as well as funds for fellowships and study tours (amounting to US\$100,000).

The project proposal is based on the premise that TILT will have suitable and up-to-date facilities (buildings, equipment and machinery) but will, in the first few years of its existence, be lacking the know-how and practical experience in carrying out its planned programme. Therefore, outside technical assistance, mainly in the form of services of specialized and experienced experts, is essential for making the institute viable.

Based on its assessment of the current situation in the leather sector in Tanzania, which is presented in sections which follow, the mission is of the opinion that the above premise is correct and realistic.

3.1.2 Questions to be answered regarding the project proposal -

The main questions to be answered by the evaluation mission with respect to the adequacy of the project proposal and design are:

- what is the status of Government inputs for the project (site, construction, facilities, equipment installation, personnel selection)?
- what actions have been undertaken by TLAI and the Government in preparation for the establishment of TILT (legal status, sanctioning of budget)?
- what are the most urgent needs for the leather and leather products industry and does the project design address them adequately? what is the likelihood of the acceptance of TILT by the industry (the chances of its success and viability)?
- is the timing of the proposed international assistance adequate and is the duration of the project sufficient for establishing an industrial research and service institution of this kind?

An attempt to answer these questions is made in sections 3.2 and 3.3.

3.2 An Assessment of the Current Situation in the Leather Sector in Tanzania as Related to the Establishment of TILT

3.2.1 Overview of the leather industry - A considerable amount of information on the situation in the leather sector has been provided in various reports and technical documents generated by project DP/URT/78/010 and other projects reviewed in the previous chapter (see Annex IV).

From the Terminal Project Report of DP/URT/78/010, in particular, one may get a clear picture of the current situation in this sector, since there is no doubt that the activities carried out, problems encountered and outputs produced by the above project -- as related to TLAI's subsidiaries -- reflect, in general, features and problems of the Tanzania leather and leather products industry (affecting both public and private plants, small and large undertakings, old and modern plants, etc.). This generalization is justified by the fact that state-owned factories produce two thirds of the shoes manufactured in the country, and process 97% of the tanned hides and skins going into leather production (in conjunction with a system of collection and supply of raw materials predominantly entrusted to a parastatal agency, the Tanzania Hides and Skins (THS)). Even though the public share in leather goods production is, at present, a minor one (about 15%), there are indications that a growing space may be open to the TLAI's Leather Goods Factory in Morogoro, once it reaches a higher capacity utilization. Private undertakings in this area consist of a relatively large operation (Shah Industries in Moshi), a few medium-size firms, and a large number of handicraft workshops, receiving assistance (in addition to shoe-making individual producers) from a parastatal agency, SIDO (Small Industries Development Organization), whose programmes in the leather sector are, for the moment, far from significant (and almost negligible for the production and marketing of the national leather artisanat).

The present overview of the sector aims at focussing on some aspects of the situation that may ultimately hold a special significance for TILT, as a "development device" serving the national leather sector in general, although its main concern and most immediate impact are to be found in the domain of operations of TLAI subsidiaries.

3.2.1.1 Industrial capacity and present constraints - The leather and leather products sector is, together with the textile sector and the building materials industry, one of the three priority areas in industrial development in Tanzania. Most of the activities in this sector are concentrated on the Tanzania Leather Associated Industries, which employs over 5,000 people. Table 2 summarizes the most recent data on the work force and capacity utilization of TLAI subsidiaries, obtained by the evaluation mission during field visits. (It should be noted that detailed technical information on capacities and product characteristics, as well as the quantity and quality of raw materials available, can be found in the Terminal Project Report of DP/URT/78/010.)

The potentially high quantity of raw hides and skins available for industrial processing and manufacturing, coupled with the gradual improvement of livestock breeding, provides a safe starting point in any effort aiming at improving the actual industrial capacity of this sector.

Quantity-wise, there is certainly more to be done in order to increase the present output of THS in the collection and supply of raw hides, provided one looks at such activities not as the last stage of the livestock breeding process, but rather as the preliminary stage (and conditioning factor) of the leather processing and manufacturing. The present situation indicates that, unless appropriate action is taken by the Government to review the existing THS mode of functioning, institution and operation-wise, the constraints already existing in this respect for the leather and leather products industry will gradually adjust the output

Table 2. Work force and estimated capacity utilization by TLAI subsidiaries in 1984

<u>Subsidiary</u>	<u>Employees</u>	<u>Estimated production in 1984</u>	<u>Capacity utilization</u>
Mwanza Tanneries	150	1,3 million ft ²	18%
Tanzania Tanneries (Moshi)	450	5,6 millioa ft ²	52%
Morogoro Tanneries	300	3,5 million ft ²	42%
Tanzania Shoe Co. (Bora)	3000	1,5 million pairs	approx. 30%
Morogoro Shoe Co.	600	neglible	under 2%
Morogoro Leather Goods	80	just started up	under 10%
Morogoro Canvas Mill	550	2 million m ² (started up this year; working close to full capacity in the last quarter)	27% (counting the whole year)
TLAI headquarters (Dar-es-Salaam)	75		
TOTAL	5205		

of this sector to what is actually made available by THS in terms of the raw material. That would make any industrial development policy less viable, both from the standpoint of increased production based on the industrial capacity already existing in the country, and from the standpoint of new investments. Moreover, such constraints would, as it appears now, amount to an actual scarcity of raw material, contrary to what Tanzania can actually provide from its livestock population.

Quality-wise, there is a number of ways through which the existing industrial capacity can increase the quality of its output, even if no increase were to be attained in the present quantity of finished products, as a consequence of the THS supply system of raw hides and skins. Whereas some constraints -- such as the insufficient number and level of staff, inadequate management techniques, low labour productivity, non-optimal production techniques, low labour productivity, non- can be removed within a given timeframe and through the overall improvement of the presently attained industrial level of this sector, other constraints can only be tackled with appropriate import policies within a systematic pattern of measures leading to the rehabilitation of this sector of the national economy. The latter constraints are reflected in the critical situation with respect to chemicals, spare parts, accessories and equipment which has to be imported. As a consequence, there are serious difficulties in increasing (or even maintaining) the current level of production, as well as export, of semi-finished leather, finished leather and manufactured products.

The evaluation mission noticed some encouraging signs with respect to new export-import policies. These are related primarily to the establishment of export retention accounts for the tanneries. Namely, for several months this year the tanneries could retain and use 50% of the foreign currency earned through export, with the breakdown being: 15% for replacement of chemicals and spare parts, 10% for replacement of machinery and equipment and 25% for export promotion (export stimulation measure).

The sector as a whole appears to show an inner capacity to break through the apparently irreversible interdependence between inputs to be imported and outputs to be exported, provided systematic action is taken, as soon as possible, with respect to:

- a) increased availability and stock of raw hides and skins for the tanneries;
- b) continued power supply to tanneries and manufacturing plants;
- c) import of chemicals and vital spare parts for idle equipment in partial or total exchange for exported goods (primarily semi-finished leather, but possibly finished as well);
- d) ad-hoc plant services and training of the "first aid" type to utilize to the maximum the potential industrial capacity of tanneries in the "finishing" of their tanning process, both for the quota to be exported and for the part to be used by the national manufacturers;
- e) ad-hoc plant services and training, of the "first aid" type for manufacturing factories, which would favourably influence the quantity and quality of their products, as well as the price on the consumer market;

- f) cost analysis in each plant and adoption of appropriate measures in view of reducing at least a part of the present losses; and
- g) profitable use of by-products and waste in the current production, particularly where circumstances in a plant may favour new initiatives with a minimum of cost and with no increase of presently employed staff.

The above steps are merely indicative, and far from exhaustive, even for a package of "emergency" measures to reverse the present awkward situation. They would not be sufficient to meet the need for a systematic and in-depth rehabilitation plan if consistent and long-lasting results are to be attained in the medium term for the whole sector. However, they stress the role which TLAI, in general, and TILT in its initial functions, in particular, should play in making available to the sector suitable solutions on pending problems and shortcomings. These steps also indicate that the current situation in the leather sector is bound to affect, one way or another, the operational model of TILT from its very start, namely the mix of industrial services and training programmes offered by this type of a "single-branch" industrial research and service institute (IRSI).

3.2.2 Actions of TLAI and Government in preparation for establishing TILT - Not long after the start of operations of project DP/URT/78/010, it was foreseen that TLAI and the Government would take steps to build the premises and prepare the establishment and organization of TILT. The main source of financing was to be a development levy imposed on the sales of TLAI subsidiaries. As a result of the deteriorating situation in the leather sector, there were considerable problems in securing the foreseen financing. The construction of TILT buildings and other facilities started in 1982. Although hampered by financial constraints, TLAI has made significant efforts in preparing for the start-up of the institute. Already over 20 million shillings have been spent on the construction, a major portion coming from the levy (which was difficult to collect in the planned amount owing to serious operational and financial problems of the subsidiaries). The breakdown of the amount spent, as well as the estimate for expanding the TILT site in the future, is given in Annex V, part A.

TLAI has also prepared estimates for the budget of TILT for the first three years of operation, with start-up costs for the first year, 1985. The sources of financing have been identified, although not confirmed. An analysis of the budget is given in Annex V, part B. The operating budget is estimated at 3.5 - 4 million shillings annually for the period 1985 - 1987, with additional start-up costs in 1985 exceeding 5 million shillings. A phased growth plan for TILT has been prepared for the future period, based on initial international assistance.

With the assistance of UNIDO project RP/URT/82/005, TLAI has prepared the TILT Act and submitted it to the Ministry of Industries for legal approval by the Government. The Ministry of Finance has also been informed in detail. The mission's impression is that both ministries have received the submitted (proposed) Act favourably, although no official result has come out yet. TILT is not a unique type of institute in Tanzania. Three similar institutes have been or are being established to help development in other important industrial sectors. These are SARUJI Institute of Technology in Wazo, concentrating on building materials

(already legally established and operating), Textile Institute of TEXCO in Morogoro (legally established but not yet operational) and Carmatec Institute at Tengeru, specializing in rural technologies. The legal procedure is therefore well established.

Thus far the Government has contributed to the setting-up of TILT with a grant of only around 1.8 million shillings (the exact figure is given in Annex V). The awaited Government action, expected to take place within the next two to four months, is the approval of the legal status and the sanctioning of the TILT budget. TLAI expects that a portion of the start-up and operating budget will be covered by the Government. This appears to have been the case with other similar institutions.

In expectation of the legal approval of TILT, TLAI has not yet appointed the staff of the institute. The Project Co-ordinator is still the only person associated full-time with TILT and he has practically moved permanently to the site in Mwanza. However, other staff has been "earmarked" and at least initially contacted about possible appointments.

The mission is of the opinion that initial staff (necessary for the proposed project UC/URT/84/026, as outlined in the original project proposal) corresponding, at least to a considerable extent, to the requirements described in the "Report of terms-of-reference for the technical manpower of TILT" (RP/URT/82/005, March 1984 -- see item III.e, Annex IV) is available at TLAI subsidiaries. Most of the "earmarked" persons have been trained through UNIDO-executed projects (or in conjunction with them, but financed from other sources), with two candidates currently undergoing training in Europe.

3.2.3 Situation at the TILT site in Mwanza - A visit was made to Mwanza and a detailed tour of the TILT site was conducted. The TILT grounds, with an area of approximately 100,000 m², are located in a beautiful setting on the shores of Lake Victoria. From this standpoint, the site is almost ideal for an industrial service institute. The premises of the Institute include an administration block with 5 offices (area of 180 m²), library (190 m²), chemical laboratory (140 m²), physical laboratory (140 m²), tannery block (260 m²), shoe technology block (260 m²), 2 lecture room blocks (total area 260 m²), kitchen and dining room block (200 m²), 6 staff housing units (90 m² each) and two hostel blocks (approx. 400 m² each) for 48 students or trainees. The site is very spacious, well laid out and allows for future expansion. The site layout is attached as Annex VI.

Architectural design and the civil construction work are of a very satisfactory standard. The inspected buildings were found to be practically completed, requiring only some finishing touches regarding the electrical and plumbing work. Overall, construction on the site is about 95 % completed, the remaining work is pending TLAI back-payment to the contractor which is expected within the year.

As far as the equipment of TILT is concerned, the tanning equipment has been fully installed with foundations. The equipment for shoe and leather goods technology is in the shoe technology block and can be installed within days since no foundations are required. The equipment from the Morogoro Shoe Factory (list included in section 2.2) has recently arrived at TILT and is in the shoe technology block. The laboratory equipment is still in its original packing. The water drainage system is complete. The question of the damaged equipment and its possible reparation has been discussed in section 2.2. A detailed list of the equipment delivered is given in the final (status) report for the project

US/URT/79/240 (see Annex IV, item II.5). Teaching aids are available, with the exception of one or two overhead projectors (there is a movie projector and a slide projector). The cabinets for the laboratories have been ordered and are being made. Kitchen equipment has yet to be ordered and sources of funding found.

Furniture for the housing and hostel has been ordered and will be on site by the end of the year.

Preparations have been made for the power and water supply to be available in December 1984. The Institute can be supplied with power from the stand-by generator at the Mwanza Tannery. Power needed for TILT does not exceed 500 KW. The required transformer, switch gear and electrical cables and accessories, needed for normal operations (apart from standy-by), have been applied for from TANESCO and paid in advance.

The water supply is secured; however, due to low water pressure a water reservoir will probably have to be constructed. This will be done within the next several months.

The Project Co-ordinator will move to the site permanently starting in November 1984. It is reasonably safe to conclude that TILT can start regular operations around March 1985.

Books and reference material for the library have yet to be ordered and sources of financing identified. The Institute has a photocopier, a photoscanning machine (for copying books) and a slide duplicator. A microfiche reader and a Gestetner duplicator would be desirable.

The staff housing within TILT appears satisfactory. The international experts for the proposed project could be housed there. However, there is not sufficient place within the TLAI compound for the full project staff (international and domestic). Some staff would have to be housed in Mwanza, which does not appear to be a simple matter considering the housing shortage at the moment.

The expansion of the TILT premises, as indicated on the site lay-out (Annex V), will have to be gradual, but top priority should be assigned to staff housing expansion.

As a whole, the currently existing facilities, without further expansion, can be considered sufficient for the purpose of the proposed project with a 2.5 year duration. The modular nature of the institute set-up will allow consequent expansion.

Two issues require a footnote at the end of this section. Firstly, the equipment available is of excellent quality and provides TILT with a significant potential for research-and-development and process optimization work. This is particularly true for the shoe technology section, which is equipped above original expectations of project US/URT/79/240. Secondly, the location of TILT at Mwanza is a fait accompli. Site wise, it is a location any industrial service institution in the developing world could hope for. The atmosphere is very conducive academic work. However, TILT is located rather far from most of its end-users and Mwanza has been plagued with constant power problems in the past. By the time the national power transmission net reaches Mwanza in 1987, it is

hoped that TILT, together with the Mwanza Tannery, will be supplied with adequate fuel oil for its own power generation. The problem of distance from most of the end-users will have to be solved by a somewhat larger share of travel costs in the institute budget.

3.2.4 Needs of the industry - As the overview in section 3.2.1 shows, an assessment of the most urgently felt needs of the leather sector in Tanzania can be tentatively made at this stage of the analysis of the proposed project UC/URT/84/062, together with the factors affecting it.

An attempt has been made to ascertain and explore in-depth such needs during the visits which the evaluation team made to subsidiaries of TLAI in Dar-es-Salaam, Mwanza, Moshi and Morogoro.

For the purpose of this section, it appears sufficient to list the most recurrent needs, with some comments where necessary (account being taken of the information already available in documents and reports related to already completed projects).

3.2.4.1 Needs of direct concern for TILT - The evaluation mission found that there is a need on the part of the industry for more detailed knowledge of what TILT is expected to do, coupled with the feeling that one can be aware of TILT's objectives, roles and functions only when it actually comes into operation. This finding calls for an information campaign, to be conducted by TLAI during the present preparatory stage, independently from any future outcome related to UNIDO project UC/URT/84/062. It may be wise to insist, in this information campaign, that each factory -- as Bora Shoe Co. did during the visit of the evaluation mission -- list the problems and issues related to the expected TILT assistance.

With respect to the needs that the leather industry as a whole (public and private) consciously feels -- in direct relation to possible TILT operation -- the following list could tentatively be drawn:

a) need for manpower training, with emphasis on tailor-made short programmes conducted at TILT, and possibly on-the-job, notably on production processes and proper use and maintenance of equipment, addressed to specific problems and shortcomings. Basic training for participants from different plants, at various levels, is also expected as a "constant" function of TILT. Special middle management courses and top management workshops would be useful. Specialized subjects such as design and pattern-making, laboratory testing and quality control techniques, etc., should also be treated;

b) need for extension services, with emphasis on advice and assistance in problem solving; ad-hoc in-plant interventions for the improvement of work methods, production flow and equipment lay-out; cost analysis methods, etc.;

c) need for systematic assistance, counselling and functional integration with relevant units at the plant level, through services institutionalized at TILT headquarters (supporting services). Primary focus should be on chemical testing and analysis, applied research-and-development and quality control methods;

d) need for systematic technical and market information, with emphasis on new techniques and equipment, and trade opportunities and trends in the foreign markets (documentation services in general and industrial and trade promotion services in particular); and

e) need for a production-oriented approach in all TILT functions, as a feature which will ultimately secure a stronger influence (impact) on the development of the sector, as a whole.

