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## Regional Africa Leather and Footwear Industry Programme

### **Report of the Programme Evaluation\***

Prepared by:

Quality Assurance and Evaluation Branch  
General Management

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\* This document has not been edited.

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### **LIST OF ACRONYMS**

<i>BOD</i>	<i>Biochemical oxygen demand</i>
<i>CLRI</i>	<i>Central Leather Research Institute, Madras</i>
<i>COD</i>	<i>Chemical oxygen demand</i>
<i>CTA</i>	<i>Chief Technical Advisor</i>
<i>ESALIA</i>	<i>Eastern &amp; Southern Africa Leather Industries Association</i>
<i>ESAMI</i>	<i>Eastern &amp; Southern Africa Management Institute, Tanzania</i>
<i>ITC</i>	<i>International Trade Centre</i>
<i>KFMA</i>	<i>Kenya Footwear Manufacturers Association</i>
<i>KTC</i>	<i>Kenya Tanners Association</i>
<i>LDC</i>	<i>Leather Development Centre, Kenya</i>
<i>LIU</i>	<i>Leather Industry of Uganda</i>
<i>LIZ</i>	<i>Leather Institute Of Zimbabwe, Bulawayo</i>
<i>LLPI</i>	<i>Leather &amp; Leather Products Institute, Addis Ababa</i>
<i>NALFIS</i>	<i>National Africa Leather &amp; Footwear Industry Scheme</i>
<i>NLSC</i>	<i>National Leather &amp; Shoe Corporation, Ethiopia</i>
<i>NLTC</i>	<i>National Leather Technology Center, Khartoum</i>
<i>PIC</i>	<i>Productivity Improvement Centre, Addis Ababa</i>
<i>RALFIS</i>	<i>Regional Africa Leather &amp; Footwear Industry Scheme</i>
<i>REFAM</i>	<i>Rehabilitation &amp; Establishment of Finished Articles Manufacture</i>
<i>RFO</i>	<i>Revolving Fund Operation</i>
<i>S<sup>-</sup></i>	<i>sulphide</i>
<i>SS</i>	<i>suspended solids</i>
<i>TILT</i>	<i>Tanzania Institute of Leather Technology, Mwanza</i>
<i>TPCSI</i>	<i>Training &amp; Production Centre for the Shoe Industry, Thika</i>

*As of November 1996:*

<i>1 US Dollar (US\$)</i>	<i>= 6.42 Ethiopian Birr (Br)</i>
<i>1 US Dollar (US\$)</i>	<i>= 56.5 Kenyan Shilling (KSh)</i>
<i>1 US Dollar (US\$)</i>	<i>= 582 Tanzanian Shilling (TSh)</i>
<i>1 US Dollar (US\$)</i>	<i>= 1060 Uganda Shilling (USh)</i>

## Summary

The evaluation of the UNIDO Leather Programme in Eastern and Southern Africa, based on field visits to four countries, concludes that the Programme is relevant as it addresses actual needs of development partners and target beneficiaries (institutions, industrial companies, hides and skins extension services, etc.) in a sector with a potential to produce competitive companies. The Programme was managed and implemented in an efficient way with minimal complaints about the quality of UNIDO inputs (experts, training, equipment). Some inconsistencies in timing of UNIDO's and the partners' inputs were noted, usually due to factors beyond the control of Programme management.

Good results were obtained in particular in rehabilitation of tanneries, establishment of effluent treatment plants, rehabilitation of a number of footwear manufacturing plants and establishment of the Training and Production Centre for the Shoe Industry (TPCSI) at Thika, Kenya. Gender issues were addressed intensely, with good results achieved in supporting female entrepreneurs, training of women and promoting female professionals, but less evident results in generating new job opportunities for women. Results in hides and skins improvement were less satisfactory mainly due to the complexity of the socio-economic factors affecting the sub-sector, including the diminishing direct budgetary support of central governments to hides and skins improvement. In spite of that, positive results were achieved in some target areas.

Significant impact will be achieved particularly in the elimination of effluent once all effluent treatment plants are in full operation; this impact will be achieved with cost efficiency well comparable with the elimination of a similar amount of pollution in Europe. Another impact is demonstrated in increased availability of locally produced finished leather of good quality and the upgraded quality of shoes produced in some companies supported by the Programme. A few companies managed to establish themselves in export markets in Europe and USA. Although the quantity and value of exported shoes are modest, they represent a pioneering accomplishment. In some leather products companies, however, the impact was rather marginal.

The Programme approach, manifested in supporting a number of clients and beneficiaries in various sub-sectors connected through input-output linkages, contributed to the efficiency, effectiveness and impact of the Programme as the linkages produced synergy effects.

Sustainability of the developed capabilities varies; even though none of the supported institutions achieved full sustainability in financial terms, TPCSI, which is owned by the industry association, achieved remarkable results by covering almost all operating costs by income from the sale of services. Other service institutions have problems in sustaining the developed capabilities which are very often due to their linkage to the salary scales of the public sector.

Good results were achieved not only thanks to a stable core of competent experts and the devotion of Programme management but also due to the role of the leather industry associations which started to assume ownership of the Programme in all countries except Ethiopia. Direct support to individual private companies became possible thanks to the mechanism of a repayment fund which was also designed and implemented with the support of the Programme. However, the repayment discipline needs to be improved.

The evaluation concludes that the Programme merits funding and recommends that it should be continued. However, the evaluation makes a number of recommendations at the Programme, Programme Component, and company/institution levels. At the Programme level the evaluation recommends that greater attention be paid to activities at the policy level, to cleaner production and solid waste management in the tanneries sub-sector, to cluster development in the footwear and leather goods manufacturing sub-sector (where possible and respecting the socio-economic environment), and to the production of auxiliaries and components. Gender issues should be pursued primarily through their mainstreaming in all sub-sectors. In the area of hides and skins improvement, the Programme should downplay its involvement in the construction of slaughtering slabs and sheds, handing over management and financing of these activities to the leather industry associations and other local bodies, and focus rather on policy advice and training. For Component-specific recommendations please refer to Chapter 7.

## 1. INTRODUCTION

1. The Leather Programme for Southern and Eastern Africa, hereafter referred to as the Programme, is one of the largest and most complex development cooperation programmes of UNIDO. An independent evaluation of its second phase, which started in 1993, was stipulated in the core project document of the Programme (US/RAF/92/200).

2. The Draft Terms of Reference were prepared by the Quality Assurance & Evaluation Branch (EVAL) in cooperation with the Agro-based Industries Branch (ISED/AGRO) and finalized by EVAL after consideration of comments received from UNIDO staff and representatives of the donor countries. For final Terms of Reference please refer to Annex 1.