3.2.4.2 Needs requiring wider action - The wider needs, which may incorrectly affect TILT, have already been mentioned in section 3.2.1.

The evaluation mission found that the industry feels very strongly about the search, in responsible Government and TLAI circles, for adequate and long-lasting solutions to:

- Raw hides and skins supply, even through private collectors in addition to the THS network (with consequent higher liquidity in tanneries for cash payment);
- Power supply;
- Import of chemicals, accessories and spare parts, by possible strengthening and improvement of Government policies concerning the export retention accounts;
- Increased availability of finished leather and skins;
- Additional investments, with respect to new machinery and equipment, related to rehabilitation; and
- Awkward situation related to the Morogoro Shoe Factory.

3.2.5 Relationship of TILT with industry - For every industrial research and service institution it is of utmost importance to have, even in its inception stage, clearly defined relations with the industry it is supposed to serve. TILT has been in its inception phase since 1982. It is very encouraging to note that in the Tanzania Institute of Leather Technology Act, as proposed by the project RP/URT/82/005, the end-users of the services of TILT are clearly specified, as is their involvement in the management of TLAI through its Governing Body. It is foreseen that this body will consist of representatives from the Ministry of Industries and Trade, Ministry of Livestock Development, Ministry of Manpower Development, state-owned tanneries, state-owned shoe factories, state-owned leather products industries, SIDO, private industry in the leather sector and the Co-operative Union of Tanganyika.

TLAI has undertaken some action to inform its subsidiaries about the role and status of TILT. The final report of the project RP/URT/82/005, with the TILT training courses syllabi and possible research-and-development topics, has been sent to the tanneries and shoe factories. However, the intended end-users have not closely examined this material. The prevailing impression in the industry is that TILT will be mostly a school-type institution with well-equipped laboratories. Such is also the picture obtained from the TLAI Corporation Plan for 1984 - 1988. The mission did not get the impression that the leather sector was aware of the excellent potential of the equipment installed at TILT for solving some important technological problems in the plants. On the other hand, in the interviews conducted during the mission, the management in factories

stressed the need for an organization which could offer extension and support services, in one form or another, to solve some of the burning operational problems.

It is obvious that more promotional work in describing and clarifying the role, use and possible importance of TILT remains to be done by TLAI. An exchange of views with industry representatives in this early stage is strongly encouraged in order to reach a balance between training services, on the one side, and extension and support services (R & D, laboratory, problems solving) on the other. Up to now, it seems that the initiative and supervision for the TILT project have been confined to TLAI Headquarters only, pending possible international assistance.

The mission's impression is that, up to now, only the public sector has been informed about the forthcoming establishment of TILT. Actions should be undertaken to inform the private sector as well, particularly since the visit to and discussions with one of the largest private establishments (Shah Industries in Moshi) indicated that there is considerable interest in the training activities of TILT.

The training programme, as described in the syllabus (final report of RP/URT/82/005) and quantified in the project proposal for UC/URT/84/062 (400 trainees annually) has to be considered as over-ambitious and over-designed for the current status of the leather sector in Tanzania. This is particularly true considering that, training-wise, TILT has been envisaged primarily as a school-type institution, without a polyvalent training capacity (in-plant courses, training of plant trainers who would continue instructing operating staff in their factories, etc.). This finding was reached by comparing the proposed number of people to be trained per year with the estimated needs on the basis of plant visits made by the mission. The number indicated in the proposal might have been influenced by the assumption that the Morogoro Shoe Factory would be operating more successfully in the near term.

The training activity at TILT will have to be introduced gradually with an increasing number of courses as the operation gets established. It is unrealistic to expect that after two and a half years TILT will have the capacity to train 400 trainees per year while at the same time offering other badly needed services to the industry. In any case, the training activities of TILT should be specified much more clearly in the reformulated project proposal.

The idea to have TILT established as a regional leather centre is a good one but only if considered as a long-term orientation, after TILT develops and establishes itself in Tanzania. That process requires a good number of years.

Another important issue in TILT's relationship with the end-users of its services is that of TILT staffing. Considering the type of services TILT will be offering, it is obvious that some of the key posts at TILT can be filled only by experienced people from the industry, some of whom have been trained through the project DP/URT/78/010 or through other sources but in conjunction with the UNIDO-executed project. For R & D and extension services, capable and experienced people are required in order to attract confidence from the end-users (regardless of the fact that they will possibly be working together with an international team for a short period).

The top institute staff will have to be attracted to TILT at Mwanza from the industry by incentives (salary, career development) which have thus far not been elaborated by TLAI.

3.2.6 Possible position of TILT in the sector - The leather and leather products industry in Tanzania has very significant potential but many accumulated problems as well. A very wide and co-ordinated action is needed for a larger-scale positive effect to be obtained. This situation and the possible course of action is described in detail in the terminal report of project BR/URT/84/001 - "Rehabilitation of the Leather, Footwear and Leather Products Industry". TILT is being established at a particularly crucial moment for the leather sector in Tanzania. The Institute could, therefore, be a very valuable tool (instrument) in the rehabilitation of the sector and the improvement of its performance. The method of operation of TILT and the services it will offer to the industry should be in tune with this situation. TILT should develop its training activity, but more gradually than planned and proposed in the draft project document for UC/URT/84/062 or the report RP/URT/82/005. It should concentrate on establishing itself as an industrial research and service institution, focussing on problem solving, to a greater extent than planned in the above documents.

The impact of TILT will be strong and felt in the sector if a wider action to rehabilitate the sector is undertaken. If the constraints and problems which have hampered the operation of the sector in the past four to five years remain unsolved, the impact and importance of TILT will be seriously diminished. Also, its financing (coming from the development levy) would be endangered.

For TILT to become a part of a wider rehabilitation strategy for the sector, it is very important to have a strong staff appointed, regardless of whether the hoped-for and planned international assistance (proposed project UC/URT/84/062) materializes in the very near term or not.

3.3 Adequacy of Project Design

One of the tasks of the evaluation team was to analyze the adequacy of the project proposal UC/URT/84/062 in light of the findings in the field. Based on findings in section 3.2 (particularly 3.2.2, 3.2.4, 3.2.5 and 3.2.6), the project proposal has to be somewhat reformulated (modified). The main elements to be reformulated are:

- a) special considerations - to reflect the actions which have to be undertaken by the Government and TLAI before the international technical co-operation project can get under way (discussed in section 3.2.2).
- b) background and justification - to reflect the current situation at the TILT site, as well as the current needs for rehabilitating the whole leather sector, based on the information obtained by the evaluation team.

- c) outputs
 - to reflect the required mix of functions (services) of TILT, with the training function not exceeding 30 per cent of TILT's activities in the first three-year phase, and not being confined to classroom training. Although a good attempt was made to specify and quantify the outputs in the original project proposal, the outputs should be modified according to the service (activity) module concept for institution-building projects (see UNDP Programme Advisory Note on Industrial Research and Service Institutes - UNDP/PPM/TL/29 of 29 November 1982, as well as the UNIDO Manual on Project Design and Evaluation - UNIDO/PC.31/Rev.1 of 25 May 1984, sections 4.5 and 4.6). This reformulation should take into account, to the extent possible, the organizational scheme of TILT as outlined in the technical report for the project RP/URT/82/005.

- d) activities and inputs
 - to allow the possibility of involving an established institution, of a similar profile as TILT, in the start-up of the institute.

- e) inputs
 - to define in more specific terms the national personnel required in the initial phase, and to allow the possibility of including technical and scientific literature and some additional equipment as inputs. As a result of the reformulation of the above elements, the project budget might have to be revised.

4. PRELIMINARY FINDINGS AND RECOMMENDATIONS

4.1 Findings

4.1.1 The four completed UNIDO-executed projects (DP/URT/78/010, US/URT/79/240, RP/URT/82/005 and BR/URT/84/001), evaluated on the basis of planned outputs, have had the following significant accomplishments:

- production management and preventive maintenance systems elaborated and presented to the tanneries;
- production and technology improvements and modifications introduced in the tanneries and Bora Shoe Co.;
- contribution to the establishment of leather standards and test methods;
- manpower development (the number of people trained through fellowships and short courses far exceeded the number originally planned);
- equipment for TILT selected, delivered and installed; quality and quantity of equipment exceeds the original expectations;
- framework for TILT activities established (organization, definition of activities, syllabi, text for legal act); and
- detailed survey and assessment of the leather sector made and an in-depth rehabilitation programme formulated and proposed (including a financial viability analysis).

Factors external to the project (serious economic problems, power shortage, lack of foreign exchange for chemicals and spare parts, inadequate availability of raw hides and skins, etc.) prevented a wider use of project results. Increased capacity utilization, which was originally formulated as the objective of the technical assistance projects, could not be achieved.

Project management (both in the field and at UNIDO headquarters) has been effective and has made timely adaptations of projects to these negative influences. As a result, the projects have laid the necessary techno-economic groundwork for the rehabilitation of the sector as a whole, which is a major accomplishment.

Work by a large team of experts over a period of five years shows a high level of technical competence. Their efforts have clearly been appreciated by the Tanzanian counterparts.

4.1.2 In the course of these projects, a significant amount of preparatory work for the establishment of TILT has been performed. This preparatory work has led to the present stage where a project proposal for actually starting up TILT operations has been made. The proposal (with institution-building as the sole project function) is based on the premise that further international assistance is necessary to make TILT a viable industrial research and service institution serving the leather sector. Based on its analysis in the field, the mission finds this premise to be fully valid. Continuing international assistance would make the previous

preparatory work more meaningful. Without international assistance, the establishment of TILT would be a very lengthy process without full support and acceptance by the various leather sector production units.

4.1.3 Based on the examination of numerous reports and documents, visits made and discussions held, the mission considers that the leather sector in Tanzania has not only a natural basis and potential for further development, but also a sizeable industrial structure which in itself should be a warrant for such development. The sector could be very important in solving some of the current foreign currency constraints in the country. However, the present situation is plagued by many problems (listed under finding No. 1). The sector is at a crossroads. A wide, co-ordinated action is needed for a large-scale positive effect to be obtained. The situation and the possible course of action are described in detail in the terminal report of project BR/URT/84/001 - "Rehabilitation of the Leather, Footwear and Leather Products Industry". The establishment of TILT is, therefore, proposed at a particularly crucial moment for the sector. The institute could be a valuable instrument in the rehabilitation and the improvement of performance.

4.1.4 The Tanzania Leather Associated Industries, seriously hampered by financial constraints, has made significant efforts in building the premises of TILT and making final preparations for its start-up, already spending over 20 million shillings. The major portion has come from the development levy imposed on sales of its subsidiaries (which is very difficult to collect in the planned amount owing to serious operational and financial problems of subsidiaries). The construction work is practically completed and all of the equipment is at the site, with most of it already installed. Preparations have been made for the power and water supply to be available in December 1984. The Project Co-ordinator spends most of his time at the site and is moving there permanently in November 1984. TILT could start regular operations around March-April 1985. As a whole, the currently existing facilities, without further expansion, can be considered sufficient for the purpose of the proposed project with a 2.5 years duration. The modular nature of the institute set-up will allow consequent expansion. Sitewise, the location of TILT at Lake Victoria is one any industrial service institution in the developing world could hope for. The equipment is of excellent quality and provides the institute with excellent potential for research and development, process optimization and training activities. The location at Mwanza, somewhat far from most of the end-users of planned services, is a fait accompli but should not present insurmountable problems.

4.1.5 With the assistance of project RP/URT/82/005, TLAI has prepared the Tanzania Institute of Leather Technology Act and submitted it to the Ministry of Industries for legal approval by the Government. A budget for TILT with sources of financing and a phased growth plan has also been prepared. Most of the staff planned for the institute in its initial phase has been earmarked.

4.1.6 Thus far, as far as TILT is concerned, the Government has contributed a grant of around 1.8 million shillings. The awaited Government action, expected in the forthcoming months, is the approval of the legal status and the sanctioning of the TILT budget, a portion of which is expected by TLAI to be covered by the Government. The major portion of the budget would still be covered by the development levy (contribution from subsidiaries).

4.1.7 In spite of TLAI's commendable efforts, the impression of the mission is that more concrete Government action with respect to TILT rests on the bringing in of the foreseen international assistance through UNIDO. However, the beginning of international assistance, as seen from the Terms of Reference for this evaluation mission, is dependent on the availability of Government inputs for the smooth implementation of the project. This issue is particularly important in view of the expected financing of the project by a special purpose donor contribution to UNIDO. The negotiating action of UNIDO with potential donors would undoubtedly be strengthened if the Government action, described under finding No. 6, is completed as soon as possible.

4.1.8 The needs of the leather and leather products industry which can be addressed by TILT are:

- manpower training, with emphasis on tailor-made programmes;
- extension services, with emphasis on problem-solving interventions to the factories;
- supporting services at TILT, mainly related to chemical and physical testing, applied research, quality control methods, design development techniques, etc. - in co-ordination with relevant units at factory level;
- systematic technical and market information.

However, the parallel problems of the industry which require wider action and which will strongly influence the effectiveness of TILT in the long run are:

- raw hides and skins supply;
- power supply;
- import of chemicals, accessories and spare parts;
- increased availability of finished leather;
- additional investments required for rehabilitation;
- resolution of the awkward situation related to the Morogoro Shoe Factory.

The mission had the positive impression that attempts were being made to address some of these problems by the introduction of the foreign exchange retention accounts and increased autonomy for TLAI subsidiaries. A wider plan of action with possible solutions is recommended in the final report of project BR/URT/84/001.

4.1.9 It is encouraging to note that in the TILT Act the end-users of the institute services are clearly specified, as is their involvement in the management of TILT through the Governing Body. TLAI has undertaken some action to inform its subsidiaries about the role and status of TILT. However, these end-users are not fully informed about the subject. The prevailing impression in the industry is that TILT will be mostly a school-type institution with well-equipped laboratories. Such is also the picture obtained from the TLAI Corporation Plan for 1984-1988. The mission is of the

impression that the leather sector is not aware of the excellent potential of the equipment installed at TILT for solving some important technological problems in the plants. On the other hand, the management in factories stresses the need for an organization which could offer extension and support services, in one form or another, to solve some of the burning operational problems. Up to now, it seems that the initiative and supervision for the TILT project have been more or less confined to TLAI headquarters pending possible international assistance.

4.1.10 The training programme of TILT has to be considered as over-ambitious and over-designed for the current status of the leather sector in Tanzania. It is unrealistic to expect that in three-four years TILT will have the capacity to train and re-train 400 trainees per year, while at the same time offering other badly-needed services. The method of operation of TILT and its services should be in tune with the rehabilitation programme and the immediate needs of the sector. TILT should develop its training activity, but much more gradually than planned and proposed in the project proposal for UC/URT/84/062 or the report RP/URT/82/005. It should concentrate on establishing itself as an industrial research and service institution, focussing on problem-solving through support and extension services to a greater extent than planned in the mentioned documents.

4.1.11 The idea to have TILT established as a regional international centre is a good one, but only if considered as a long-term orientation, after TILT develops and establishes itself in Tanzania.

4.1.12 Key posts at TILT can be filled only by experienced people from the industry, some of whom have been trained through the project DP/URT/78/010 or through other sources, but in conjunction with the UNIDO-executed projects. The top institute staff will have to be attracted to Mwanza from the industry by incentives (salary, career development) which have thus far not been elaborated by TLAI.

4.2 Recommendations

4.2.1 Results of the evaluated UNIDO-executed projects, particularly BR/URT/84/001, form an excellent basis for initiating a wider co-ordinated action for the rehabilitation of the leather sector. The final report of BR/URT/84/001 - with its detailed survey, assessment, recommendations and financial feasibility analyses - should be utilized by TLAI to sensitize the Government (particularly the Ministry of Industries and Trade) to the possible significant benefits which could result from a timely and well-organized action. The importance and potential of the leather sector - as a foreign currency generating agro-based industry - should be stressed, considering the interest and possible sources of financing from the World Bank and bilateral donors.

4.2.2 The establishment and start-up of TILT should be considered in the context of the necessary wider action and rehabilitation. Based on previous contributions by UNIDO-executed projects and the action undertaken by TLAI, the international assistance to TILT would be a logical follow-up to the efforts made in the past five years. The impact of TILT could be strong and felt in the sector if a wider rehabilitation action is initiated. However, if the constraints and problems which have hampered the operation of the sector since 1979-1980 remain unsolved, the impact and importance of TILT will be seriously diminished and its financing endangered.

4.2.3 Considering the investment already made in TILT and the foreseen financing from a donor country through UNIDO, the Government should legalize the status of TILT and reach a decision regarding its commitments toward the operating budget of the institute as soon as possible. This would greatly facilitate the position of UNIDO in negotiating for a contribution from a donor country. Parallel to this action by the Government, TLAI should appoint a director of the institute and the staff for the initial three-year phase. After the reformulation of the project proposal (as described under recommendation No. 4), UNIDO should initiate negotiations with potential donors. During this process, the UNDP and SIDFA Office should keep UNIDO headquarters regularly informed about the developments related to the necessary action by the Government and TLAI.

4.2.4 As a result of the mission's findings, the project proposal for UC/URT/84/062 should be reformulated, particularly in the following elements:

- a) special considerations - to reflect the preconditions or prerequisites described under recommendation No. 3 regarding the actions of the Government and TILT.
- b) background and justification - to reflect the current situation at the TILT site, as well as the current needs for the rehabilitation of the whole leather sector, based on information obtained by the evaluation team.
- c) outputs - to reflect the required mix of functions (services) of TILT, with the training function not amounting to more than 30 per cent of TILT's activities in the first three-year phase, and not being confined only to classroom training. The outputs should be quantified, to the extent possible, according to the UNDP and UNIDO practice of service modules for institution-building projects, having partly in mind the organizational scheme of TILT as outlined in the report RP/URT/82/005.
- d) activities and inputs - to allow the possibility of involving an established institution, of a similar profile as TILT, in the start-up of the institute.
- e) inputs - to define in more specific terms the personnel required in the initial phase, and to allow the possibility of including technical and scientific literature and some additional equipment as inputs. As a result of the reformulation of the above elements, the project budget might have to be revised.

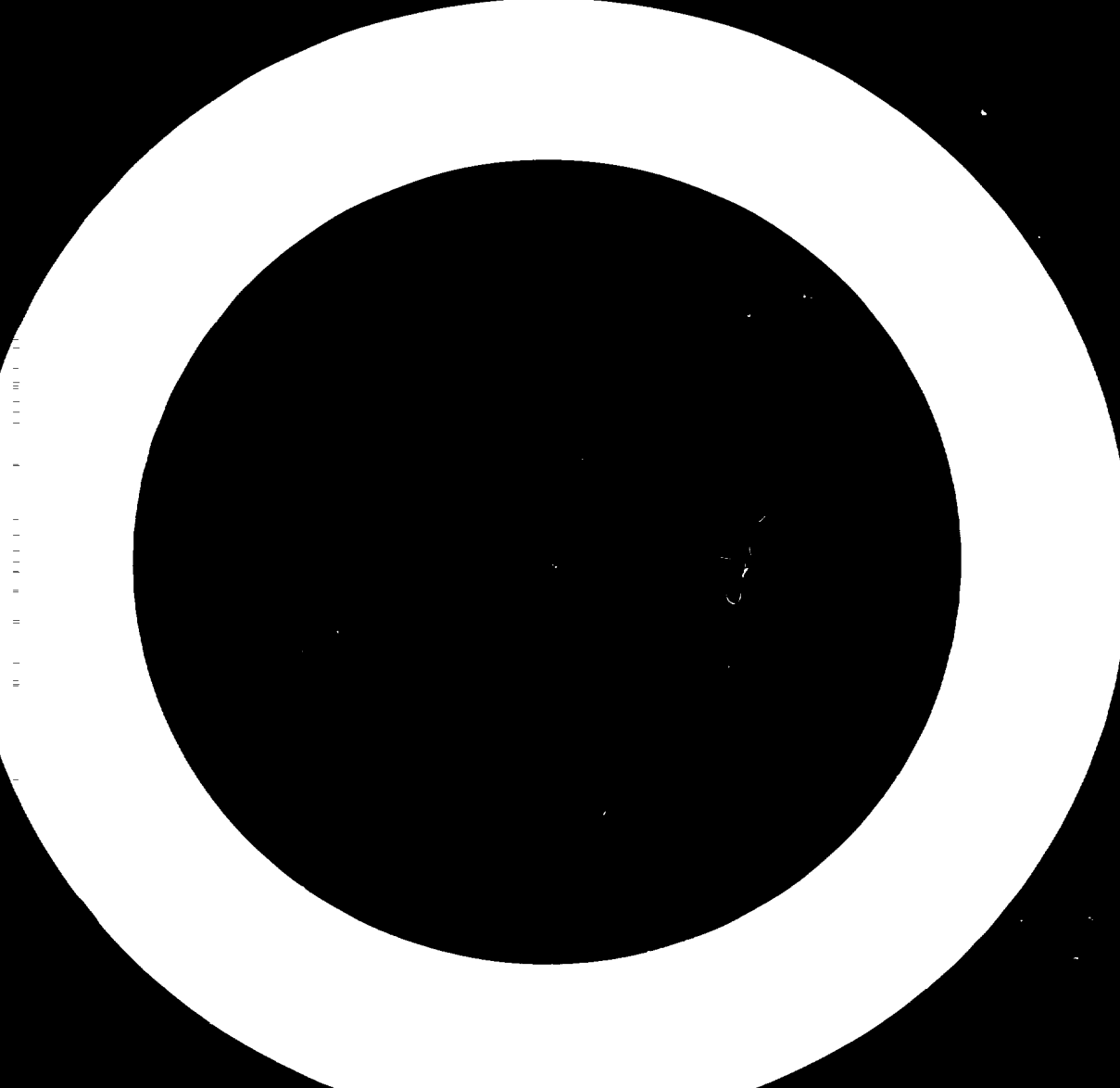
Based on the preliminary findings and recommendations of the evaluation mission, which were presented in Dar-es-Salaam in October 1984, the project proposal was reformulated by the Agro-Industries Branch and the Evaluation Unit of UNIDO in December 1984. It is attached to this final evaluation report as Annex VII.

4.2.5 TLAI should initiate promotional action in describing and clarifying the role, use and possible importance of TILT. An exchange of views with industry representatives is strongly encouraged in order to agree on a balance between training and other services (laboratory, applied research, problem-solving). A management-level meeting of TLAI headquarters and its subsidiaries should be organized as soon as possible to discuss the future of TILT, its staffing, salary and other incentive arrangements and other organizational matters. Actions should be undertaken to inform the private sector as well because of its potential interest in TILT services.

4.2.6 The appointed TILT staff should go ahead with the preparations for organizing initial short courses and making a survey of the most urgent needs of the sector with respect to possible extension and support services (list of priorities), while UNIDO seeks the necessary funding.

4.2.7 Judging from previous UNIDO experience, negotiations with potential donors could take considerable time. If the project funding cannot be negotiated within one year, UNIDO short-term assistance should be considered for starting up short (one-month) specialized courses in tanning, finishing or shoe (or leather goods) design, as well as priority extension and/or support services.

4.2.8 Assuming that a wider action to rehabilitate the leather and leather products industry is undertaken (the decision regarding sectoral priorities rests with the Government and is closely related to recommendation No. 1), the importance and scope of action of TILT would be increased. The proposed 2.5 years project, as approved in principle by the UNIDO Project Review Committee, may then not be sufficient to fully establish TILT as a polyvalent single-branch industrial research and service institution. In this case, the possibility of including additional assistance to TILT from UNDP financing should be considered during the forthcoming Country Programme exercise (to start in June 1985 for the 1987-1991 Country Programme Cycle).



ANNEX I

Joint UNDP/UNIDO Evaluation Mission of Projects DP/URT/78/010
"Assistance to Leather and Leather Products Industries Development",
US/URT/79/240 "Assistance to the Leather and Leather Products Pilot Plant"
and UF/URT/84/062 "Assistance to Tanzania Institute of Leather Technology"

Terms-of-Reference

1. BACKGROUND

The project UF/URT84/062 "Assistance to Tanzania Institute of Leather Technology" with a total UNIDO contribution of \$ 822,685, was presented to the 56th Meeting of the Project Review Committee, held on 29 March, 2 and 3 April 1984. The committee recommended that IO/AGRO should first prepare a separate project proposal to be financed from the General Purpose Convertible Contribution, at an amount of \$ 12,000 for an evaluation to be carried out by an outside consultant in close co-operation with the UNIDO Evaluation Unit, regarding the achievements of the forerunner projects. The forerunner projects to be evaluated are DP/URT/78/010 "Assistance to Leather and Leather Products Industries Development" and US/URT/79/240 "Assistance to Leather and Leather Products Pilot Plant".

DP/URT/78/010

The United Republic of Tanzania is one of the East African countries possessing a large livestock population. The estimate by Tanzania Hides and Skins (THS) indicate that the present livestock population consists of 13 million heads of cattle, 4.5 million heads of goat, and 3 million heads of sheep. Although the off-take rate, owing to various reasons, is comparatively low and the recovery for industrial processing is severely constrained by infrastructural problems, poorly organized collection network, unrecorded trade to neighbouring countries and similar problems the Government of Tanzania has realized the potential importance of this renewable raw material resource and has made considerable efforts to develop this industrial sector: three mechanized tanneries were erected during the last fifteen years, a large footwear factory and a medium-sized leather goods factory were installed, and a leather board factory is under construction in Morogoro. Other plans for further expansion and consolidation of the leather and leather products industry are being actively pursued such as the establishment of the Tanzania Institute of Leather Technology (TILT), the rehabilitation of the Morogoro Show Factory, and the modernization of Tanzania Shoe Company in Dar-es-Salaam.

This massive development programme has been hampered by the lack of qualified personnel at all levels, lack of foreign exchange for imported inputs, over-ambitious and over-sophisticated production units (Morogoro Shoe Factory). The capacity utilization of the tanneries and shoe factories has, therefore, remained far below expected standard. As the Tanzania Leather Associated Leather Industries (TLAI), the parastatal organization responsible for the leather and leather products sector development in the public sector, needed assistance to combat the problems, the Government of Tanzania requested assistance from the United Nations Development Programme. The project "Leather and Leather Products Industries Development" DP/URT/78/010 was approved in May 1979 and the United Nations Industrial Development Organization (UNIDO) was designated as executing agency. The project data and progress can be summarized as follows:

The project became operational by fielding the Chief Technical Adviser (CTA), Mr. B. Svensson, on 25 November 1979. During the life of the project, six international experts were engaged in addition to the CTA to provide specialized services in the following main areas: leather manufacturing, shoe technology, shoe designing, tannery machinery maintenance, leather and leather products marketing and footwear machinery maintenance; two short-term consultants were engaged to provide training courses in the following areas: closing room operations and boiler maintenance. Two further consultants were engaged to prepare training curricula for TILT in leather technology and footwear and leather products technology. The recommendations from these activities can be referred to in the individual project reports on record.

The project DP/URT/78/010 also partly supervised the execution of related projects, such as SI/URT/82/802 "Survey of the Footwear Production and Management Methods in Tanzania", US/URT/79/240 "Assistance to the Leather and Leather Products Industry Pilot Plant", IW/URT/82/001 "Establishment of a Leather Goods Unit, Isanga, Mbeya, RP/URT/82/005 "Strengthening of Training Capacity of TILT", SI/URT/77/806 "Manufacture of Leather Board", DP/URT/78/001 "Industrial Training and Consultancies". The project was also closely associated and has co-operated with the FAO-executed project TCP/URT/005 in the hides and skins improvement. Furthermore, the project was instrumental in the design of two additional projects, namely BR/URT/84/001 "Rehabilitation of Leather, Footwear and Leather Products Industry" which is funded through a credit by the International Development Association (IDA), and UF/URT/84/062 "Assistance to TILT" which was approved by the UNIDO Project Review Committee and is to be started with a preliminary phase in order to evaluate the fore-going projects, to study the project design and to suggest possible improvements to it. After this preliminary phase the project will be put forward for negotiations with potential donors.

The project was monitored through frequent tripartite review meetings and such reviews were held on 21 January 1981, 18 November 1982 and 28 June 1983. The project was also subject to UNIDO's self-evaluation system and relevant reports from 15 October 1982 are on file.

The active life of this large-scale project, with total UNDP inputs of \$ 1,445,844 (DP/URT/78/010 Rev. K - \$ 1,236,320, and SM/URT/78/010 Rev. E - \$ 209,525), based on the duration of field services, is 43 months; starting with the fielding of the CTA in November 1979 and ending with the transfer of the CTA to project RP/URT/82/005 in July 1983.

US/URT/79/240

The subject project was presented to the 38th Meeting of the UNIDO Project Review Committee held on 3 December 1979 and cleared for negotiations with special purpose donor countries. The funding of the project, with a total UNIDO contribution of \$ 533,126 was approved by Mr. Kociancich, Director, Department for Co-operation and Development, Division of Foreign Affairs, Italy, on 18 June 1981. The project was made operational on 30 July 1981.

The project was designed for a machinery and equipment delivery only whereas the technical assistance component was expected to be handled under the project DP/URT/78/010. The original list of machinery was prepared by the UNIDO consultant Mr. B. Lunden in 1979. The requisitions to obtain quotations for international bidding were based on information by the CTA on 25 June 1981 and sent to Tanzania for approval on 3 August 1981. The delivery target for the machinery requisitions was end December 1981.

A UNIDO staff member mission was carried out from 21-30 October 1981 to Tanzania to further discuss and evaluate the exact equipment requirements and to ascertain whether the Government inputs would be delivered as specified. The report prepared by Mr. F. Schmé1 can be summarized as follows:

- the building for the TILT was scheduled to be ready in mid 1982 and the institute was judged being in a position to start its operations in early 1983;
- the work plan of the project was prepared;
- the list of imported equipment was finalized in detail;
- a list of equipment to be transferred from the Morogoro project was prepared;
- a supplement to the project proposal was prepared further detailing the contributions of UNIDO and the Government.

The final technical clearance for the purchase of the machinery was given by the substantive section to the UNIDO Purchase Section on 2 December 1981. The orders for the main part of the machinery and equipment were placed during December 1981 and February 1982 with a target delivery date of March/April 1982. The deliveries of the machinery were effected in time.

Owing to unfortunate delays in the construction of the building caused by budget constraints of the Government, the machinery and equipment had to be stored in Dar-es-Salaam in the warehouse of the Tanzania Leather Associated Industries Corporation (TLAI), and later in the warehouse of the Mwanza Tannery.

The project DP/URT/78/010 was completed in June 1983, before the TILT building was completed and the machinery could be installed there. This is the reason why the services foreseen for the establishment of the TILT could not be provided by this project. Nevertheless, the project DP/URT/78/010 has provided the following services to the project US/URT/79/240 (TILT):

- The services of an installation engineer for three and a half months to prepare a plant lay-out and detailed installation plans. The technical report of Mr. F. Malata dated 30 September 1983 refers:

- preparation of a training programme and the identification of R + D activities in the field of leather industry. The terminal report of Mr. Krishnan, dated 16 February 1982, refers:

- preparation of a training programme for footwear and leather goods. The terminal report of Mr. Beeby, dated 1 February 1983, refers.

In addition to above activities, UNIDO has provided six months of expert services under the project RP/URT/82/005 for the establishment of organizational structure and procedure forms for the TILT. The technical report prepared by Messrs. Svensson and Buit, dated November 1983, refers.

Because of the fact that about \$ 150,000 of the equipment component were saved (a German chemical company donated a leather splitting machine and 12 footwear machines were transferred from the Morogoro plant) UNIDO initiated the transfer of this balance to the expert budget-lines. This was to fund expert services for the installation of machinery and initial starting up of the institute. It was, however, fully realized that these inputs would not suffice to get the institute fully established (the letter of Mr. Butaev to Mr. Uttara, dated 25 April 1983 refers). The donor country approved

this transfer of funds on 13 August 1983. The installation phase of the TILT project is now under process. The previous project manager and leather technologist of the project DP/URT/78/010 were assigned to the project US/URT/79/240 to carry out this work which is expected to be completed in July/August 1984.

2. SCOPE AND PURPOSE OF THE REVIEW

The primary purpose of the review of the project is:

- to evaluate the projects in order to determine how adequately its immediate purposes are being attained and how effective they have been or are likely to be in assisting the Government to achieve the relevant sectoral development objectives;
- to identify the factors which may have facilitated or hampered the achievement of the projects' immediate and ultimate objectives;
- to recommend further action which might be taken.

3. ACTIVITIES TO BE UNDERTAKEN BY THE MISSION

- Look into the reasons for the delay in implementation of the project US/URT/79/240 and to state the reasons why the project DP/URT/78/010 was not able to provide the services required for the starting up of the pilot plant and training centre (TILT);
- Study the project design and scope of UF/URT/84/062 and to determine the adequacy of its design to meet the objectives set and to suggest appropriate modifications of the project design if required;
- Ascertain whether the Government inputs for the project UF/URT/84/062 are secured to facilitate the smooth implementation of the project in case the funding can be obtained.

4. COMPOSITION OF THE MISSION

- a) The mission will be composed of the following participants:
 - A Representative of UNDP
 - A Representative of UNIDO (staff member)
 - Messrs. PISIE (Jesi, Italy) already agreed to by the Government of Tanzania
 - The Government of Tanzania is invited to participate in the mission
- b) The mission will maintain a close liaison with the UNDP Resident Representative in Dar-es-Salaam, the Government agency (Tanzania Leather

Associated Industries Corporation), the UNIDO SIDFA and JPO and the project personnel of the subject projects and their counterparts.

c) Although the mission should feel free to discuss anything relevant to its assignment with the authorities concerned, it is not authorized to make any commitments on behalf of UNIDO or UNDP.

d) A representative of the independent consulting company (Messrs. PISIE) should be briefed and debriefed in Vienna by the substantive section and the evaluation unit. During the briefing he will be provided with relevant documentation, such as project documents, tripartite and self-evaluation reports, technical and terminal reports of the international experts. It is not expected that the UNDP representative needs to come to Vienna for briefing.

e) The mission team will prepare a report in accordance with the instructions UNDP/OFM/VI Section 4, Annex II "Outline of Report of a Project Evaluation". The report should be prepared as far as possible in the field, so that there is an opportunity for additional consultations as may be necessary. It should be submitted in final form (not in draft form) to UNDP and UNIDO at the same time. The UNDP and UNIDO, by agreement, will submit this report to the Government authorities.