3. The evaluation was conducted by the team consisting of:

- Mr. Michel Aloy, consultant in tanning and effluent treatment
- Mr. Jaroslav Navratil, senior evaluation officer, UNIDO/EVAL
- Mr. Timo Niklas-Salminen, consultant in footwear and leather goods.

None of the team members had been formally involved in the design or implementation of the Programme.

4. The team reviewed Programme documentation in the Project Manager's office, including some documentary outputs (studies, guidelines, etc.) produced by the Programme, and interviewed a number of UNIDO staff involved in the Programme (see Annex 3).

5. The Programme involves many development partners and target beneficiaries in 10 countries. The evaluation of the Programme could not cover its activities in all these countries. In order to minimize the travel costs and yet cover countries with different levels of development of the leather industry, the following countries were selected for the field mission: Ethiopia, Kenya, Tanzania and Uganda.

6. During the field mission, (9 November - 3 December) approximately 40 companies and target areas and 10 institutions were visited and interviewed. Notes on the visits to companies, institutions and target areas are recorded in Annex 2. They include assessment of the use of project inputs by the target beneficiaries and of its impact at the target beneficiaries' level. In addition, the team visited and interviewed leather associations, ministries of industry and trade, ministries of agriculture and UNDP/UCD offices (see Annex 3).

7. Completion of the field mission was planned to coincide with the meeting of the Eastern and Southern Africa Leather Industry Association (ESALIA) on the 2 December 1996. The evaluation team presented the "Summary of Conclusions and Recommendations" to the meeting and, on the basis of comments made at the meeting, modified the text.

8. On 15 January 1997, the above were presented to the representatives of donors and selected UNIDO staff (see list of participants - Annex 4). Comments made at the presentation meeting were considered and reflected in this report.

9. Annex 2 recording the visits to target beneficiaries represents the basis on which the main report is built; the generic conclusions are supported by facts contained in Annex 2. This annex also includes company-specific recommendations which are not necessarily reflected in the Programme-related recommendations formulated in the main report.

10. In order to facilitate the on-going evaluation of the Second IDDA Programme, the evaluation of IDDA-funded projects is presented separately in Chapter 3.3.5: IDDA Inputs.



*11.* In order to avoid a partition of the text by accumulation of tables, some tables are placed at the end Chapter 3.

*12.* The evaluation team wishes to acknowledge intense support extended to the team by the Programme Management, the leather associations and UCD offices in the preparation and conducting of the evaluation. Planning of the field visits by the CTA and national experts and genuine interest of the Project Manager and the Head of the Agro-based Industries Branch in the work of the evaluation team and its results deserve to be particularly highlighted.

## 2. PROGRAMME CONCEPT AND DESIGN

### 2.1 Socio-economic context

#### 2.1.1 Current trends in the sector

13. **Complexity of the sector:** The sector can be divided into the following core sub-sectors:

- raw hides and skins production, collection and commercialization;
- tanning and leather finishing;
- leather products manufacture, consisting of:
  - \* manufacturing of footwear;
  - \* manufacturing of other leather products.

14. However, a large number of auxiliary and capital goods industries provide inputs to the leather sector:

- a) semi-finished and finished leather chemicals:
  - bactericides, sodium sulphide, sodium hydrosulphide, wetting agents, slaked lime, caustic soda, sodium carbonate, enzymes, ammonium chloride and sulphate, organic acids, sodium chloride, sulphuric acid, formic acid, organic solvents, chromium salts, sodium bicarbonate, vegetable tans, glutaraldehyde, sodium formate, organic tannins, dyes, fat liquors and finishing agents (pigments, resins, dyes, auxiliaries).  
(Some chemicals, such as common salt, lime and sulphuric acid, can be procured from local market.)
- b) footwear auxiliaries:
  - textile and synthetic upper and lining materials;
  - leather, PVC, rubber, soles, heels;
  - leather, cellulose, leather board, insoles;
  - toe puffs, shanks, stiffeners/counters, adhesives, and other components;
  - auxiliaries (e.g. threads, nails, reinforcing tapes, laces, buckles, decorations, zip-fasteners);
  - adhesives, polishes, etc. finishing chemicals;
  - shoe lasts, moulds, cutting dies, hand and machine tools;
  - packaging materials and accessories;
- c) leather goods auxiliaries:
  - locks, zips, buckles, frames, fasteners, rivets, lining materials, etc.;
- d) production equipment:
  - tannery machinery (e.g. wooden drums, fleshing and splitting machines, drying units, shaving and finishing equipment);
  - equipment for leather products manufacturing (e.g. clicking presses, sewing machines, equipment for lasting, making and finishing of footwear);
  - work handling and storage equipment for a factory configuration (e.g. racks, work transporters).

The above inputs are becoming important factors of production costs and product quality.

15. **Market characteristics:** Global free trade is typical for the leather-related trade.
16. The byproduct status of hides and skins means that their level of production (slaughter) is not affected by the demand and the prices the tanners are willing to pay. However, the price affects the collection rate.
17. The cost of leather is often a relatively minor proportion of the selling price of the final consumer product; therefore, the demand for leather is more sensitive to fluctuations in income and in consumer fashions than in the price of leather itself.
18. In the leather products trade, the markets have become more fragmented because of more variety and unique lifestyle-related products which are in demand. Fashion and the business cycle in most market segments is becoming even shorter. Brand image, design, price, quality and no-hassle availability of products are success factors. However, brand loyalty of the consumers has become weaker as consumers are frequently shifting from one brand to another. This, and closing down of leather products industries in some countries have created export opportunities for emerging producers.
19. Product design is becoming more and more important for business success. In fact, value added and profit generation is largely based on the quality of product design. Persons having design education background in apparel or in other fields are trained in marketing, and pattern engineering and manufacturing methods.
20. Tighter delivery schedules, shorter production runs and flexible, economical production systems are the order of the day because in this quick-response environment, the export and home market customers are avoiding inventory risks.
21. Resellers and producers are in partnerships for joint efforts in the export and domestic marketing, sourcing and production.
22. Manufacturers are becoming ever more specialized. Each type of product, such as various sports, leisure and safety products, requires design ability, knowledge and technology, and special distribution channels. In fact, flexible specialization is the password to the fast changing market segments. This differentiation covers not only the leather products or brand images, but also the whole business idea, a differentiated strategy for doing business in each market niche the producer operates, and establishment of situational alliances.
23. Customers, even consumers, manufacturers, suppliers, design offices, banks, etc. are more and more linked electronically. Networks are increasingly becoming elements of the business environment.
24. Larger use of alternative materials other than leather is becoming more common.
25. Seasonality of demand in the home market and in some export markets is still a problem. This can be partly solved by selling globally.
26. In recent years, there has been a recession in developed markets. It hit the upholstery and garment sectors hardest. Many long-established tanneries in North America and Europe have been forced out of business by rising costs and shrinking domestic markets. Italy, despite high production costs and adverse exchange rates, has largely sustained its dominance in fashion leathers and high-value leather products.
27. **Cluster Development:** Balanced cluster development serves to overcome such problems as lack of knowledge, flexibility, quick-response and finance in the effort of serving the ever more segmented, fashion-oriented volatile and global market. A producer alone, in the quick-response trade, without a cluster type of

cooperation and integration, and related resources, may not be able to survive and grow by using the opportunities for receiving domestic or export orders, particularly on a large-scale.