Annex II

SCHEDULE OF MEETINGS HELD AND VISITS MADE

- 8 October - Meeting with the General Manager of the Tanzania Leather Associated Industries (TLAI)
- 9 October - Briefing at UNDP - Dar-es-Salaam
 - Meeting with the Acting Director, Light Industries, Ministry of Industries
 - Meeting with the UNIDO Chief Technical Adviser
- 10 October - Visit to the Tanzania Shoe Co. Ltd. (BORA) in Dar-es-Salaam and discussions with the management
 - Meeting with D.F. Mistry Constructor Co., contractor for TILT
- 11 October - Travel Dar-es-Salaam - Mwanza
 - Visit to the Mwanza Tanneries Co. Ltd. and discussions with the General Manager
 - Visit to site of Tanzania Institute of Leather Technology (TILT)
- 12 October - Travel Mwanza - Moshi
- 13 October - Visit to Tanzania Tanneries Co. Ltd. and discussions with the management
 - Visit and discussions at the Shah Industries Ltd.
- 14 October - Problems with air transport and delay in Arusha
- 15 October - Travel Arusha - Dar-es-Salaam
- 16 - 17 October - Drafting of report and preliminary findings
- 18 October - Travel Dar-es-Salaam - Morogoro and
 - visit and discussions at Morogoro Tanneries Ltd.
 - visit and discussions at Morogoro Leather Goods Co.
 - visit to the Morogoro Shoe Company
 - visit and discussions at Morogoro Canvas Mill
 - Return to Dar-es-Salaam

- 19 October - Meeting with the World Bank Resident Representative in Dar-es-Salaam
- 20 October - Presentation of preliminary findings and recommendations of the mission to TLAI, with discussion.
- 22 October - Presentation and debriefing at UNDP
- 23 October - Submission of draft report to TLAI and UNDP
- 25 October - Presentation at the Ministry of Industries and Trade

PERSONS MET BY THE MISSION

UNDP/UNIDO - Dar-es-Salaam

- Mr. R.C. Church, Deputy Resident Representative, UNDP
- Mr. E. Skjensberg, Junior Professional Officer, UNIDO
- Mr. B. Svensson, Chief Technical Adviser, UNIDO

Tanzania Leather Associated Industries - Dar-es-Salaam

- Mr. A.S. Kasongwa, General Manager
- Mr. I. Nzawah, Project Co-ordinator, TILT

Ministry of Industries - Dar-es-Salaam

- Mr. W.L. Nyachia, Acting Director, Investments and Implementation (representing Dr. F. Mujuni, Principal Secretary)
- Mr. W. Mworira, Acting Director, Light Industries
- Mr. Balantanda, Assistant to the Director, Light Industries

Tanzania Shoe Co. Ltd. (BORA) - Dar-es-Salaam

- Mr. Y.J. Mwailolo, General Manager
- Mr. R.K. Mleube, Production Manager - Rubber
- Mr. A.A. Mwasyoge, Production Manager - Leather
- Mr. A. Khalfan, Quality Manager
- Mr. G.N. Budili, Director of Engineering
- Mr. E.N.K. Shiyo, Design Manager
- Mrs. M. Mtalo, Senior Manpower Development Officer

Mwanza Tanneries Co. Ltd.

- Mr. A. Kalalu, General Manager

Tanzania Tanneries Co. Ltd. - Moshi

- Mr. B.N. Kiyuga, General Manager
- Mr. S.A. Temba, Production Manager

Shah Industries Ltd. - Moshi

- Mr. Himatlal D. Shah, President

Morogoro Tanneries Ltd. - Morogoro

- Mr. G. Kimweri, General Manager
- Mr. J.P. Wakari, Production Manager

Morogoro Leather Goods Co. - Morogoro

- Mr. Bruckhoffer, General Manager

Morogoro Canvas Mill - Morogoro

- Mr. Leffler, General Manager
- Mr. Scahan, Training Manager

World Bank - Dar-es-Salaam

- Mr. R. Fennel, Resident Representative

Annex IV

REPORTS AND DOCUMENTS EXAMINED

I) DP/URT/78/010

1. Project Document URT/78/010 - Leather and Leather Products Industries Development, 25 May 1979
2. Project Revision URT/78/010 - Leather and Leather Products Industries Development, 15 April 1981
3. Report on the Tripartite Review Meeting, 23 January 1981
4. UNIDO Internal Evaluation System, Project Evaluation Report, 8 October 1982
5. Report on the Tripartite Review Meeting, 18 November 1982
6. Report on the Terminal Tripartite Review Meeting, 28 June 1983
7. UNIDO Internal Evaluation System, Terminal Project Evaluation Report, 25 August 1983
8. Terminal Project Report, B. Svensson, CTA, UNIDO/DP/SER.B/460 4 June 1984
9. Terminal Report by the Leather Manufacturing Expert P.B. Buit, April 1983
10. Manual on the Guidelines and Procedures on Tannery Production Planning and Control, by P.B. Buit, 6 February 1983.
11. Technical reports:
 - a) Footwear design and pattern cutting, by D. Russell, UNIDO - DP/ID/SER.A/252, 14 October 1980.
 - b) Plant Maintenance, by Mr. M.H. Imam, 1 October 1981
 - c) Clsing room machinists training, by W.. Cogger, May 1982
 - d) Footwear manufacture, by J. Bek, UNIDO/DP/ID/SER.A/458, 30 July 1982

- e) Marketing of leather and leather products, by R.S. Chambers, December 1982
- f) Footwear design and pattern - cutting course and product development, by D. Russell, UNIDO/DP/ID/SER.A/468, 21 March 1983
- g) Centralized maintenance system, by F. Malata, UNIDO DP/ID/SER.A/491, 8 September 1983

12. Technical reports related to TILT:

- a) Shoe machinery maintenance at TILT (TILT layout), by F. Malata, 30 August 1983.
- b) Training for the leather products industry, by R.W. Beeby, 1 February 1983
- c) Assistance to TILT - identification and preparation of suitable training programmes and R + D activities, by T.S. Krishnan, 16 February 1983

II) US/URT/79/240

- 1. Project Document URT/79/240 - Assistance to the Leather and Leather Products Industry Pilot Plant, proposal dated 20 August 1979
- 2. Technical report on visit to Tanzania, by F. Schmel, UNIDO, 21-30 October 1981
- 3. List of equipment ordered for TILT, by F. Schmel, 12 May 1982
- 4. Technical report covering terms of reference for the technical manpower needed for TILT by B. Svensson and P.B. Buit March 1984
- 5. Status report on TILT, by B. Svensson and P.B. Buit, July 1984

III) RP/URT/82/005

- 1. Project Document RP/URT/82/005 - Industrial Training Advisory Services to the Tanzania Institute of Leather Technology, proposal dated April 1982
- 2. Technical report - industrial training advisor, by B. Svensson and P.B. Buit, November 1983
- 3. Technical report covering terms of reference for the technical manpower needed for TILT, by B. Svensson and P.B. Buit March 1984

IV) BR/URT/84/001

1. Terminal Report: Rehabilitation of the Leather, Footwear and Leather Products Industry by B. Svensson, CTA, and team of experts, 3 October 1984
2. Survey of the footwear production and management methods in Tanzania, SI/URT/82/802, by O.F. Klötzer and F. Schmel, UNIDO/DP/ID/SER.A/460

V) UC/URT/84/062

1. Project Proposal UF/URT/84/062 - Assistance to the Tanzania Institute of Leather Technology, Mwanza, proposal dated January 1984
2. Project Document UC/URT/84/062 - Assistance to the Tanzania Institute of Leather Technology (TILT), Evaluation Mission, proposal dated 8 May 1984

VI) Other

1. Quarterly Report on the United Republic of Tanzania, by S.K. Henein, SIDFA, 1 July 1984
2. Report on mission to Mwanza, by S.K. Henein, SIDFA 13 - 15 June 1984
3. Tanzania Leather Associated Industries Corporation Plan for 1984-1988 and Corporation Budget for 1984

Cost of Constructing and Equipping TILT and Estimate
of the Annual Operating Budget for 1985 - 1987

A. Cost of TILT (data provided by TLAI)

(a) The original estimated cost for Tanzania Institute of Leather Technology:

Civil works	TSh.	23,045,000
Machinery		4,965,000
Furniture		2,000,000
Architectural fee		2,000,000
	TSh.	<u>32,010,000</u>

(b) Revised estimated cost:

Civil works	TSh.	26,000,000
Machinery		6,000,000
Furniture		2,000,000
Architectural fee		2,000,000
	TSh.	<u>36,000,000</u>

(c) Amount paid (spent) up to 19 October 1984 (with sources of financing):

Machinery (Project US/URT/79/240)	TSh.	4,963,000
Govt. grant		1,838,000
Development Levy		8,915,325
Borrowing from other TLAI Projects		2,116,530
Architectural fee		2,000,000
Outstanding balance for civil works		2,739,914
		<u>22,572,769</u>
TOTAL	TSh.	<u>22,572,769</u>

NOTE: The estimated cost of TSh. 36,000,000 refers to the future full version of TILT (which can be seen on the drawing in Annex VI), while the sum of TSh. 22,572,769 covers the cost of constructing and equipping the existing facility, described in detail in section 3.2.3 of this report (and also indicated on the drawing in Annex VI).

B. Estimate of the Operating Budget for 1985 - 1987 (data provided by TLAI)

	Needs	No. of persons	'000 TSh.		
			1985	1986	1987
1.	Director	1	78.28	78.28	78.28
2.	Senior technical personnel	4	282.40	290.00	293.00
3.	Junior technical personnel	11	590.60	623.30	660.00
4.	Administration and accounts personnel	28	734.40	744.40	750.40
			1685.68	1735.98	1781.68
5.	Consumables for teaching materials		402.00	450.00	460.00
6.	Fuel and lubricants		60.00	75.00	80.00
7.	Electricity		100.00	100.00	100.00
8.	Water		150.00	150.00	150.00
9.	Buildings maintenance		170.00	170.00	170.00
10.	Maintenance of staff houses		150.00	150.00	150.00
11.	Travel expenses		100.00	100.00	100.00
12.	Transport cost of three cars		500.00	550.00	600.00
13.	Insurance		150.00	150.00	150.00
		Total	1782.00	1895.00	1960.00
	Grand total		3467.68	3630.98	3741.68

The room and board of trainees will be covered by fees paid by their sponsors.

<u>Inputs</u>	000 TSh.		
	<u>1985</u>	<u>1986</u>	<u>1987</u>
Fees (from trainees)	900.00	950.00	1000.00
TLAI (from Govt. grant or development levy)	2567.68	2680.98	2741.68
Total	3467.68	3630.98	3741.68

B. cont'd

The number of trainees expected to undergo short courses is 120 - 160 per year (40 weeks).

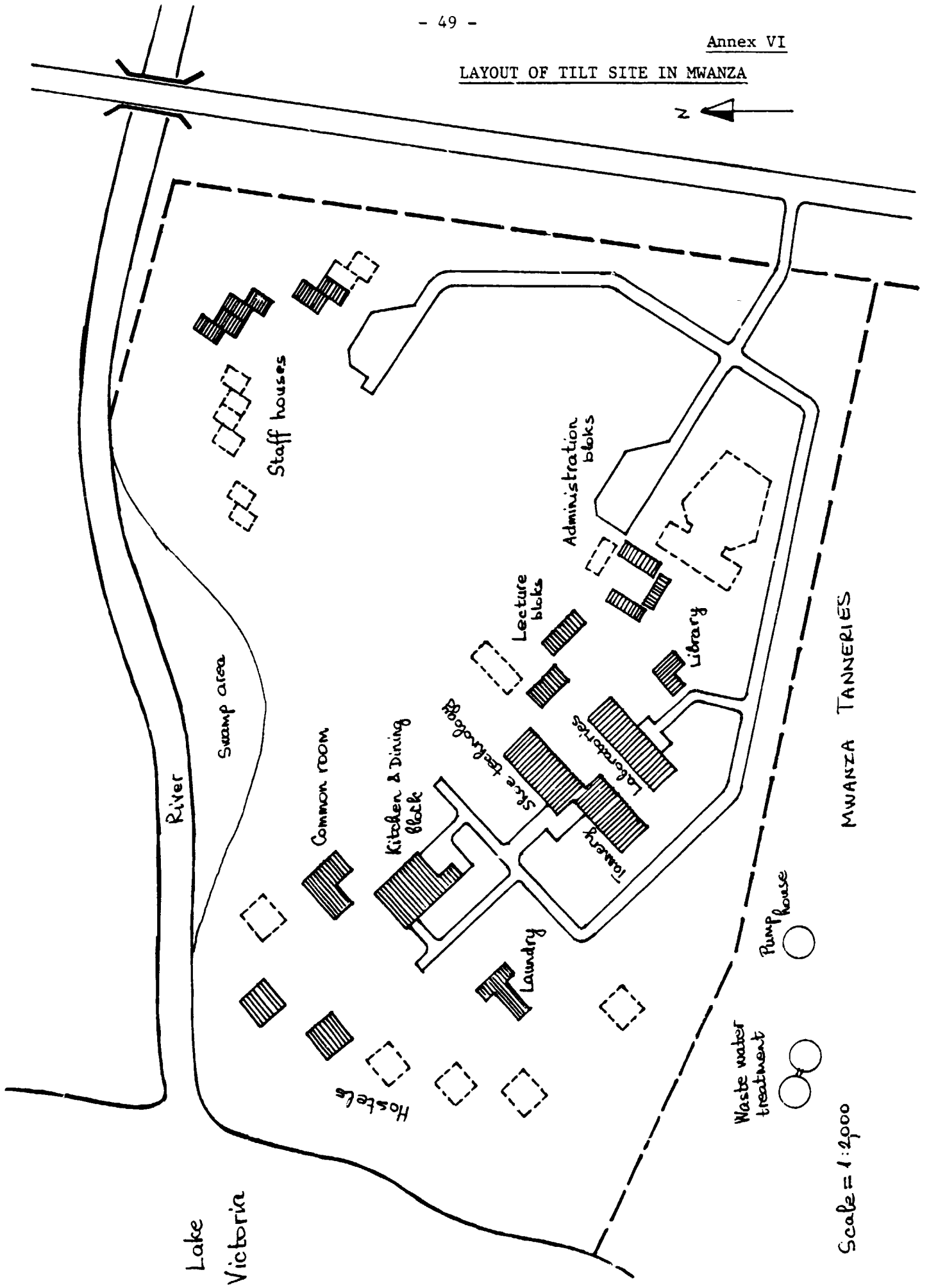
TLAI 's start-up costs in 1985:

Vehicles	TSh. 1,000,000
Furniture and fittings	3,027,000
Kitchen equipment	500,000
Others (garden equipment, library books and stationery)	675,000
Variation	<u>420,200</u>
Total TSh.	5,622,200

Total initial cost for 1985 (000 TSh.)

Operation	3467.68
Investments	5622.20
	<u>9089.88</u>

LAYOUT OF TILT SITE IN MWANZA



Scale = 1:2000

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

PROJECT PROPOSAL

PART A - BASIC DATA

COUNTRY/REGION: United Republic of Tanzania

PROJECT NUMBER: UC/URT/85/

PROJECT TITLE: Assistance to the Tanzania Institute of
Leather Technology, Mwanza

SCHEDULED START: Mid 1985

SCHEDULED COMPLETION: After 2.5 years

ORIGIN AND DATE OF
OFFICIAL REQUEST: Misc. 5538 of 28 December 1983 from UNDP Dar-es-Salaam

GOVERNMENT COUNTERPART
AGENCY: Ministry of Industry through the Tanzania Leather
Associated Industries (TLAI)

UNIDO CONTRIBUTION: US\$ 1,038,753

GOVERNMENT CONTRIBUTION:

CURRENCY REQUIRED

FOR UNIDO INPUT:

CONVERTIBLE: US\$ 1,038,753

OTHER:

UNIDO SUBSTANTIVE
BACKSTOPPING SECTION: Agro-Industries Branch

PROGRAMME COMPONENT: 31.7.D.

PART B - NARRATIVE

1. OBJECTIVES

(a) Development Objective

The development objective is to contribute to the improvement of the country's economy through the strengthening of its leather, footwear and leather goods industries. Particular attention is to be focussed on the rehabilitation of existing production capacities -- increasing their capacity utilization, improving productivity, as well as upgrading technical standards, operational methods and skills of those attached to these industries (at various technical and managerial levels).

The problem addressed by the project in relation to the development objective is the lack of know-how, advisory and service capacity in the leather sector.

(b) Immediate Objective

The immediate (project) objective is to establish the Tanzania Institute of Leather Technology (TILT) as an institution which will be capable of providing regular industrial services to the leather and leather products industries. Taking advantage of the preparatory work done with respect to the planning for and equipping of TILT through other UNIDO-executed projects, this project is aimed at starting up TILT operations. At the end of the project, TILT is expected to be providing supporting services (chemical and physical testing and analysis; quality control; applied research-and-development; pilot trials and technical and marketing information collection and distribution), extension services (trouble-shooting, diagnostic and problem-solving consulting assignments) and training services (at the level of key operators, middle management and specialized personnel) to the subsidiaries of the Tanzania Leather Associated Industries (TLAI), as well as to interested end-users in the private sector.

The contributions of the various functions (services) of TILT to the total of the Institute's activities should be approximately as follows (in terms of man-months): supporting service 30 per cent, extension services 40 per cent, training services 30 per cent. The specification and quantification, to the extent currently possible, of the services to be provided at the end of the project is given in Section 4. Outputs.

2. SPECIAL CONSIDERATIONS AND PRE-CONDITIONS

Before the project begins, the Government should legalize the status of TILT and reach a decision regarding its commitments toward the operating budget of the Institute. Parallel to this action by the Government, TLAI should appoint the director of the Institute and its staff for at least the initial three-year phase. The small portion of construction and installation work at the TILT site in Mwanza, unfinished by December 1984, should also be completed before the project begins.

If the project is successful, TILT could establish itself as a regional leather center for Tanzania and the neighbouring countries. However, this is not foreseen until TILT establishes itself fully in Tanzania.

3. BACKGROUND AND JUSTIFICATION

One of the targets of the long-term industrial strategy in Tanzania is to establish and promote local resource-based industries with a view to maximizing foreign exchange earnings through increased value added. Most of these industries will be agro-based and agro-related, and one of the industrial sectors to be promoted is the leather and leather products industry sector.

The third Five Year Development Plan of the Government of Tanzania emphasizes the need to increase industrial production in order to satisfy basic needs of the population such as food, shelter and clothing. This plan further aims at improving the balance in foreign trade through increased added value in the industrial sector and increased export earnings, giving priority to industries which are utilizing indigenous raw materials.

The development of the leather and leather products industry sector is being promoted in accordance with this general economic policy of the Government. New production plants have been established and serious efforts are being made to increase the sector's productivity and raise the quality level of the different types of products manufactured.

(a) Hides and Skins

Tanzania is one of the largest producers of cattle hides in Eastern Africa. The animal population of the country is estimated at approximately (FAO, 1982):

13.1 million cattle
5.9 million goats
3.9 million sheep

The availability of raw hides and skins is estimated at:

1.4 million cattle hides
1.5 million goat skins
0.9 million sheep skins

The actual collection and commercialization for the domestic industries, however, is much below the potentially available quantities, which means that a considerable amount of these valuable raw materials, hides and skins are not accounted for. Export of raw hides and skins from the country is banned by the Government since 1979. The collection and distribution of raw hides and skins is handled by the Tanzania Hides and Skins Ltd., THS, a parastatal body which is linked with the Tanzania Leather Associated Industries, TLAI, the Government corporation which controls all Government-owned industrial plants in the leather sector. THS is under the jurisdiction of the Ministry of Agriculture, while TLAI is under the Ministry of Industries and Trade.

(b) Leather Industry

There are three large mechanized tanneries in Tanzania producing wet blue and finished leather, all under TLAI control. Their installed capacities, production performance and level of utilization are given in Table 1.

TABLE 1: Production and Capacity Utilization, 1978-1982

NAME OF PLANT	INSTALLED CAPACITY	1978		1979		1980		1981		1982	
		000 sq.ft.	%	000 sq.ft.	%	000 sq.ft.	%	000 sq.ft.	%	000 sq.ft.	%
Tanzania Tanneries Moshi, est. 1967	10,745	6,377	59.3	8,964	83.4	8,406	78.2	7,103	66.1	5,137	47.8
Morogoro Tanneries est. 1976-78	8,285	746	9.2	3,082	37.2	3,701	44.7	4,289	51.8	4,145	50.0
Mwanza Tanneries est. 1977-79	7,500	747	10.0	3,306	44.0	2,132	28.4	2,381	31.7	1,459	19.4

The reasons for such low utilization levels are numerous, such as shortage of raw materials, lack of spare parts and chemicals due to scarce foreign exchange earnings, insufficient power supply and not enough suitably trained staff.

In addition to these large tanneries, there are a number of smaller tanning units in the country producing semi-processed as well as finished leather from different raw materials, including reptile and wild animal skins.

The TLAI is in the process of establishing in Morogoro a leather board production plant to make use of leather waste materials resulting from their tanneries and shoe factories, and to utilize, when appropriate, the leather board produced in the manufacture of certain parts of shoes and leather goods.

(c) Footwear Manufacturing Industry

The TLAI controls two large shoe factories. The Tanzania Shoe Company (formerly belonging to the Bata concern), using the trademark BORA, is located in Dar-es-Salaam. This factory produces approximately one million pairs of leather footwear annually, representing some 60 per cent of the factory's production capacity in this area. It is also equipped to produce several million pairs of rubber and canvas shoes, as well as beach sandals, all for the domestic market.

The very large Morogoro shoe company was started up in 1980. It forms part of the Morogoro Industrial Complex. The shoe factory at Morogoro has an installed annual production capacity of 4 million pairs of leather and canvas shoes of different types. The factory has a layout in accordance with the production systems mainly used in industrialized countries, and the installed machinery is rather sophisticated. This plant was financed through the World Bank and established by Italian companies. At the moment, the factory is practically not operating. For full production, the factory would need some 1,800 semi-skilled and skilled workers. However, until now only about 350 workers have received practical training in the plant. To reach the originally planned output, a large number of additional personnel (key workers, supervisors, designers, quality controllers) is needed. It also appears that managerial assistance from abroad would be needed.

(d) Leather Goods Industry

Leather goods for different uses made of locally produced genuine leather with ornaments and motifs of folk-art origin have for a long time been traditionally produced in small rural workshops and sold throughout the country.

A mechanized leather goods manufacturing plant, under the control of TLAI, was erected and put into operation by an Italian firm at the end of 1981. This factory also lacks qualified national personnel. Smaller leather goods manufacturing units were further set up in the Tanzania Tanneries, Moshi, as well as within the Morogoro Tanneries. A new leather goods unit is also under establishment by the Small Industry Development Organization (SIDO).

In the private sector, a few companies like the Shah Industries at Moshi are producing different leather products in quite sizeable quantities.

(e) Needs of the Industry and the Establishment of TILT

There is a great need for adequately trained specialists in the entire leather, footwear and leather goods manufacturing sector, in order to enable the important industrial plants established to operate efficiently and to contribute significantly to the overall economy of the country.

For this purpose, the Tanzania Institute of Leather Technology was envisaged in 1979 with the objective of training key workers and operators and middle managerial staff, as well as of rendering the required supporting and extension services to the leather industry sector, not only for the larger industrial plants under TLAI control (TLAI subsidiaries), but also for the Small Industry Development Organization, the private industry and Tanzania Hides and Skins, Ltd.

Not long after the start of operations of the UNIDO-executed project DP/URT/78/010 in 1979 (see (f) dealing with previous UNIDO technical assistance), it was foreseen that TLAI and the Government would take steps to build the premises and prepare the establishment and organization of TILT, a "single-branch" industrial research and service institute (IRSI). It was decided that this centre should be located in Mwanza at Lake Victoria, near

the existing Mwanza Tanneries, to take advantage of the already existing facilities, such as water, steam and power supply, effluent treatment unit and maintenance services of the tannery. The main source of financing was to be a development levy imposed on the sales of TLAI subsidiaries. As a result of the deteriorating situation in the leather sector, there were considerable problems in securing the foreseen financing. The construction of TILT buildings and other facilities started in 1982. Although hampered by financial constraints, TLAI has made significant efforts in preparing for the start-up of the institute. Already over 20 million shillings have been spent on the construction, a major portion coming from the levy (which was difficult to collect in the planned amount owing to serious operational and financial problems of the subsidiaries).

TLAI has also prepared estimates for the budget of TILT for the first three years of operation, with start-up costs for the first year, 1985. The sources of financing have been identified, although not confirmed. A phased growth plan for TILT has been prepared for the future period based on initial international assistance. With the assistance of UNIDO project RP/URT/82/005, TLAI has prepared the TILT Act and submitted it to the Ministry of Industries and Trade for legal approval by the Government. Thus far the Government has contributed to the setting up of TILT with a grant of around 1.8 million shillings. The awaited Government action is the approval of the legal status and the sanctioning of the TILT budget.

In expectation of the legal approval of TILT, TLAI has not yet appointed the staff of the institute. The Project Co-ordinator is the only person associated full-time with TILT, and he has practically moved permanently to the site in Mwanza. However, other staff has been "earmarked" and at least initially contacted about possible appointments.

During the visit of the UNIDO Evaluation Mission to the TILT site in Mwanza in October 1984, the following was established:

(i) The TILT grounds cover an area of approximately 100,000 m² on the shores of Lake Victoria.

(ii) The premises include an administration block with 5 offices (area of 180 m²), library (190 m²), chemical laboratory (140 m²), physical laboratory (140 m²), tannery block (260 m²), shoe technology block (260 m²), 2 lecture room blocks (total area 260 m²), kitchen and dining room block (200 m²), 6 staff housing units (90 m² each) and 2 hostel blocks (approx. 400 m² each) for 48 students or trainees. The site is very spacious, well laid out, and allows for future expansion.

(iii) Architectural design and the civil construction work are of a very satisfactory standard. The buildings are practically completed, requiring only some finishing touches regarding the electrical and plumbing work. Overall, construction on the site is about 95 per cent completed.

(iv) As far as the equipment of TILT is concerned, the tanning equipment has been fully installed with foundations. The equipment for shoe and leather goods technology is in the shoe technology block and can be installed within days.

(v) Preparations have been made for the power and water supply to be available in December 1984.

(vi) As a whole, the currently existing facilities, without further expansion, can be considered sufficient for the purpose of the proposed project with a 2.5 years duration. The modular nature of the institute set-up will allow consequent expansion.

The Tanzania Institute of Leather Technology, at Mwanza, will have a significant role to play in the training of personnel, in quality control and applied research and in development work for the entire leather and leather products manufacturing industry in Tanzania, and also possibly in some neighbouring countries at a later date.

By producing technically well-qualified specialists, and by periodically re-training supervisors, technologists, designers, quality controllers, etc. for the entire leather industry sector, the TILT will contribute substantially to the economic and social development of Tanzania, and later possibly also to some neighbouring countries. Furthermore, it will render supporting and extension services to the local industry, introduce R+D programme activities, in accordance with the characteristics of the raw materials locally available, and provide techno-economic information of considerable interest to this industrial sector.

The TILT already has suitable and up-to-date facilities (buildings, equipment and machinery) but will, in the first few years of its existence, be lacking know-how and practical experience in carrying out training programmes, extension services, quality control and research and development work. Therefore, outside technical assistance, mainly in the form of services of specialized and experienced experts, is essential for a successful operation of this institute. Such assistance will be provided by this project.

(f) Previous and On-going UNIDO Technical Assistance

In addition to a number of short-term expert missions to Tanzania during the past few years, UNIDO, since November 1979, was the executing agency for the UNDP-financed large-scale project DP/URT/78/010 "Leather and Leather Products Industries Development". This project was concentrating mainly on providing international expert services to advise on and assist in the operation of and future planning of the activities of existing tanneries and shoe factories concerning technology, design, maintenance of machinery and marketing, as well as on carrying out fellowship training programmes abroad for selected nationals and short-term practical courses at different levels in the factories concerned.

Also, as part of this DP project, as well as of projects RP/URT/82/005 and SI/URT/82/802, comprehensive preparation work was carried out for the establishment of a multi-purpose leather centre: the legal status, the scope of work, the organizational structure, the course programmes and syllabi for training activities, the lay-out for pilot plants, equipment and laboratories were prepared.

Under the project US/URT/79/240, financed from a special-purpose contribution of Italy, all the equipment required to set up the centre was delivered and practically installed at Mwanza. It was also planned that international experts assigned to the DP project would extend their assistance to the newly-established leather centre at the initial stage of the work. However, due to a delay in obtaining the funding for the equipment from donor countries and a delay in the implementation of the Government input (construction work), this could not be accomplished as envisaged and the assistance to TILI is now proposed under a separate project.

A training programme was carried out under the project US/INT/81/087 in 1982/83 for four fellows during a period of three months each in footwear and leather goods styling, design and pattern-cutting in Italy. The fellows are expected to assist in starting similar courses in the institute and to work later on as instructors.

As stated in the tripartite review report of June 1983, the draft project document entitled "Assistance to the Tanzania Institute of Leather Technology" has been prepared and submitted to the Government for consideration. In spite of the importance of the above project, which was to consolidate the results of the foregoing projects and which was recognized by all parties concerned, the project was not likely, owing to financial constraints, to be included into the Country Programme. UNIDO received, therefore, an official request by UNDP Dar-es-Salaam, dated 28 December 1983, to render the above assistance.

The project UF/URT/84/062 - "Assistance to the Tanzania Institute of Leather Technology", with a total UNIDO contribution of US\$ 822,685, was presented to the 56th meeting of the UNIDO Project Review Committee, held on 29 March, 2 and 3 April 1984. The Committee expressed appreciation for the detailed preparation of the project proposal, but recommended that, before the project is presented to potential donor countries, an evaluation should be carried out by an outside consultant in close co-operation with the UNIDO Evaluation Unit regarding the achievement of the forerunner projects, adequacy of project design, and the availability of Government inputs for the smooth implementation of the project. This current project proposal takes into account the findings and recommendations of the evaluation mission which took place from 6 to 22 October 1984, under project UC/URT/84/062. The Report of the Evaluation Mission has been published as UNIDO document UNIDO/IO/R.

The leather and leather products industry in Tanzania has very significant potential but many accumulated problems as well. A very wide and co-ordinated action is needed for a larger-scale positive effect to be obtained. This situation and the possible course of action is described in detail in the terminal report of project BR/URT/84/001 - "Rehabilitation of the Leather, Footwear and Leather Products Industry". Project BR/URT/84/001 originated from the World Bank interest to prepare a plan of action for increasing the capacity utilization of the problem-riddled Morogoro Shoe Company (MSC), which was built with a long-term World Bank loan. However, based on the UNIDO experience with the leather sector in Tanzania, it was decided that a realistic plan of action for MSC cannot be formulated without a detailed plan of action for rehabilitating the leather sector as a whole.

The project was, therefore, directed at producing an integrated master plan for the rehabilitation of the entire leather, footwear and leather products industry of Tanzania, with special reference to the financial viability of recommendations. The project report with a detailed rehabilitation plan was to be presented to the Government of Tanzania by the end of 1984.

TILT is being established at a particularly crucial moment for the leather sector in Tanzania. The Institut^o could, therefore, be a very valuable tool (instrument) in the rehabilitation of the sector and the improvement of its performance. The method of operation of TILT and the services it will offer to the industry should be in tune with this situation.

4. OUTPUTS

The outputs, as described here, are in accordance with the UNDP Programme Advisory Note on Industrial Research and Service Institutions (UNDP/PPM/TL/29, 29 November 1982), as well as the UNIDO Manual on Project Design and Evaluation (UNIDO/PC.31/Rev.1, 25 May 1984). To the extent possible, the capacities to be built up by the project, i.e., the various departments or units of TILT, are described in terms of the functions (services) they will be enabled to perform by the end of the project, the staff skills and composition, methodologies and guidelines developed and equipment which will be available. The premises of TILT have already been described in Section 3. Background and Justification, as have the potential end-users of TILT's services and the method of financing TILT operations. TILT will be headed by the Director and the different units will be reporting directly to him.

Output 1. Leather Technology Department

Functions:

- extension services (advice and assistance in problem-solving in plants; improvement of tanning procedures and techniques; optimization of processes; improvement of process control methods; product and product range improvement; introduction and improvement of cost analysis methods; improvement of production management methods) -- 4-5 assignments per year. Appendix 2a contains some of the possible topics to be dealt with through these consultancy and/or development assignments.
- supporting services (applied research and development on the pilot unit, as well as possible sample production) -- 2-3 assignments per year. Appendix 2a contains some of the possible research and development topics.
- training services (regular and tailor-made courses conducted at TILT, as well as in-plant (on-the-job) interventions, like workshops and seminars, to be possibly supplied in conjunction with extension services) -- 40-45 people trained per year. Appendix 3a contains a list of priority courses and topics with planned duration and number of participants.

- Staff:
- 1 Senior Leather Technologist;
 - 2 Leather Technology Assistants;
 - 1 attendant;

with qualifications and experience as indicated in Appendix 4. Further fellowship training of Senior Technologist and assistants, as indicated in Section 6, dealing with UNIDO inputs.

- Manuals and Guidelines:
- a portfolio of case studies (dealing with extension and support services), developed during the project, to be used for future services and training of possible new personnel;

- training syllabi and materials (course programme, lecture notes, manuals and text materials, handout materials) to be developed from basic material produced by project RP/URT/82/005.

- Equipment:
- The tanning equipment was delivered through the project US/URT/79/240 (See Technical and Status Report on US/URT/29/240, July 1984). Through the current project, an overhead projector and some chemicals and spare parts will be made available to the department, as well as a vehicle.

Output 2. Footwear and Leather Products Department

- Functions:
- extension services (advice and assistance in problem solving in plants; improvement of shoe-making processes and techniques, as well as leather goods manufacturing processes and techniques; improvement of process control methods; design and pattern-making advice and assistance, in co-ordination with similar units operating in plants; product and product range improvement; introduction and improvement of cost analysis methods; improvement of production management methods; improvement of maintenance practices) -- 10-12 assignments per year in footwear and 3-4 assignments per year in leather goods (see also supporting services). Appendix 2b contains some of the possible topics to be dealt with through these consultancy and/or development assignments.
 - supporting services (applied research and development using the available footwear and leather product pilot equipment; design development; sample production) -- within the number of assignments listed under extension services. Appendix 2b contains some of the possible R+D topics.

- training services (similar to training services for leather technology) -- 80-85 people trained per year. Appendix 3b contains a list of priority courses and topics with planned duration and number of participants.