28. Training and consultancy services are important in the clusters because the principle means for adding value is based on adequately trained, experienced, flexible and motivated personnel.

29. **Location:** Global enterprises are increasingly in frequent search for better locations and for suitable manufacturing environment. However, many branded players continue rather to outsource than to produce by themselves, thus creating opportunities for the emerging manufacturers.

30. The leather product industries have been moving to regions of low labour cost. In former times, for example, movement took place from the industrialized market economies to the countries like South Korea and Taiwan.

31. The labour-intensive nature of most leather products means that the location of the factories is sensitive to wage rates and labour productivity. Recently, South Korea and Taiwan have given way to China, Thailand, Indonesia, Viet Nam and other low cost producers in the region (China is now producing one pair in every three pairs of shoes produced in the world). However, the use of high technology is becoming more economical for the leather-related industries. Labour cost advantage of the low-cost countries may somewhat diminish.

32. Tanning is slower to move, partly due to the relative importance of fixed capital investment in tanning and the smaller role of labour costs.

33. Growing share of raw materials is being tanned, at least to wet-blue, in the country of origin, while finishing is undertaken close to the leather product factory.

34. Industries appear to thrive in the business environment having supportive tariff, taxation, well-established power supply, goods and service suppliers, etc. Absence of some of these factors in the Programme countries in Africa is one of the factors why foreign capital is not sufficiently active in the sector.

#### *2.1.2 Potential for the development of the leather sector*

35. There is a good potential in most of the Eastern and Southern African countries to be recognized as major suppliers of semi-processed leathers to the export market, and for the production of finished leather products for their own markets and, gradually, for export. The sector is using renewable resources, the technology and skills are within reach and cheap labour is also available. Growing domestic market for footwear and leather goods is a distinct advantage for the local industry.

36. Availability of raw hides and skins in the region is the main development asset for the sector. Africa has 18.1% of the world livestock population. During the last decade (1985-1995), the increase of livestock population in Africa was 9.6% for bovine, 14.6% for sheep and 18.3% for goats. During the same period, in developed countries, the livestock population decreased by 12.7% for bovine, 18.3% for sheep and increased only for goats by 14.3%. However, the share of Africa in hides and skins is lower (6.2% of hides, 9.4% of sheep skins and 15.5% of goat skins). Compared to these shares, the share of Africa in the world production of shoes is much smaller. Africa with 148.6 million pairs represents only 3.2% of leather shoes produced in the world and only 1.4% when North Africa (Algeria, Egypt, Libya, Morocco and Tunisia producing 83.7 million pairs) is excluded.

37. The share of Africa in the world trade in hides, skins, leather and leather products is even lower. Most of the trade consists of raw hides and skins and semi-finished leather. Prices commanded by African products are generally low, partly because of low quality and partly due to destructive competition.

38. Analyzing the raw hides and skins situation in Eastern and Southern Africa, it can be found that the

potential can be summarized as follows (values in million pieces):

*Table 1: Hides & Skins in Selected Eastern & Southern African Countries*

	<b>Animals Bovines</b>	<b>Hides collected</b>	<b>Animals Sheep</b>	<b>Sheep skins</b>	<b>Animals Goats</b>	<b>Goat skins</b>
Botswana	2.80	*0.3	0.32	*0.1	2.30	*0.7
Ethiopia	29.40	1.9	21.70	7.2	16.70	6.2
Kenya	11.00	1.6	8.30	2.5	9.60	2.0
Malawi	0.87	0.1	0.10	0.03	0.95	0.1
Namibia	2.21	*0.2	2.86	*0.7	1.75	*0.6
Sudan	22.20	1.7	22.00	4.3	16.40	9.9
Tanzania	13.40	2.0	3.55	1.0	7.75	2.0
Uganda	4.73	0.6	1.07	0.3	4.08	0.8
Zambia	3.20	0.3	0.06	0.0	0.56	0.2
Zimbabwe	5.90	0.7	0.55	0.0	2.54	0.8
<b>Total:</b>	<b>95.71</b>	<b>9.4</b>	<b>60.51</b>	<b>16.1</b>	<b>62.63</b>	<b>23.3</b>
<b>Total Africa:</b>	<b>182</b>	<b>17.8</b>	<b>180</b>	<b>50.1</b>	<b>168</b>	<b>45.8</b>

\* estimation

*Source: World statistical compendium for raw hides and skins, leather and leather footwear, FAO, 1996*

39 The phenomenon of diminishing shares of Africa in the more advanced stages of processing and trade applies also to Eastern and Southern Africa. Ten countries supported by the Programme produce approximately 15 million pairs of shoes.

40 The gap between the available raw material resources and low level of their processing into products with higher value added represents a development challenge to be dealt with. In view of the other development factors of the sector mentioned above (technology and skills within reach, growing domestic market for final products, etc.) the gap can be converted into a development potential. The more so that many countries have sufficient and sometimes even excess tanning capacity which, after rehabilitation, has the potential to play its role in the process of value addition.

### *2.1.3 Development problems in the sector*

41 On the other hand, there are numerous problems which hinder the development of the sector. The problems of the hides and skins sub-sector were well-described in the report of the evaluation mission of Phase 1 (low offtake rates, small size of the animal and hide, damaged hides and skins due to parasitic diseases, horn rakes, brand marks, uncontrolled slaughtering in the backyard, ground drying, etc.). Problems of the tanning sector were also spelled out (outdated equipment in the tanneries, lack of finishing capabilities, etc.) In addition to the sector-specific problems, there are, however, problems which are related to the business environment in general:

- Emerging enterprises find it difficult to raise capital, because of high interest rates (and other related costs) and lack of collateral;
- Required management, technical and design skills and knowledge are insufficient. Not knowing how to manage is normally the single largest reason for the failure in trade ventures. Unavailability of experienced and trained staff is the impediment of enterprise development. Typically, the labour force is illiterate and lacks suitable industry culture;
- Materials and components supply are not readily available in the country. Manufacturing materials or components for leather products of required types and quality may not be feasible because of low initial demand;
- Transport and communication infrastructure is underdeveloped and badly maintained. Frequent power cuts make production expensive as the investment lays partly idle.