NOTE: An important prerequisite for design and range building services is the availability of adequate data on anthropometric and morphological characteristics of the local population, which is required for both industry and retail organizations. Project funds are, therefore, foreseen for a large-scale foot measurement programme, as described in Section 6 dealing with UNIDO inputs.

Staff:

- 1 Senior Footwear and Leather Products Technologist;
- 3 Footwear Manufacturing Assistants;
- 1 Leather Products Manufacturing Assistant;
- 2 attendants;

with qualifications and experience as indicated in Appendix 4. Further fellowship training for Senior Technologist and two assistants as indicated in Section 6, UNIDO inputs.

Manuals and Guidelines:

- Same as in output 1, except for the field of footwear and leather products.

Equipment:

- The footwear and leather products equipment was delivered through the project US/URT/79/240 (see Technical and Status Report on US/URT/79/240, July 1984). The current project will deliver an overhead projector, as well as some chemicals, auxiliary materials and spare parts to the department. A project vehicle will also be made available.

Output 3. Laboratory

Functions:

- chemical and physical analyses (independent, i.e., directly for end-users, or related to work of the departments described under outputs 1 and 2);
- quality control services for different types of leather (for various end-users), as well as for different products made of leather (in close co-operation with the two TILT departments and in co-ordination with the Tanzania Bureau of Standards regarding the establishment of standard practices);
- product development -- for new types of leather, new finishes and colours (in close co-operation with the two TILT departments);

- training services (to the extent that laboratory staff involvement and use of equipment is necessary in courses described in outputs 1 and 2; this is particularly true for the course "Quality Control and Standardization").

- Staff:
- 1 Chief of Laboratory;
 - 3 Laboratory Assistants;

with qualifications and experience as indicated in Appendix 4. Further fellowship training for Chief of Laboratory and one assistant, as indicated in Section 6, UNIDO inputs.

- Manuals and Guidelines:
- manual (or extracts from relevant books) for physical and chemical testing of leather and leather products;
 - guidelines for quality control test methods to be used and requirements for the quality levels to be met.

- Equipment:
- In addition to what is already available from the project US/URT/79/240, the current project will provide the laboratory with a rubfastness tester, an abrasion machine, an upper leather waterproofness tester, an instant lastometer and some additional chemicals.

Output 4. Information Unit

- Functions:
- provision of relevant and up-to-date information and documentation to interested end-users on materials, equipment, production methods, technologies, domestic and export markets, fashion trends, statistics related to the leather and allied industries, etc.

- Staff:
- 1 Information Officer with qualifications and experience as indicated in Appendix 3. However, the Director of TILT and the Senior Technologists will have to be closely associated with the information unit to strengthen its possible industrial and trade promotion role.

- Manuals and Guidelines:
- a portfolio of information on materials, equipment, production methods, markets and fashion trends assembled during the project;
 - literature obtained through the project, as listed in Appendix 7.

- Equipment:
- In addition to the equipment available from US/URT/79/240, a Gestetner duplicator will be delivered.

5. PROJECT ACTIVITIES AND MODALITIES OF IMPLEMENTATION

The project activities are to be co-ordinated and supervised by the UNIDO Chief Technical Adviser (CTA) in co-operation with the National Project Director (NPD). The main part of the UNIDO technical inputs, including the individual fellowships, are scheduled to be executed through subcontract services. Draft terms of reference are enclosed for two subcontracts, including draft job descriptions for the subcontractors' personnel (see Appendixes 5 and 6).

The UNIDO CTA, the various consultants and the subcontractors' personnel will be assigned to the parastatal body of the Ministry of Industry, the Tanzania Leather Associated Industries, with the staff of the TILT as counterparts (specified under section 6, (a) (iii)). The following specific activities will be carried out:

	<u>Planned Implementation Schedule</u>	<u>Responsibility</u>
Budgetary appropriation, i.e. identification of interested special purpose donor country	Prior to signature of project agreement	UNIDO PC/DEV
Selection and fielding of UNIDO CTA	Mid-1985	UNIDO PPRS in co-operation with IO/AGRO
Preparation of work plan: covering all aspects of project implementation, including requirements for consultants services (to be appended to this project proposal)	First 3 months after financial approval	UNIDO IO/AGRO/CTA
Selection of the subcontractors and conclusion of contracts	Starting mid-1985	UNIDO IO/PAC in co-operation with IO/AGRO
Selection and appointment of counterpart team	Mid-1985	Tanzanian Min. of Industry/TLAI/TILT
Requisitioning and purchase of machinery and equipment, consumable items and spare parts	Mid-1985	UNIDO IO/PAC in co-operation with IO/AGRO
Fielding of subcontractor's personnel (technical services)	3rd quarter 1985	Subcontractor
Fielding of subcontractor's personnel (foot measurement)	January 1985	Subcontractor

	<u>Planned Implementation Schedule</u>	<u>Responsibility</u>
Final preparation of training and retraining courses (see Appendix 3), selection of participants, conducting course activities	Starting early 1986 throughout project duration	International team and TILT staff
Upgrading of selected counterparts through fellowship training	Starting early 1986	<u>Selection:</u> NPD and UNIDO CTA with co-operation of subcontractor <u>Implementation:</u> subcontractor
Conducting study tour	September 1986	NPD/UNIDO IO/TRNG in co-operation with IO/AGRO
Carrying out consultancy services, research and product development activities (see Appendix 2 (a) and (b))	Throughout entire project duration	International team/ national team
Mid-term review and substantive backstopping mission	Early 1986	UNIDO IO/AGRO in consultation with PC/DEV/Evaluation Unit
Conducting regional seminar	Early 1987	TLAI/TILT/international team
End-project evaluation mission	End 1987	UNIDO PC/DEV

6. PROJECT INPUTS

(a) Government Inputs

(i) Recurrent and capital expenses

TLAI's recurrent and capital budget will provide for counterpart personnel, support staff, office supplies and necessary services for the project (see sections 2. Special Considerations and Pre-Conditions and 3. Background and Justification).

(ii) Premises

All the buildings and facilities for TILT, which are presently close to completion, are to be fully completed and furnished with suitable offices for the international team of experts and national counterpart personnel (see section 3. Background and Justification for detailed description of premises and current status).

(iii) National counterpart personnel

TLAI will assign the Director of TILT as National Project Director and as a direct counterpart to the UNIDO CTA. In close co-operation they will co-ordinate and direct the implementation of the project. The TLAI will also assign senior technical staff as direct counterparts to the international experts and will make available all the necessary administrative services for the project.

The national counterpart staff will be composed of the following:

	<u>man-months</u>
Director of TILT	30
Senior leather technologist	30
Senior footwear and leather products technologist	30
Chief of laboratory	30
Information officer	30
2 leather technology assistants	60
3 footwear manufacturing assistants	90
1 in design and cutting	
1 in machine operation	
1 in stitching	
Leather products assistant	30
3 laboratory assistants	90
3 attendants (support staff)	90

This makes a total of 17 technical staff. In addition, TILT will also have an administration department.

(iv) Transportation and miscellaneous

The Government will provide petrol and maintenance of project cars for local transportation of international experts and consultants as required by project activities, and suitable office equipment and supplies for the operation of the training facilities, the laboratories and the pilot plants.

(v) Regional seminar

The Government will bear the local costs of organizing a regional seminar/workshop as specified under section 6, (b).

(b) UNIDO Inputs

11. Personnel

Duration and Cost

11-01 Chief Technical Adviser

2 1/2 m/m \$ 214,200

Leather and/or Leather Products
Industry Expert

The CTA should have extensive experience in the leather and/or leather products industry field, including institutional experience from a leather and/or leather products development, research and/or training institute.

Duration and Cost

Experience in quality control, product development and extension services to industry are vital and previous training/teaching experience are desirable.

The CTA will co-ordinate and direct the project activities in close co-operation with the NPD. He will be responsible for preparing the project work plans, periodic and final reports, as well as the PER*. He is expected to co-ordinate the practical activities of the sub-contractors' personnel within the terms of reference of the subcontracts, and to participate actively in the direct implementation of the project activities.

<u>11-50 Consultants</u>	3 m/m	\$ 26,600
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Special consultants in the fields of specialized training, effluent problems, computer application, etc. as may be required and requested by the CTA/NPD.

<u>15-00 Project travel</u>		\$ 4,950
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Cost of CTA and consultants' per diem and similar costs during extension service visits, calculated at \$ 150 per month.

<u>16-00 Other personnel costs</u>		\$ 8,000
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Staff member travel and per diem costs during combined mid-term review and substantive backstopping mission, and the final evaluation mission scheduled for the 3rd quarter 1987.

20-00 Subcontract
The main part of the international technical assistance is scheduled to be carried out under subcontracts as summarized below.

(i) Subcontract for technical inputs of over the assistance to the TILT including the following services:	24 m/m	\$ 532,000
---	--------	------------

- 12 m/m leather technologist
- 12 m/m shoe technologist
- 12 m/m various short-term experts
- fellowship training of selected counterparts
- home-based supervision
- literature and manuals

Draft terms of reference with job descriptions are included in Appendix 5.

* Project Evaluation Reports

Duration and Cost

(ii) Subcontract for a large-scale foot measurement programme. Draft terms of reference are included in Appendix 6. \$ 55,000

30-00 Training and study tours

The individual international fellowship training will be carried out under the subcontract (a).

32-00 A study tour of the NPD to visit similar institutes in both developed and developing countries is foreseen. The suggested institutes to be visited are: \$ 15,000

Nene College, UK
Cordwainers College, UK
Pirmasens College, FRG
Reutlingen College, FRG
Leather Products Development Centre, Pakistan
Footwear and Leather Goods Training and Demonstration Centre, Philippines
Central Leather Research Institute, India
Leather Technology Centre, Shanghai, China
Kenya Industrial Research and Development Institute, Nairobi, Kenya
Centre National du Cuir et de la Chaussure, Tunis, Tunisia
Leather Research Institute of Nigeria, Zaria Nigeria.

35-00 In order to encourage regional co-operation, a regional leather workshop/seminar is scheduled to be organized during the concluding phase of the project. Participants from other African countries are to be invited to attend the workshop/seminar to familiarize themselves with the services which will be provided by TILT. The funds allocated are expected to cover only the foreign exchange part needed for the organization of the seminar. Local expenditure will be covered by the Government. \$ 12,500

40-00 Equipment

\$ 39,000

Most of the necessary equipment for the laboratories and pilot plants of TILT were already provided under project US/URT/79/240. Funds are, however, needed for certain imported components, chemicals and spare parts, two project vehicles and for the library.

Laboratory equipment	\$ 8,000
Spare parts	\$ 6,000
Components and chemicals	\$ 8,000
Project vehicles	\$ 14,000
Library and periodicals	\$ 3,000

Duration and Cost

<u>50-00 Miscellaneous</u>	\$ 12,000
Editing and printing of expert reports, as well as unforeseen costs for small sundry items and materials which may be required.	

7. WORK PLAN

The overall work plan is in accordance with the project activities described in section 5. A detailed work plan will be prepared by the CTA in close co-operation with the National Project Director and in consultation with the subcontractors. This will be done at the start of the project and brought forward periodically. The agreed upon work plan will be attached to this document as appendix and will be considered as part of this document.

8. PROPOSED EVALUATION

A mid-term review combined with a substantive backstopping mission as well as an end-project evaluation mission are foreseen in the project budget. The organization, terms of reference and timing will be decided between the Government, TLAI, TILT and UNIDO.

9. ENVISAGED FOLLOW-UP

It is realized that in spite of the relatively large international inputs foreseen in the subject project, it is hardly possible to start a well-functioning institute in such a short time as the two and a half years scheduled in this project, especially if a proposed wider rehabilitation takes place in the leather sector of Tanzania. Additional international inputs which may be required will be evaluated during the final evaluation of the project end-1987.



UNIDO

PROJECT BUDGET/REVISION

PAGE 1

3. COUNTRY TANZANIA	4. PROJECT NUMBER AND AMENDMENT /URT/85/	5. SPECIFIC ACTIVITY 31.7.D
10. PROJECT TITLE Assistance to the Tanzania Institute of Leather Technology (TILT)		

APPENDIX 1

Project Budget

15. INTERNATIONAL EXPERTS (functional titles required except for line 11-50)	16. TOTAL		17. 1985		18. 1986		19. 1987		20.	
	m/m	\$	m/m	\$	m/m	\$	m/m	\$	m/m	\$
11-01 Leather Expert (CTA)	24	214,200	6	50,400	12	109,200	6	54,600		
02										
03										
04										
05										
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
11-50 Short term consultants	3	26,600	1	8,400	1	9,100	1	9,100		
11-99 Sub-total-International experts ^d	27	240,800	7	58,800	13	118,300	7	63,700		
21. REMARKS excluding 13 % overhead costs of \$ 119,503										

^d If more than 16 experts are required check here and attach continuation sheet 1A. This sub-total *must* include all experts.



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PROJECT BUDGET/REVISION

PAGE 2

4 PROJECT NUMBER /URT/85/	16. TOTAL		17. 1985		18. 1986		19. 1987		20.	
	m/m	\$	m/m	\$	m/m	\$	m/m	\$	m/m	\$
OPAS EXPERTS (functional titles required)										
12 01										
12 02										
12 03										
12 99 Sub-total - OPAS experts ^b										
ADMINISTRATIVE SUPPORT PERSONNEL										
13 00 Clerks, secretaries, drivers										
13 50 Freelance interpreters (non-UNDP projects)										
13 99 Sub-total - Administrative support personnel										
UN VOLUNTEERS (functional titles required)										
14 01										
14 02										
14 03										
14 04										
14 99 Sub-total - UN Volunteers ^b										
15 00 Project travel		4,950		900		2,100		1,950		
16 00 Other personnel costs (including UNIDO staff mission costs)		8,000				4,000		4,000		
NATIONAL EXPERTS (functional titles required)										
17 01										
17 02										
17 03										
17 04										
17 05										
17 99 Sub-total - National experts ^b										
19 99 TOTAL - PERSONNEL COMPONENT	27	253,750	7	59,700	13	124,400	7	69,650		

^b If additional individual budget lines are required, check here and attach continuation sheet 1A. These sub-totals must include budget lines listed on page .A.



4. PROJECT NUMBER /URT/85/	16. TOTAL		17. 1985		18. 1986		19. 1987		20.	
	m/m	\$	m/m	\$	m/m	\$	m/m	\$	m/m	\$
SUBCONTRACTS		587,000		147,000		293,500		146,500		
21 00 Subcontracts										
TRAINING										
31 00 Individual fellowships										
32 00 Study tours; UNDP group training		15,000				15,000				
33 00 In-service training										
34 00 Non-UNDP group training										
35 00 Non-UNDP meetings		12,500						12,500		
39 99 TOTAL - TRAINING COMPONENT		27,500				15,000		12,500		
EQUIPMENT										
41 00 Expendable equipment		17,000		8,000		4,500		4,500		
42 00 Non-expendable equipment		22,000		22,000						
43 00 Premises										
49 99 TOTAL - EQUIPMENT COMPONENT		39,000		30,000		4,500		4,500		
MISCELLANEOUS										
51 00 Sundries		12,000		3,000		6,000		3,000		
55 00 Hospitality (non-UNDP projects)										
56 00 Support costs (CC and DC projects only)										
59 99 TOTAL - MISCELLANEOUS COMPONENT		12,000		3,000		6,000		3,000		
SURPLUS/DEFICIT										
81 00 Surplus/Deficit (ADM/FS use only)										
99 99 PROJECT TOTAL	27	919,250	7	239,700	13	443,400	7	236,150		
° COST SHARING (UNDP/IPF projects only)										
° NET UNDP CONTRIBUTION										

° For information only - not for PAD input

APPENDIX 2

Possible Topics to be dealt with by Consultancy,
Research and Development Assignments

A. Leather Technology

1. Studies in classification and standardization of cattle hides, goat, sheep and game skins. Improvement of the raw material by eliminating post mortem defects arising from improper flaying, curing and handling techniques.
2. Applied research and development of processing methods with up-to-date technology adapted to suit local conditions.
3. Development of well-balanced finished leather product mixes for each tannery to meet the requirements of both local and export markets and to make the best use of the raw material available.
4. Independently as well as in co-operation with relevant establishments, development, testing and standardization of chemicals and auxiliaries for the tanning industry manufactured from locally available primary products/intermediates in order to decrease dependence on imports.
5. Development of simple and effective methods for the control of the raw material, chemicals and auxiliaries used in the production, strict adherence to the prescribed processing procedures and regular verification of essential parameters. Formulation of suitable quality control methods and elaboration of appropriate national standards for semi-finished and fully finished leather.
6. Extensive research on appropriate technologies for the treatment of tannery wastes to prevent pollution of the environment. Studies on possibilities of recycling some waste liquors and utilization of tannery by-products.
7. Development of management control and monitoring systems on sectoral, plant and department levels for financial and production aspects, material utilization and stock levels, efficiency and quality performance.
8. Development of guidelines and methods for preventive and break-down maintenance, including analysis system for evaluation of machinery down-time and performance factors.
9. Development of cost and value analysis methods, workstudy-based piece work and bonus payment systems, and development of a long-term plan for productivity improvement of the sector.