42 Some problems of the sector are related to prevailing policies. Tariffs of imported chemicals for leather product materials/component manufacturing may be higher than the tariffs of the imported finished goods. This asymmetry discourages local production of finished products. Lack of harmonization of the fiscal system among the countries of the region and administrative hurdles make regional trade cumbersome. Import of second-hand shoes with very low import duties forced many producers, selling in low priced market segments which is typical in developing countries, to close down.

## **2.2 Institutional framework**

43 In the course of the last years the process of liberalization, privatization and decentralization of Government control continued in most countries. This process was accompanied by decreasing direct involvement of the Government in the sector. It was apparent both in case of Ministries of Industry and Trade and Ministries of Agriculture. While in the former case, the responsibility for direct decision making shifted to industry itself; in the latter case, the responsibility for the extension services shifted to regional authorities.

44 Diminishing direct involvement of the Government in the economy also manifested itself in diminishing budgetary support to training, testing, R&D and extension services. In order to cope with the shortage of funds, the institutions tried to commercialize their services. However, this effort is constrained by the limited readiness of industry to pay for the services a cost-recovering price which in turn, inhibits the institutions in sustaining and developing their capabilities. Regional authorities taking over the responsibility for extension services in the hides and skins sector frequently cannot afford to continue supporting them to the same extent as before so that the whole system of extension services in hides and skins is getting reduced and fragmented.

45 The above changes influence the institutional setting of the Programme, with local ownership of the Programme taken over primarily by industry associations. This, however, should not eliminate the involvement of the Governments in the Programme. With growing recognition of importance of Government policies for the alleviation of development constraints and creation of enabling business environment, the Government bodies should become an important partner and ally in the formulation and pursuance of Programme objectives.

46 Similarly, as the function of the banking sector has been increasing, the Programme should analyze the problems related to its actual role and provide a feedback to the responsible bodies for corrective measures, if required.

47 As the Programme attempted to address a number of problems in an integrated manner, it might have needed involvement of other institutions operating in the countries in diverse fields (environment protection, management training, standards and quality management, export promotion, investment promotion, etc.). As these institutions sometimes require strengthening in order to perform well, the Programme initiated technical

cooperation support to some of them (Environment Protection Agencies). This approach of cooperation with related local institutions needs to be applied more intensely.

## 2.3 Main features of the Programme

### 2.3.1 Programme approach

48 The Programme reflects the fact that the leather industry sector consists of several sub-sectors, the development of which is connected. From the large number of sub-sectors, the Programme chose to provide support to the following sub-sectors:

- raw hides and skins production, collection and commercialization;
- tanning and leather finishing;
- leather products manufacture, consisting of:
  - \* manufacturing of footwear;
  - \* manufacturing of other leather products.

49 These sub-sectors represent the core of the leather industry sector. They are significant in terms of volume of production in each of them and value of input-output linkages among them. A dominant part of their output is made by value produced locally. Other sub-sectors such as auxiliaries, PVC components, chemicals, etc. have a larger import component and are more peripheral, even though their importance is growing with the increasing requirements on product quality. As it will be described later, the evaluation mission observed that lack of these inputs of adequate quality is inhibiting the development of both leather finishing and leather goods manufacturing. A corresponding recommendation is formulated on this issue of Programme coverage.

50 The development cooperation has to consider both the problems in each sub-sector and the disparities in their input-output relations, supporting the alleviation of the most serious development bottlenecks. Supporting development of a complex and inter-dependent system at several places is expected to lead to synergy effects.

51 This manifests itself in the breakdown of the Programme in the following Programme components:

- Programme Management Component (Immediate Objective 1);
- Hides and Skins Component (Immediate Objective 2);
- Private Industry Development Component (Immediate Objective 3)
- Environment Protection Component (Immediate Objective 4);
- Gender Development Component (Immediate Objective 5);
- Institution Development Component (Immediate Objective 6);
- Marketing Development Component (Immediate Objective 7).

To follow the structure of the sector, it would have been more appropriated to split the "Private Industry Development Component" into two components: Tanneries Rehabilitation Component and Footwear and Leather Goods Component.

52 In practice, the Programme consists of a set of projects supporting different development partners and beneficiaries in different sub-sectors and, correspondingly, addressing issues of one or more Programme components.

### 2.3.2 Direct support to industry

53 The Programme is distinguished by extensive direct support to industrial companies, while institution-building is an important but not predominant component of the Programme. As more and more industry is private or privatized, the Programme initiated and supported the establishment of two mechanisms facilitating

direct support to industry:

- the Revolving Fund Operations (RFO);
- the leather industry associations.

Both features are explained in detail in Chapter 4.

### 2.3.3 *Phase 1 and the shift in emphasis in Phase 2*

54 The first phase of the Africa Leather Programme was initially conceived at the recommendation of the Third UNIDO Consultation on Leather and Leather Products Industry, Innsbruck, Austria (1984). Subsequently, the Regional Meeting on the Leather and Leather Products Industry in Africa, held in Alexandria, Egypt in January 1987, considered the main constraints and shortcomings as experienced by the sector in Africa and a scheme was sanctioned to cover a large group of countries under two umbrella programmes in East, West and Central Africa. However, these programmes have not found donors and, therefore, could not be implemented.

Phase 1 of the Africa Leather Programme covered the following countries: Ethiopia, Kenya, Malawi, the Sudan, Tanzania, Zambia and Zimbabwe. During Phase 1, considered to be a pilot scheme, the implementation of the Programme focused on the early stages of leather industry operations for raw material and semi-processed products. In total approximately US\$13,000,000 million were implemented in the period 1989-1992.

55 A certain change in the direction was introduced in Phase 2: more emphasis was given to the leather finishing aspects, effluent treatment and the manufacture of footwear and leather products. Gender issues were also stressed. Hides and skins improvement schemes continued to be supported. Phase 2 also included advice at policy and strategy level on specific issues but as a result of strengthening direct cooperation with private industry, this component was rather modest.

56 Support to cluster development was not explicitly indicated among the Programme objectives. However, cluster development requires a certain level of geographical intensity of production units and their readiness to cooperate. These preconditions are not clearly visible in the countries supported by the Programme. In spite of that, efforts should be made to test the concept, at least in some countries of the region.

57 Neither Phase 1 nor Phase 2 dealt with rural tanning, which was explained by the fact that rural tanning had very limited importance in the countries supported by the Programme and that the Programme did not want to promote it because it cannot employ industrial processes (the minimum input for a fleshing machine is about 500-800 skins per day) and control the effluent. However, rural tanning needs to be analyzed both in terms of its importance and ways and means as to how its environmental risks can be minimized.

### 2.3.4 *Not implemented recommendations of evaluation of Phase 1*

58 While the strategic recommendations about increased attention to leather finishing and leather products manufacturing and marketing were followed up, some partial recommendations were not implemented:

- the leather associations did not manage to implement a financial incentive and grading system (UNIDO provided a detailed advice on the hides and skins procurement in Ethiopia but it was not followed up);
- broader managerial and administrative base (at UNIDO) to enable the Programme Management to cope with the increased work load was not created;



- systematic training programme for the local counterparts and national experts in UNIDO and UNDP administrative and reporting procedures was not conducted;
- promotion of industrial cooperation with overseas partners was not successful;
- the Leather Development Centre (LDC), Kenya, was not provided with additional closing machinery for the leather goods section.

Lack of follow-up of some of the above recommendations is explained by the Programme Management by the cost involved, change of priorities or factors beyond the Programme Management control. In the case of LDC, the equipment was provided to Training & Production Centre for the Shoe Industry (TPCSI) in Thika instead. The current evaluation reconfirms those recommendations which are still deemed relevant.

## 2.4 Programme documents

59 The Programme has been implemented through a set of regional and national projects categorized in three groups:

- RALFIS (Regional Africa Leather and Footwear Industry Scheme): This project (US/RAF/92/200) covers fully the Immediate Objective 1 and covers all regional activities and provides support to all other components.
- REFAM (Rehabilitation and Establishment of Finished Articles Manufacture): This project (US/RAF/92/202) was intended to provide for equipment to support primarily the Immediate Objectives 3 and 4.
- NALFIS (National Africa Leather and Footwear Industry Scheme): This is a set of national projects supporting, to varying degrees, all immediate objectives (with the exception of Immediate Objective 1) and addressing individual problems of each country participating in this scheme.

While the distinction between RALFIS and NALFIS projects is rational, the isolation of REFAM from RALFIS seems to serve primarily the purpose of facilitating funds mobilization.

60 For each project, a project document was prepared and is available. It is not efficient for the purpose of the Programme evaluation to review the design of all individual projects. As the RALFIS project (US/RAF/92/200) plays a pivotal role in the whole system and covers all Programme components, the analysis of its design is fairly representative for the other projects. The following comments can be made:

- The description of problems and needs in the sub-sectors is well-structured and well-presented;
- The projects are conceived as joint efforts of both UNIDO and the partners in the field (institutions, industrial companies, etc.). The outputs are results of these joint efforts, but the Activities describe only those for which UNIDO is responsible. To make the logical framework consistent, assumptions at the output level about the partners' activities and performance should have been specified. Alternatively, the outputs could have been lowered to the level of "support provided", to be within the reach of UNIDO responsibility;
- The generic outputs for the direct support ("a pilot plant...") are well-described; however, selection of the specific partner company (target beneficiary) to implement the output was to be done or finalized in the course of implementation. This necessarily required certain flexibility in the selection of the target beneficiary and the scope of the support required and

provided;

- The internal logic, that is the means-end relationship between the outputs and immediate objectives is not always well established or transparent. (For example: the objective "...to increase the quantities of [collected raw hides and skins].." is at the same level as the output "Increased rates of collection of hides/skins....");
- The pilot/demonstration functions of some outputs are not ensured by specific activities; it is apparently assumed that the demonstration function evolves on its own, once a model plant is operating;
- Immediate Objective 1 (Programme Management Component) should not be limited to establishing a regional office for the Programme operations. It should rather be conceived as "management structures of the leather industry capable to perform the organization, coordination and Programme ownership functions". This includes not only ESALIA but also the national associations and the Revolving Fund mechanism. (Alternatively the whole component could be merged with the Institution Development Component.) The Revolving Fund should not be linked to the Private Industry Development Component alone.
- Immediate Objective 4 (Environment Protection Component) aimed also at introduction of environment-friendly technology but the output included effluent treatment plants only.

61 It should be acknowledged that while the RALFIS project outlines the basic structure of the immediate objectives and outputs, elaborating the details in the NALFIS projects, the NALFIS projects are more specific and often introduce baseline data and indicators for target performance at output level. However, changes in the partner companies might have made some specific performance indicators irrelevant. Similarly, the baseline data on collected hides in 1989 as presented in the project document for Tanzania turned out to be unrealistically low as they were derived from the statistical data of parastatal organizations. After trade liberalization the annual figures on collection of hides escalated from 130,000 to almost 1 million in the Mwanza Region alone, which made the target indicators in the project document irrelevant.

62 As it will be explained later, due to the gap between the total Programme budget and the total amount of the funds mobilized for the project, the Programme objectives had to be scaled down. While keeping all the Programme components, the management had to prune the Programme to adjust it to funding possibilities. Some outputs were dropped, some were modified to make them less equipment-intensive. The amended Programme is outlined in the Terms of Reference (Annex 1). (The formulation "output achieved or fully achieved" should be interpreted as "output maintained" in the Programme.) The achieved results of the Programme (Chapter 4) are assessed in the context of the amended Programme objectives.

### 3. PROGRAMME IMPLEMENTATION

#### 3.1 Programme funding

63 The total budget of the Programme as specified in the project documents prepared for Phase 2 amounted to US\$18,474,476. Composition of the budget in terms of target countries (10 in total) and the main categories of inputs is presented in Table 2: "Summary of RALFIS, REFAM & NALFIS Inputs". The budget envisaged a heavy component of equipment inputs (approximately US\$8 million), more than half of it to be provided under the REFAM project (US/RAF/92/202). However, the amount of donor funding mobilized for the Programme turned out to be considerably below the planned target. In order to fill in at least partly the gap, the Programme Management undertook steps to mobilize some funds from UNDP and to also use the regular budget (XP) and the IDDA funds (XA). In total US\$10,619,592 were appropriated for the Programme (see Table 3: "Actual Funding [October 1996]").

64 In addition to the above funds, two other related projects were targeted at the leather sector in the Programme countries:

-	TF/KEN/92/F10 (Nakuru Tannery ETP)	US\$ 377,891
-	US/UT/RAF/92/142 (Swayem Siddha manuals)	US\$ 621,350

However, most of the funds under the last project were used in India for producing self-learning manuals; large number of hard copies was then sent to Africa, including the Programme target countries.

65 An overview of the funding structure is in Table 4: "Funding of the Africa Leather Programme". It shows that IDF contributions were mobilized for RALFIS and NALFIS, not for REFAM, which was funded exclusively by IDDA funds. This clearly indicates that IDF donors are not willing to provide funds for equipment not integrated in the package of other inputs to be used to produce well defined outputs.

66 A break down of the IDF contributions by countries is in Table 5: "Contributions by Donors". The key role of the German contribution for the regional project RALFIS is to be highlighted.

67 Except for the need to apply special financial reporting on RALFIS (when breaking down the expenditures by donors), the multiplicity of donors did not have any adverse impact on the implementation process.