B. Footwear and Leather Products

1. Market research and product development work related to the footwear and leather goods domestic and export markets. Appraisal of designs and patterns in relation to productivity and material savings.
2. Development of footwear of various price categories and for various end-uses. Development of a basic range of footwear for the domestic market by utilizing to the greatest possible extent local raw materials.
3. Development work on formulating an "appropriate" technology for the mechanized shoe factories as well as for the handicraft orientated small-scale workshops, and development of training programmes for the same.
4. Research and development work related to the manufacture of shoe industry components and accessories, such as lasts, unit soles, insoles, stiffeners, adhesives, etc. using mainly domestic raw materials. Development of decorations, buttons, etc. by using local hardwoods, bone and horns.
5. Research work related to shoe last sizing and standardization.
6. Development of simple tools and equipment, including dies and moulds.
7. Development of management control and monitoring systems on sectoral, plant and department levels for financial and production aspects, material utilization and stock levels, efficiency and quality performance.
8. Development of guidelines and methods for preventive and break-down maintenance, including analysis system for evaluation of machinery down-time and performance factors.
9. Development of cost and value analysis methods, workstudy-based piece work and bonus payment systems, and development of a long-term plan for productivity improvement of the sector.

APPENDIX 3. Priority Training Courses and Topics at TILT

a) Leather Technology

<u>Course</u>	<u>Frequency</u>	<u>Duration</u>	<u>No. of Participants Per Course</u>
1. Refresher Course for Middle Management Staff of Foreman and Supervisory Level	1 per yr.	8 weeks	10
2. Quality Control and Standardization	1 in 2 yrs.	8 weeks	10
3. Training in Assortment and Grading	1 per yr.	2 weeks	10
4. Production Management	1 per yr.	4 weeks	3-4 (from tanneries)
5. Operatives Certificate Course	} one or two of these courses during a year	8 weeks	10
6. Hide and Skin Improvement		8 weeks	10
7. Tanning Machinery Maintenance		10 weeks	10
8. Material Management		2 weeks	10
9. Processing of Game Skins, Reptiles and Exotics		4 weeks	8
Estimate of the number of trainees per year:			<u>38-48</u>

b) Footwear and Leather Products

<u>Course</u>	<u>Frequency</u>	<u>Duration</u>	<u>No. of Participants Per Course</u>
1. Preparation and Stitching Course for Footwear and Leather Products (with emphasis on training of trainers)	4 per yr.	4 weeks	8
2. Design and Pattern-Cutting Course for Leather Products	1 per yr.	12 weeks	8
3. Leather Cutting Course	2 per yr.	6 weeks	8
4. Design and Pattern-Cutting Course for Leather Products	1 in 2 years	12 weeks	8
5. Production Management	1 per yr.	4 weeks	6-8 (from shoe and leather goods factories)
6. Course for Sewing Machine Mechanics	1 per yr.	3 weeks	8
7. Shoe-Making Course	1 per yr.	12 weeks	8

Estimate of the number of trainees per year: 82-85

(Note: For additional courses in footwear and leather products which could be developed in the first three-year phase if circumstances allow, see the Technical Report on project RP/URT/82/005.)

APPENDIX 4. Required Qualifications and Experience for TILT Staff

1. Director

Educational and Professional Qualifications:

- a) Degree in Leather Technology or Degree in Chemical Engineering with basic studies in leather, footwear, leather products technology.
- b) Diploma in Leather Technology.
- c) Diploma in Leather Technology with additional qualifications such as Associateship (AFCI) or Fellowship (FCFI) of the Clothing and Footwear Institution or Diploma in Footwear/Leather Goods Technology or Designing.

Practical Field Experience:

In case of (a) - minimum of five years of industrial and/or research and development background working in the leather and leather products industries. In case with a candidate having basic studies in leather technology, this period will be relaxed to three years.

In case of (b) - minimum of 10 years of industrial and/or research and development background working in the leather and/or leather products industries.

2. Senior Leather Technologist

Educational and Professional Qualifications:

- a) Diploma in Leather Technology.
- b) Higher Technicians Certificate recognized through institutions such as City of Guilds of the UK in Heavy, Light Leather, Leather Dyeing and Finishing Leather.

Practical Field Experience:

In case of a) - a minimum of three years of industrial training or research and development background working in leather industry having modern facilities.

In case of b) - a minimum of five years of industrial training or research and development background working in a leather industry having modern facilities.

3. Senior Footwear and Leather Products Technologist

Educational and Professional Background:

- a) Diploma in Footwear or Leather Products Technology with basic studies in design.

- b) Higher Technicians Certificate recognized through the institutions such as City of Guilds of the UK in Footwear, Leather Products or designing technologies.

Practical Field Experience:

In case of a) - a minimum of three years of industrial training or research and development background working in a footwear or leather products industry with modern facilities.

In case of b) - a minimum of five years of industrial training or research and development background in the footwear or leather products industry with modern facilities.

4. Chief of Laboratory (Senior Leather Chemist)

Educational and Professional Qualifications:

- a) Master Degree in Leather Technology, Chemistry or Chemical Engineering with basic studies in Leather Technology.
- b) Diploma in Leather Technology with research qualifications ALC or equivalent.
- c) Higher Technicians Certificate recognized through the institutions such as city of Guild of the UK in the Heavy, Light Leather, Leather Dyeing and Finishing.

Practical Field Experience:

In case of a) - a minimum of one year of training in chemical or physical laboratories or in a teaching institution.

In case of b) - a minimum of three years of experience working in laboratories related to leather or leather products industries, preferably with research and development experience.

In case of c) - a minimum of ten years experience working in laboratories related to leather and leather products industries, preferably with research and development experience.

5. Information Officer

Educational and Professional Qualifications:

- a) Degree in Library Science.
- b) Diploma in Library Science.

Practical Field Experience:

In case of a) - a minimum of three years of experience working in a training or research or similar institution in information/library service.

In case of b) - a minimum of eight years of experience working in a training or research or similar institution in an information/library service.

Practical field experience may be relaxed in cases where the candidate will have a suitable background to build and operate the information unit, as desired for the establishment of TILT.

6. Assistants

- i) Leather Technology Assistant.
- ii) Footwear Manufacturing Assistant.
- iii) Leather Products Manufacturing Assistant.

Educational and Professional Qualifications:

- i) (a) Diploma or Certificate in Leather Technology.
(b) City and Guilds Certificate in Heavy, Light Leather and Leather Finishing.
- ii) (a) Diploma or Certificate in Footwear Technology.
(b) City and Guilds Certificate in Footwear Technology.
- iii) (a) Diploma or Certificate in Leather Goods Technology.
(b) City and Guilds Certificate in Footwear/Leather Goods Technology and/or Designing.

Practical Experience:

For above positions, a minimum of one year of practical experience working in the industry or training institution.

7. Laboratory Assistants

Educational and Practical Qualifications:

- a) Degree in Chemistry or Physics
or
- b) Diploma in Laboratory Attendants Course with chemistry and physics background
or
- c) Diploma or Certificate in Leather Technology.

Practical Experience:

In case a) - no experience needed.

In case b) and c) - minimum of one year experience working in a laboratory either in industry or in a training institution.

8. Attendants

Educational Background and Work Experience:

Certificate in their respective field of specialization. In case where the candidate has adequate practical experience, educational requirements may be relaxed. However, he/she should be able to read and follow written instructions in English and Swahili.

APPENDIX 5

Draft Terms of Reference
for Subcontracting the Technical Inputs of the Assistance
to the Tanzania Institute of Leather Technology (TILT), Mwanza

A. General Background Information

The immediate (project) objective in accordance with the project proposal is to establish the Tanzania Institute of Leather Technology (TILT) as an institution which will be capable of providing regular industrial services to the leather and leather products industries. Taking advantage of the preparatory work done with respect to the planning for and equipping of TILT through other UNIDO-executed projects, this project is aimed at starting up TILT operations. At the end of the project, TILT is expected to be providing supporting services (chemical and physical testing and analysis; quality control; applied research and development; pilot trials and technical and marketing information collection and distribution), extension services (trouble-shooting, diagnostic and problem-solving consulting assignments) and training services (at the level of key operators, middle management and specialized personnel) to the subsidiaries of the Tanzania Leather Associated Industries (TLAI), as well as to interested end-users in the private sector.

The contributions of the various functions (services) of TILT to the total of the Institute's activities should be approximately as follows (in terms of man-months): supporting service 30 per cent, extension services 40 per cent, training services 30 per cent.

Not long after the start of operations of the UNIDO-executed project DP/URT/78/010 in 1979 it was foreseen that TLAI and the Government would take steps to build the premises and prepare the establishment and organization of TILT, a "single-branch" industrial research and service institute (IRSI). It was decided that this centre should be located in Mwanza at Lake Victoria, near the existing Mwanza Tanneries, to take advantage of the already existing facilities, such as water, steam and power supply, effluent treatment unit and maintenance services of the tannery. The main source of financing was to be a development levy imposed on the sales of TLAI subsidiaries. As a result of the deteriorating situation in the leather sector, there were considerable problems in securing the foreseen financing. The construction of TILT buildings and other facilities started in 1982. Although hampered by financial constraints, TLAI has made significant efforts in preparing for the start-up of the Institute. Already over 20 million shillings have been spent on the construction, a major portion coming from the levy (which was difficult to collect in the planned amount owing to serious operational and financial problems of the subsidiaries).

During the visit of the UNIDO Evaluation Mission to the TILT site in Mwanza in October 1984, the following was established:

1. The TILT grounds cover an area of approximately 100,000 m² on the shores of Lake Victoria.

2. The premises include an administration block with 5 offices (area of 180 m²), library (190 m²), chemical laboratory (140 m²), physical laboratory (140 m²), tannery block (260 m²), shoe technology block (260 m²), 2 lecture room blocks (total area 260 m²), kitchen and dining room block (200 m²), 6 staff housing units (90 m² each) and 2 hostel blocks (approx. 400 m² each) for 48 students or trainees. The site is very spacious, well laid out, and allows for future expansion.

3. Architectural design and the civil construction work are of a very satisfactory standard. The buildings are practically completed, requiring only some finishing touches regarding the electrical and plumbing work. Overall, construction on the site is about 95 per cent completed.

4. As far as the equipment of TILT is concerned, the tanning equipment has been fully installed with foundations. The equipment for shoe and leather goods technology is in the shoe technology block and can be installed within days.

5. Preparations have been made for the power and water supply to be available in December 1984.

6. As a whole, the currently existing facilities, without further expansion, can be considered sufficient for the purpose of the proposed project with a 2.5 years duration. The modular nature of the Institute set-up will allow consequent expansion.

The TILT will have a significant role to play in the training of personnel, in quality control and applied research and in development work for the entire leather and leather products manufacturing industry in Tanzania, and also possibly in some neighbouring countries at a later date.

By producing technically well-qualified specialists, and by periodically retraining supervisors, technologists, designers, quality controllers, etc. for the entire leather industry sector, the TILT will contribute substantially to the economic and social development of Tanzania, and later possibly also to some neighbouring countries. Furthermore, it will render supporting and extension services to the local industry, introduce R+D programme activities, in accordance with the characteristics of the raw materials locally available, and provide techno-economic information of considerable interest to this industrial sector.

The TILT already has suitable and up-to-date facilities (buildings, equipment and machinery) but will, in the first few years of its existence, be lacking know-how and practical experience in carrying out training programmes, extension services, quality control and research and development work. Therefore, outside technical assistance, mainly in the form of services of specialized and experienced experts, is essential for a successful operation of this Institute. Such assistance will be provided by this project.

Under the project US/URT/79/240, financed from a special-purpose contribution of Italy, all the equipment required to set up the centre was delivered and practically installed at Mwanza. It was also planned that international experts assigned to the DP project would extend their assistance to the newly-established leather centre at the initial stage of the work. However, due to a delay in obtaining the funding for the equipment from donor countries and a delay in the implementation of the Government input (construction work), this could not be accomplished as envisaged and the assistance to TILT is now proposed under a separate project.

A training programme was carried out under the project US/INT/81/087 in 1982/83 for four fellows during a period of three months each in footwear and leather goods styling, design and pattern-cutting in Italy. The fellows are expected to assist in starting similar courses in the Institute and to work later on as instructors.

B. The Aim of the Project

One of the targets of the long-term industrial strategy in Tanzania is to establish and promote local resource-based industries with a view to maximizing foreign exchange earnings through increased value added. Most of these industries will be agro-based and agro-related, and one of the industrial sectors to be promoted is the leather and leather products industry sector.

There is a great need for adequately trained specialists in the entire leather, footwear and leather goods manufacturing sector, in order to enable the important industrial plants established to operate efficiently and to contribute significantly to the overall economy of the country.

For this purpose, the TILT was envisaged in 1979 with the objective of training key workers and operators and middle managerial staff, as well as of rendering the required supporting and extension services to the leather industry sector, not only for the larger industrial plants under TLAI control (TLAI subsidiaries), but also for the Small Industry Development Organization, the private industry and the Tanzania Hides and Skins, Ltd.

The leather and leather products industry in Tanzania has very significant potential but many accumulated problems as well. A very wide and co-ordinated action is needed for a larger-scale positive effect to be obtained. This situation and the possible course of action is described in detail in the terminal report of project BR/URT/84/001 - "Rehabilitation of the Leather, Footwear and Leather Products Industry". Project BR/URT/84/001 originated from the World Bank interest to prepare a plan of action for increasing the capacity utilization of the problem-riddled Morogoro Shoe Company (MSC), which was built with a long-term World Bank loan. However, based on the UNIDO experience with the leather sector in Tanzania, it was decided that a realistic plan of action for MSC cannot be formulated without a detailed plan of action for rehabilitating the leather sector as a whole.

The project was, therefore, directed at producing an integrated master plan for the rehabilitation of the entire leather, footwear and leather products industry of Tanzania, with special reference to the financial viability of recommendations. The project report with a detailed rehabilitation plan has been presented to the Government of Tanzania end of October 1984.

TILT is being established at a particularly crucial moment for the leather sector in Tanzania. The Institute could, therefore, be a very valuable tool (instrument) in the rehabilitation of the sector and the improvement of its performance. The method of operation of TILT and the services it will offer to the industry should be in tune with this situation.

C. Responsibility of the Contractor, Description and Scope of Work to be Performed by the Contractor

Given the aims, objectives, project outputs and project activities as detailed in the project proposal, together with the Project Implementation Time Table referred to under item D below, the Contractor shall undertake to supply the necessary experienced expertise to ensure the timely implementation and satisfactory subsequent operation of the TILT.

The experts provided by the Contractor shall undertake to advise and assist the Tanzanian counterparts in attaining, in particular, all the immediate objectives detailed in the project proposal. The Contractor's experts shall train the Tanzanian counterparts in all aspects of the project's activities and shall undertake to provide all technical inputs implied to be provided by the external assistance in the aforementioned project proposal. Furthermore, the Contractor shall provide the selected Tanzanian counterparts with appropriate training opportunities as detailed below in order to upgrade their knowledge in design, technology and quality control.

The Contractor's experts in the field will accept technical guidance and orientation from the UNIDO Chief Technical Adviser who will be continuously available during the first two years of project implementation and will co-ordinate the project activities within the UNIDO operational patterns.

The Contractor shall supply thirty-six man-months of expertise over a period of twenty-four months, having at all times at least one expert, but not more than four experts, on duty at the TILT in Mwanza.

The fields of expertise required for the Contractor's inputs are outlined below. It may, however, be agreed that the Contractor may compose the required specialities of short-term experts, subject to approval by the UNIDO CTA.

1. Expertise required

Leather technologist: to be responsible for training and extension services in tanning and finishing processes, quality control and plant organization in tanneries, grading of raw hides and skins, as well as (semi) finished leather. Should have wide experience 12 m/m

in chemical and physical treatment of hides and skins, laboratory tests and in developing appropriate formulae for processing. Previous experience in institute work and/or training would be an advantage.

Footwear technologist: to be responsible for assistance in training and extension services in footwear design, technology and plant organization. Should have wide experience in shoe manufacturing with special reference to operator and supervisor training, work studies, costing, scheduling and technological operations. Must also be able to carry out and train local counterparts in testing, quality assessment and work studies, advise the local industry on appropriate technology to be used. 12 m/m

Short-term experts: in specific fields of leather products manufacturing, specifically: 12 m/m

- design (range building, pattern engineering, grading, sample making) of footwear;
- leather goods design (including pattern cutting, sample making);
- sewing machinist training (using the skill analysis method for operator and instructor training);
- quality control (laboratory tests, wear tests, in-plant quality control, etc.);
- preventive maintenance (overhauling, scheduling maintenance, tool-making).

The requisite job descriptions are enclosed.

2. Training

Besides the above expertise delivered directly and implemented in Mwanza, the Contractor shall provide selected local counterparts with a total of 51 man-months of appropriate training programmes abroad. The specific areas and the method of training shall be as follows:

(a) Leather industry

1 technologist	in-plant	6 months
1 finishing specialist (assistant)	in-plant	6 months
1 quality controller (chief of laboratory)	institute	3 months
1 machinery engineer (from Mwanza Tanneries)	in-plant	6 months

(b) Footwear industry

1 technologist	in-plant	6 months
1 designer (assistant)	in-plant	3 months
1 maintenance engineer (to join TILT later)	in-plant	6 months
1 quality controller (laboratory assistant)	institute	6 months

(c) Leather goods industry

1 designer (from Morogoro Leather Goods Factory)	in-plant	3 months
1 technologist (assistant)	in-plant	<u>6 months</u>

Total 51 months

D. General Time Schedule

The final time schedule will be completed by the UNIDO CTA as soon as the exact timing of the subcontract is known. The following tentative schedule, subject to modifications, is applicable for contract negotiations.