#### 3.2 Expenditures

68 As the mission visited and reviewed Programme activities and results in only four countries (Kenya, Tanzania, Uganda and Ethiopia), the following more detailed information about the budget and expenditures is related only to these target countries. It should, however, be understood that regional projects, RALFIS and REFAM, can hardly be proportioned by countries so that data on the whole RALFIS and REFAM are included in the overview. Table 6: "Budget and Expenditure for Programme Countries Covered by the Evaluation" reveals a high degree of implementation of the Programme in the target countries and of the regional projects as well. It also indicates the Programme components (immediate objectives) at which the projects have been directed.

69 Table 7: "Break Down of Expenditures by Selected Inputs" illustrates the structure of main inputs (experts, training, equipment) actually delivered under individual projects of the Programme. In value terms the experts represent the largest input into the Programme, followed by equipment. Whereas the experts are financed primarily by the RALFIS component, the equipment is financed primarily by the NALFIS projects.

70 The evaluation refrains from drawing any conclusions from comparisons between the planned and actual structures of the main inputs. Firstly, the gap in funding resulted in modification of the Programme by

eliminating some outputs and modifying others which made the original structure of the corresponding inputs for the whole Programme irrelevant. Secondly, as different funding opportunities appeared in the course of implementation, the design of the ersatz projects was frequently adjusted to the requirements of the funding source so that it deviated from the original concept.

### **3.3 Delivery of inputs**

#### *3.3.1 Experts*

71 List of international experts/consultants and national experts fielded under the projects under review is in Table 8: "List of Experts Fielded Till December 1996". As mentioned above, most of the international consultants were recruited under the RALFIS project which has the advantage of using a consultant on a roving basis in more than one country. As most of the experts are recruited from overseas, this arrangement implies some saving of travel cost. On the other hand, this may result in shortening the stay at some companies, a fact which is regretted by some target beneficiaries.

72 In general, the target beneficiaries expressed satisfaction with the competence of the experts and quality of their work. A comprehensive approach applied by the experts (integrating advice and on-the-job training) was effective. Mr. McCallin, Ms. Wieder and Mr. Alano deserve to be singled out as their names were frequently mentioned in appreciation by the target beneficiaries. Only in one case, (which goes back to the Phase 1) the performance of a consultant (on hides and skins) was considered unsatisfactory. In a few cases, the evaluation mission felt that the expert's advice on effluent treatment might not have been properly articulated to be absorbed easily and followed up (fine tuning of some treatment plants not yet achieved) or the selection of equipment was not adapted to the local situation (aeration equipment for the mixing tank at Moshi Tannery). At the time of the mission the approach adopted by one consultant in executing his function was under review of the Programme Management.

73 The Programme also used, to some extent, experts recruited in Africa. This practice turned out to be both efficient and effective and should be extended.

74 National experts recruited under the Programme served primarily as part of the project management and administration, having been involved only scarcely in professional/technical advisory services. Their involvement in professional work should include - whenever feasible - close cooperation and joint work with international experts.

#### *3.3.2 Training*

75 In total 147 fellowships and study tours were implemented under the Programme during Phase 2, primarily in the fields related to footwear manufacturing. This includes participation at foreign trade fairs. The total number of persons benefitting from these training and study tours was 142 (some of them took part in more than one training/study tour). Most of the border-crossing training and study tours were implemented in the following host countries: Kenya (87), Italy (19), Zimbabwe (12), Germany (11) and Ethiopia (10). In Kenya, this is primarily due to training courses at the TPCSI, Thika. In Italy the UNIDO/CUOA course was being also attended.

76 The trainees from the footwear and leather goods sector (entrepreneurs, supervisors, designers, operatives) were trained in various subjects (production methods, fashion analysis, product range building, design/pattern engineering, material usage standards, marketing, production planning, strategy formulation, financial analysis, plant lay-out, etc.). Training of operatives and instructors was based on analytical methods. The courses were supported by hand-outs and, in some cases, by modern computer software, some of which was developed/customized by UNIDO. The trainees from tanneries were trained in modern tanning methods, machinery maintenance and principles of clean technologies and effluent treatment.

77 With the exception of one training course (using rather outdated equipment for demonstration of tanning technologies), the participants appreciated the quality of training and exposure to new technical and business environment. The tanneries also appreciated the information provided at the training workshops provided by chemical companies. While appreciating the training at TPCSI and other training courses, the footwear and leather products manufacturers emphasized the importance of complementary on-the-job training of the trainees by the trainers from the training centre. Complementary training of the staff at their working place, with due consideration of the actual working conditions and environment, would further increase the effectiveness of training.

78 It is highly satisfactory that an overwhelming majority of the trainees in the visited countries continue working in the same company or institution which selected them for training or, at least, continue working in the leather sector.

79 A special note should be taken of the self-learning manuals (Swayem Sddha) for footwear manufacturing which were developed under a UNIDO project in India and distributed extensively (approximately 50 sets) in the countries of the Programme. The recipient institutions and companies acknowledged their receipt and confirmed that the manuals were useful as reference and supporting documentation. The original expectation that they would also induce self-learning processes did not materialize.

### 3.3.3 *Equipment*

80 Equipment represented 34% of all expenditures. A significant part of the equipment was used to support several tanneries in establishing effluent treatment plants and rehabilitation of production workshops, those benefitting the most being Awash, Ethiopia (US\$445,000, a larger part still to be delivered), Sagana, Kenya (US\$146,500), Nakuru, Kenya (US\$138,100) and Morogoro, Tanzania (US\$135,000). A smaller part was used to support a large number of footwear and leather goods manufacturers, the Ras Dashen Shoe Factory in Ethiopia being the largest beneficiary (US\$84,800), and training and other institutions. While the environmental objective of the Programme is commendable and while recognizing capital intensity of effluent treatment plants, the allotment of funds for this objective seems to be rather high and out of balance with other objectives. This applies in particular to the Awash Tannery.

81 Most of the equipment delivered under the Programme was found in use or under installation. To a great extent this is influenced by the fact that most of the beneficiaries are from the private sector. On the other hand, this factor is not a warranty that the delivered equipment is going to be used. In particular, small entrepreneurs have problems either to install the equipment or to make full use of its capacity. This is caused in most cases by factors beyond the control of the Programme Management (matching facilities such as a 3-phase electrical current delayed, decrease in sales due to slackening market, etc.). There were also cases of inconsistent timing in provision of the equipment and supporting expert services, again frequently, beyond control of the Programme Management (delayed clearance of equipment by custom authorities.). In one case (the Morogoro tannery), there was a considerable delay on the part of the target beneficiary in putting into operation the production equipment while the project provided and installed the matching effluent treatment plant on time as planned; the result was that the installed ETP was idle for more than two years.