1. Briefing of consulting company representative in Vienna, three days, July 1985.
2. Arrival of the first expert at the contract site, August 1985; fielding of the other personnel will follow progressively as determined by the final project time schedule to be completed by the UNIDO CTA.
3. The Contractor is expected to provide UNIDO with an interim report with the final work plan two months after fielding of the first expert; a mid-term progress report in September 1986; and the draft terminal report one month prior to the completion of the field work. The final report should be provided by the Contractor at the latest 15 days after receipt of UNIDO's comments on the draft final report.
4. Each individual expert is expected to prepare, under the guidance of the UNIDO CTA, an individual work plan and to provide the UNIDO CTA with informal reports as follows:

preliminary report	- one month after fielding, including individual work plan
mid-term report	- only experts serving six months or more
final report	- one month before termination of field work.
5. UNIDO's comments on the Contractor's reports and the CTA's comments on the individual reports are to be provided at the latest 15 days after receipt of the same.

6. The training of the fellowship candidates is expected to take place during 1986. A separate time schedule will be prepared for each trainee during the preparation of the project's final work plan.

E. Language

The language requirement for the experts in the field is English. All reports and communications shall be in the English language.

F. Reports

- Interim reports in four copies.
- Mid-term report in four copies.
- Draft terminal report in four copies.
- Final report in twenty copies.

UNITED NATIONS



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

UNIDO

Request from the Government of the United Republic of Tanzania

JOB DESCRIPTION

Post title Leather Technology Expert

Duration Twelve months

Date required August 1985

Duty station Mwanza

Purpose of project To assist the Tanzania Institute of Leather Technology (TILT) in Mwanza in starting up its activity, with special reference to extension services for the local leather and leather products industries.

Duties The expert will specifically be expected to:

1. Actively participate in extension services and seminars, particularly in tanning and finishing technology, plant organization and quality control, to be carried out for the local tanneries;
2. Carry out laboratory experiments and quality control services and train local personnel;
3. Design courses and give lectures on the appropriate leather processing methods and equipment to be used;
4. Advise on product development and marketing strategy for local tanneries;
5. Train local counterparts in the running of the TILT.

...../..

Applications and communications regarding this Job Description should be sent to:
Project Personnel Recruitment Section, Industrial Operations Division
UNIDO, VIENNA INTERNATIONAL CENTRE, P.O. Box 300, Vienna, Austria

UNITED NATIONS



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

UNIDO

Request from the Government of the United Republic of Tanzania

JOB DESCRIPTION

Post title Footwear Technology Expert

Duration Twelve months

Date required February 1986

Duty station Mwanza

Purpose of project To assist the Tanzania Institute of Leather Technology (TILT) in Mwanza in starting up its activity, with special reference to extension services for the local leather and leather products industries.

Duties The expert will specifically be expected to:

1. Participate in extension services and seminars, particularly in product development, technical preparation of the production, quality control and production management, to be carried out for the local shoe factories;
2. Train local counterparts in carrying out laboratory experiments, tests and pilot trials, and elaborate recommendations for shoe manufacturing units on improving their production;
3. Give lectures and supervise in-plant training courses for operators, instructors, supervisors and quality controllers;
4. Train local counterpart personnel in R+D work, organization, rendering services for the industry and running in-plant training courses.

...../..

Applications and communications regarding this Job Description should be sent to:

Project Personnel Recruitment Section, Industrial Operations Division
UNIDO, VIENNA INTERNATIONAL CENTRE, P.O. Box 300, Vienna, Austria

APPENDIX 6

Draft Terms of Reference
for Subcontracting a Large-Scale Foot Measurement Programme,
Preparation of Shoe Last Models and Documentation for the Making
of Suitable Lasts for the Population of Tanzania

A. General Background Information

A World Bank-financed project BR/URT/84/001, implemented by UNIDO, has proposed an integrated rehabilitation programme for the Tanzanian leather and leather products industries. This programme includes assistance to the Tanzania Institute of Leather Technology (TILT) in order to enable it to render extension services to the local manufacturing units. An important prerequisite for design and range building services is the availability of adequate data on anthropometric and morphological characteristics of the local population, which is required both for the industry and retail organizations.

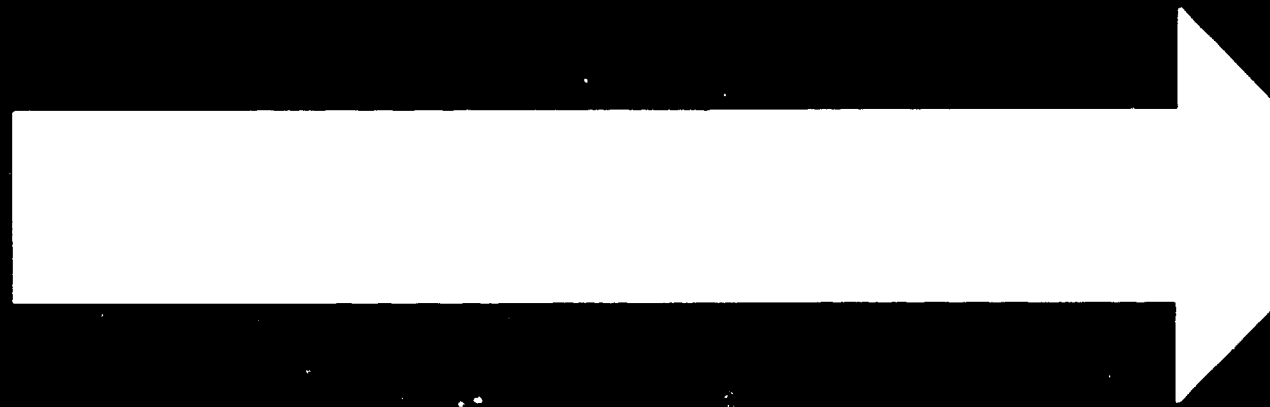
The Tanzanian shoe industry is lacking suitable lasts and corresponding components, such as insoles, stiffeners and unit soles. A pilot plant for last manufacture was established in the Morogoro Shoe Company. The TILT has to provide in the future services in standardization and co-ordination of components, and supply information on size ranges to be marketed locally. One of the difficulties to start this type of activity is that the Tanzanian population has not been measured as to the size and shape of their feet in order to give an adequate basis for shoe last manufacture and to distribute footwear in the country according to the real needs in sizes. Presently all of the shoe lasts used by the local industry originate from Italy and other European countries and are far from being suitable for the production of comfortable and well-fitting footwear as these lasts are not corresponding to the Tanzanian anthropometrical conditions. As a consequence there exist no standards in the local shoe industry as to the co-ordination of shoe components, which in turn leads to substantial losses and a drop in the quality of shoes manufactured. The improper shape and size of childrens footwear supplied to the local market may cause (as it had been realized and proven in a number of industrialized countries) irreversible deformations and illnesses of feet, detected usually only at adult age.

B. The Aim of the Programme

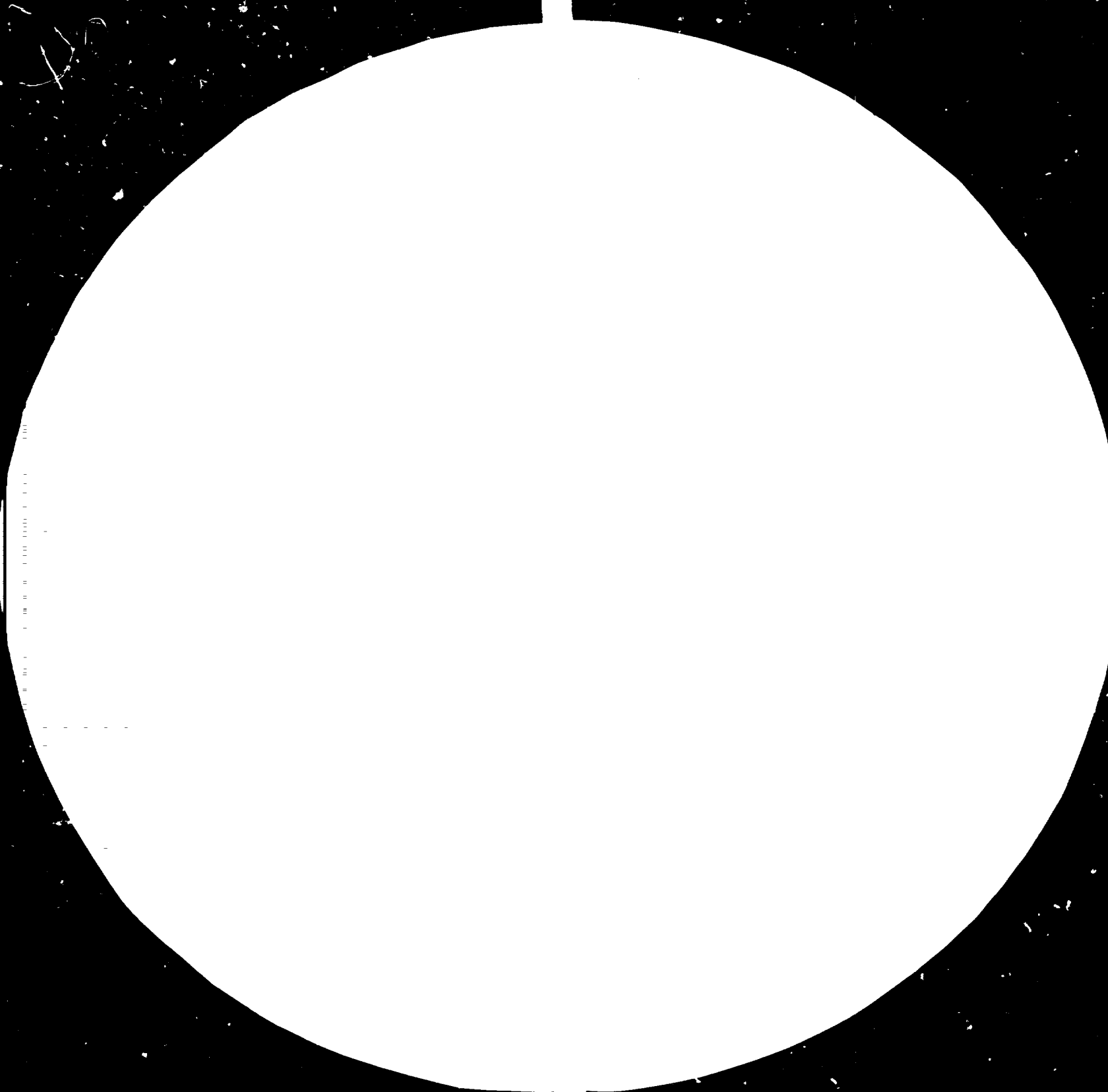
The aim of the programme is to provide the Tanzanian footwear industry with suitable well-fitting shoe lasts for the domestic market. In order to fulfil the aim of the programme the Contractor is expected to supply the following services:

1. Documentation on the mathematic-statistical evaluation of the morphology and sizes of feet of the Tanzanian population in various age groups (from 6 years of age upward) separately for male and female.
2. Basic data and written instructions for making of lasts based on the measurement analysis, together with sizing for length and width (girth) construction for the lasts.

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MICROCOPY REPRODUCTION TEST CHART

NATIONAL BUREAU OF STANDARDS - Gaithersburg, Maryland 20899

U.S. GOVERNMENT PRINTING OFFICE: 1975 O - 301-100

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20540

Microfilm edition of this test chart available from University Microfilms International, 300 North Zeeb Road, Ann Arbor, Michigan 48106

For more information on this test chart, contact the National Bureau of Standards, Gaithersburg, Maryland 20899

3. Samples of lasts for the determined and recommended medium sizes for each size and age group, series of last bottom and sections patterns.
4. Size tables recommended for the industry and trade, tables for grading of length and width for various size groups.

C. Scope of Contracting Services

To fulfil the objective of the programme the Contractor is expected to supply the following services:

1. Provide all necessary instruments, equipment and software to carry out the photometric measurements in Tanzania and to register anthropometric data of the local sample population of not less than 6,000 persons.
2. One fully experienced expert to supervise and participate in the measurements in Tanzania (expected 6-8 weeks), including salary, travel and living expenses of the expert.
3. All transport costs of the necessary equipment and auxiliary materials from the Contractor's home base to Dar-es-Salaam and back.
4. Carry out a mathematic-statistical analysis of collected anthropometric data using computer technique.
5. Produce sample lasts for medium sizes of each group, size tables, graded patterns necessary for last design and quality control.
6. Handing over of documents and final discussions in Tanzania and at UNIDO headquarters.

D. General Time Schedule

Briefing of expert in Vienna	end January 1986
Photometric measurements in Tanzania	30 May 1986
Software development and data processing	15 August 1986
Production of sample lasts and patterns	30 September 1986
Discussion on the draft documentation in Vienna	31 October 1986
Handing over the documentation, sample lasts and graded patterns in Tanzania	15 November 1986

E. Personnel in the Field

As per paragraph C.2, the Contractor is to supply one qualified person for the entire period needed for the foot measurement programme in Tanzania. The support services in respect of transportation, programme preparation, including sampling, selection of measurement places and territorial distribution of measurement places, will be provided by the project and the counterpart organization.

F. Reports

The report is to be provided in English and only a final report is required.

Draft final report to be discussed in Vienna
Final report to be handed over in Tanzania

31 October 1986
15 November 1986.

APPENDIX 7

List of Recommended Publications

A. BOOKS

Available from: Leicester University Bookshop
University Road
Leicester LE1 7RD, England

<u>Authors</u>	<u>Title</u>
P.S. Briggs	G 135 Gloving , Clothing and Special Leather
British Leather Manufacturers Research Assoc.	Hides, Skins, Leather under Microscope Check List Fellmongers
"	Leather Clothing, its Makeup and Dry Cleaning
British Standards Institute	Glossary of Leather Terms
"	Methods of Sampling and Chemical Testing of Leather
"	Methods of Sampling and Physical Testing of Leather
"	Methods of Test for Colour Fastness of Textiles and Leather
"	Standards Depths: Matt-SDM 1961
"	Universal Decimal Classification: UDC 675 Leather Industry Process of Animal Skins
Leather Guide	Leather Guide
C.J. Lickhart-Smith and Elliott	Tanning of Hides and Skins
J. Mosiewicz	Modern Rational Drying and Finishing of Vegetable Sole Leather
"	Modern Rational Pit-Drum Tannage of Vegetable Sole Leather
F. O'Flaherty, et al	Chemistry and Technology of Leather, Vol. I Preparation for Tannage
"	Vol. II Types of Tannage
"	Vol. III Dyeing and Finishing
"	Vol. IV Evaluation of Leather

<u>Authors</u>	<u>Title</u>
Organization for Economic Co-operation and Development	Footwear, Raw Hides and Skins and Leather Industry in OECD Countries
C. Paquot	Standard Methods for Analysis of Oils, Fats Derivatives 6th Ed.
W.B. Patrick	Modern Pattern Cutting
R. Reed	Ancient Skins, Parchments and Leather
Clark's Training Department	Manual of Shoe Making
S. Edwards	Art of Working with Leather
W. Galloway	Collagen: Anatomy of Protein
R. Gibbs	Leather
C.H. Giles	Laboratory Courses
M. Goldsworthy	Dressmaking with Leather
B.M. Haines	Leather under the Microscope
United Nations Industrial Development Organization	Acceptable Quality Levels in Leather
M.M. Huq	Choice of Technique in Leather Manufacture
International Labour Office	Tanning of Hides and Skins, Memo No. 1
International Council of Tanners	Glossary of Leather Terms 2nd Ed.
I.B. Leach and Barret	G. 156 Preparation and Alum Dressing of Rabbit Pelts on Small Scale
I.P. Roseman	Leather Work
Shoe and Allied Industries	Footwear Constructions and Materials: Manual for Retailer 3rd Ed.
J.H. Sharpouse	Leather Technicians Handbook
IULTCS	Chemistry of Vegetable Tanners
J.J. Tancous, et al	Skins, Hides and Leather Defects

<u>Authors</u>	<u>Title</u>
Tanning Extract Producers Federation	A Survey of Modern Vegetable Tannage
T.C. Thorstensen	Practical Leather Technology
D.H. Tue	Manufacture of Upper Leather
J.W. Waterer	Leather and the Warrior
D. Willcox	Modern Leather Design
D. Woodroffe	Handbook on Chrome Tanning

B. TECHNICAL JOURNALS AND MAGAZINES

	<u>Publisher</u>
Leather (monthly)	Benn Publications Ltd. Sovereign Way Tonbridge, Kent TN9 4RW U.K.
Leather Manufacturers (monthly)	Shoe Trades Publishing Co. 15, East Street Boston, Mass. 0211 USA
Journal of Society of the Leather Technol- ogists and Chemists (bi-monthly)	Society of the Leather Technologists and Chemists (SLTC) 1, Edges Road Moulton, Northampton NN3 1UJ U.K.
Journal of the American Leather Chemists Assoc. (monthly)	American Leather Chemists Association Tanners Council Research Laboratory University of Cincinnati Cincinnati, Ohio 45221 USA
Shoe and Leather News (monthly)	84-88 Great Eastern Street London EC2 3ED U.K.
Australian Leather Journal Boot and Shoe Recorder (monthly)	Lawrence Publishing Co. Box 1813 GPO Sydney, NSW 2001 Australia
Das Leder (monthly)	Edward Roetter Verlag Berliner Allee 56 D-6100 Darmstadt F.R.G.