82 However, in some cases the problems were related to the Programme Management. In one case a mistake in delivery instructions routed a stitch marking machine to a wrong shoe making target beneficiary. More important is the factor related to selection of equipment. It was noted that some entrepreneurs would have preferred a different make of the machine. The reasons differed: to have the same fleet of the old and new sewing machines in order to facilitate their maintenance; to have access to spare parts for motorcycles on the local market, etc. Some machines, like one splitting machine, were considered by the entrepreneurs to be too expensive investment for them.

A lesson should be learned from this experience: The selection of equipment must be done in full consultation with the target beneficiary and with due consideration of its technical, infrastructural and market

conditions and manpower qualifications. UNIDO rules and regulations on procurement should be reviewed and, if needed, modified in order to allow for the target beneficiary to be co-responsible for the selection of equipment.

### 3.3.4 *Balance among inputs*

83 It is a frequent feature of development cooperation projects, particularly those aiming at transfer of technology, that the role of equipment/hardware is overestimated and that of human resource development and organization underestimated. In most cases, the balance among the inputs in this Programme was quite reasonable, also due to a rather heavy input of expertise, using the experts on a roving basis, and targeting the training primarily at staff from the companies. It was noted that the consultants advised the footwear and leather goods manufacturers not only on the use of equipment but on the plant layout, configuration of the work flow and other aspects of plant organization. Perhaps the only element which was inadequately covered was training and advice on company management. This field requires increased attention by the Programme.

### 3.3.5 *IDDA inputs*

84 In view of the on-going evaluation of the Second IDDA Programme, special attention is devoted to inputs funded by this Programme. As documented in Table 7: "Break Down of Expenditures by Selected Inputs", four projects were funded by IDDA (those with XA code):

- *XA/RAF/94/639*

85 The training component financed 12 trainees (trainers from leather institutes from four COMESA countries) to participate at a course in tanning technology, machinery maintenance, cleaner technologies and effluent treatment. The expert component financed three consultants delivering the training course. The course was organized in cooperation with the Leather and Leather Products Institute (LLPI), and held at the premises of the Productivity Improvement Centre (PIC), both located at Addis Ababa. Subsequently, one of the trainees conducted a similar course for 10 Ethiopian women.

The participants interviewed by the mission (from LDC, Kenya) confirmed a very good level of the theoretical part delivered by the experts but they had reservations about the practical demonstrations due to outdated equipment at the PIC workshop.

As the participants were trainers from leather institutes in the region, the project contributed to institution-building in the sector.

- *XA/RAF/95/610*

86 The project had only a training component financing participation of 30 trainees from the countries supported by the Programme at two training courses related to shoe manufacturing. The courses were conducted at TPCSI, Thika, Kenya. It also financed participation of the TPCSI Manager at the Shoe Fair in Düsseldorf.

The participants and/or their supervisors interviewed by the mission considered the training as very beneficial. As most of the participants came from companies supported by the Programme, the training input complemented other inputs (equipment, expertise) provided to these companies and, thus, increased the overall effectiveness and impact of the support.

- *XA/RAF/93/603*

87 The project financed equipment for TPCSI, Kenya and Leather Institute Of Zimbabwe (LIZ). The equipment at TPCSI is fully used.

The support had a clear institution-building objective.

- *XA/RAF/95/611*

88 The project established a leather sole production unit at TPCSI and trained 8 people, from TPCSI and from some other countries of the region, in production of leather soles using the new facility. The unit is vital for the export of leather sole footwear. Leather being more expensive than synthetics, the demand for the footwear with leather soles in the region is rather low.

The project had a clear institution and capability-building objective.

89 To sum up, it is possible to conclude that the inputs to the Programme funded by the IDDA were both efficient (except, perhaps, for the practical component of training at PIC) and effective particularly due to the fact that they were complementing other inputs and supporting achievement of well-established outputs and objectives of a large programme. Thus, they have contributed to the overall impact of the Programme.

### **3.4 Programme Management**

90 In the countries visited, the ownership of the Programme is vested in the national associations of leather industry; the only exception is Ethiopia where the ownership of some projects (co-funded by UNDP) is under review and the Ministry of Trade and Industry is interested to take over the ownership functions.

91 Most of the national leather associations were established during the first phase of the Programme. The contribution of the project, both to the establishment of national sectoral associations and to the consensus reached with the Government bodies in most countries on the project ownership by the associations is a significant achievement. It makes it possible for the associations to exercise the ownership function over the Revolving Fund which in turn motivates industry to play an active role in the project.

92 The process of developing these associations into self-confident and recognized representatives of industry is still on-going but they are already taking over responsibilities in the management of the Programme as envisaged in the project documents. Final success will depend on the activities of the members, their capability to formulate and pursue common interest and their readiness to support the associations in financial terms. It is also important that the associations do not exclude any group of companies from membership and that both the tanning and leather products manufacturing industries have a platform to voice their interests.

93 In the second phase, the Programme supported the establishment of the Eastern and Southern Africa Leather Industries Association (ESALIA). Its existence manifests itself in regular meetings (twice a year) attended primarily by the Chairmen of national associations. Many of the issues discussed at the meetings are related to the Programme activities.

94 The management structure on UNIDO side comprises a Project Manager at the UNIDO Headquarters and the Chief Technical Advisor (CTA) stationed at Nairobi. In some countries the Programme employs national experts who are also entrusted with some management and administration tasks.

During Phase 1 and at the beginning of the second phase the Project Manager, a Senior Industrial Development Officer, was assisted by another professional. After his retirement the Programme has been managed by one professional staff only, supported by a rather modest general service. In spite of that, the files, reports and documentary outputs were found in good order and the supporting recruitment, procurement and financial services praised the team spirit prevailing in cooperation with the current Project Manager. The periodic review meetings were used well as a monitoring tool. Observing the Project Manager in action in the field provided evidence about her readiness to take decisions on conflicting issues and a good understanding of project quality issues, including cost-effectiveness.

95 The diversity of technical issues in such a vast and complex Programme requires that technical support by Headquarters to the Programme be provided not only by the Project Manager but also by other staff of the Leather Unit (possessing the required diverse professional competence) and by some other sections of substantive divisions. Cooperation was well-established with some sections (such as HEPD/WOMEN and HEPD/HRD) but more intense involvement is desirable in case of some other sections (such as ISED/ENV, ITPD/IS). Involvement of other professionals in providing technical support to the Programme should be more visible particularly for project staff and target beneficiaries in the field.

96 The CTA organizes, supervises and coordinates the activities in the field; in particular he is responsible for planning the delivery of inputs under the RALFIS project which makes it possible to provide expert services on a roving basis, thus supporting a number of beneficiaries in several countries. In addition to supervisory and coordination functions, the CTA has also provided direct technical advice to tanneries. With the ESALIA Secretariat taking over the supervisory and coordination responsibilities, the role of the CTA is diminishing and the full-time arrangement could be replaced by a part-time one.

97 National experts promote, coordinate and administer project activities at the country level. In some countries, there are two national experts, one covering the hides and skins related activities and the other handling the industry-related project activities. Most of them also support the activities of the leather associations and the RFO. In some cases, they provide technical advice but their involvement in substantive activities of the project should be enhanced, in particular in case of two national experts in one country (otherwise the permanence of two national experts is not substantiated since the administration of the project activities is hardly a full-time job).

98 As the UN salary scale is far above the national salary scales, their position is associated with the perception of exclusiveness. This may entangle difficulties in establishing working partnerships. This problem seems to be alleviated when the national experts are paid from the RFO.

### **3.5 Cooperation with other UN-related organizations**

99 Phase 1 of the Programme was implemented in cooperation with FAO and International Trade Centre (ITC). Evaluation of Phase 1 recommended "that a Project Manager in technical knowledge in the Hides and Skins area is appointed by the FAO agency..." and that "UNIDO should be given the possibility of proceeding on its own to implement the Programme" if strict pre-conditions and binding implementation agreement with associated agencies cannot be set during the design phase.

100 Phase 2 was implemented without formal involvement of FAO. However, contacts at working level continue (in particular supporting FAO in collection of data on raw hides and skins). Cooperation with ITC was practiced till end of 1995. As reported in Chapter 4.7, it resulted in some joint publications and some support by ITC of African companies at the GDS Fairs at Düsseldorf (printing of promotional materials developed by the marketing consultant in cooperation with UNIDO and the selected African companies). However, the cooperation was not extended to 1996. UNIDO Programme Management claims the cooperation generated rather limited value added and involved rather high administrative costs. Exchange of information about on-going activities, which is a prerequisite for preventing unnecessary duplication, continues.



**Table 2: Summary of RALFIS, REFAM and NALFIS inputs**  
**(Original Programme Budget)**

	<i>Project number</i>	<i>11-99</i>	<i>29</i>	<i>39-99</i>	<i>49-99</i>	<i>59-99</i>	<i>13%</i>	<i>Total</i>
RALFIS	US/RAF/92/200	4,513,700	126,000	274,000	106,000	90,000	664,261	5,773,961
REFAM	US/RAF/92/202	296,000	----	----	4,289,000	20,000	598,650	5,203,650
NALFIS	US/BOT/92/200	171,800	----	130,000	408,000	18,000	94,614	822,414
	US/ETH/92/200	205,800	----	140,000	440,000	18,000	104,494	908,294
	US/KEN/92/200	209,800	72,000	94,000	220,000	24,000	80,574	700,374
	US/MLW/92/200	172,600	----	70,000	60,000	9,000	40,508	352,108
	US/NAM/92/200	156,800	----	80,000	757,000	24,000	132,314	1,150,114
	US/SUD/92/200	181,800	----	116,000	480,000	18,000	103,454	899,254
	US/UGA/92/200	156,800	----	90,000	440,500	18,000	91,689	796,989
	US/URT/91/110	96,000	30,000	48,000	414,000	14,000	74,750	676,750
	US/ZAM/92/200	191,800	----	100,000	140,000	12,000	57,694	501,494
	US/ZIM/92/200	215,800	----	76,000	300,000	18,000	79,274	689,074
<b>Total:</b>		<b>6,568,700</b>	<b>228,000</b>	<b>1,218,000</b>	<b>8,054,500</b>	<b>283,000</b>	<b>2,122,276</b>	<b>18,474,476</b>

Table 3: Actual Funding (October 1996)

<b>P r o j e c t s</b>	<b>US\$</b>	
<b>RALFIS - US/RAF/92/200</b>		
Austria contribution	775,329	
German contribution	3,213,150	
Italy contribution	619,000	
Swiss contribution	440,000	
Czech Republic contribution	15,700	
Regular Programme: XP/RAF/93/200 (training)	100,000	
IDDA Programme: XA/RAF/94/639 (training)	94,000	
IDDA Programme: XA/RAF/95/610 (training)	143,960	
<b>Total:</b>		<b>5,401,139</b>
<b>REFAM - US/RAF/92/202</b>		
IDDA Programme XA/RAF/93/603	300,000	
IDDA Programme XA/RAF/95/611	145,000	
<b>Total:</b>		<b>445,000</b>
<b>NALFIS</b>		
<b>Ethiopia:</b> US/ETH/92/200 & DP/ETH/93/005 Swiss contribution	353,982	
UNDP contribution	593,218	
DG/ETH/94/237 (Footwear component)	225,400	
DG/ETH/94/239 (Tannery effluent component)	359,245	
<b>Malawi:</b> XP/MLW/92/200 - Regular Programme	18,000	
<b>Namibia:</b> US/NAM/92/200 - Austrian contribution	826,708	
<b>The Sudan:</b> XP/SUD/93/200 -Regular Programme	82,000	
<b>Uganda:</b> US/UGA/92/200 - Austria contribution	863,300	
<b>Tanzania:</b> US/URT/91/110 - Finnish contribution	675,000	
<b>Zimbabwe:</b> US/ZIM/92/200 - German contribution	624,600	
US/ZIM/93/106 - Danish contribution (women- in-development)	152,000	
<b>Total:</b>		<b>4,773,453</b>
<b>Grand total:</b>		<b>10,619,592</b>

*Table 4: Funding of the Africa Leather Programme*

	<b>RALFIS</b>	<b>REFAM</b>	<b>NALFIS</b>	<b>TOTAL</b>
<b>IDF (US)</b>	5,063,179		3,495,590	8,558,769
<b>UNDP (DP,DG)</b>			1,177,863	1,177,863
<b>RB (XP)</b>	100,000		100,000	200,000
<b>IDDA (XA)</b>	237,960	445,000		682,960
<b>SIS</b>			55,000	55,000
<b>Total:</b>	5,401,139	445,000	4,828,453	10,674,592

*Other Related Leather Projects*

<b>US/RAF/92/142 UT/RAF/92/142 Footwear books</b>	621,350			
<b>TF/KEN/92/F10 Nakuru Tannery ETP</b>			391,748	

Table 5: Contributions by Donors

<i>Countries</i>	<i>Total</i>	<i>RALFIS</i>	<i>NALFIS</i>
<b>Austria</b>	2,465,337	775,329	1,690,008
<b>Czech</b>	15,700	15,700	-
<b>Denmark</b>	152,000	-	152,000
<b>Finland</b>	675,000	-	675,000
<b>Germany</b>	3,837,750	3,213,150	624,600
<b>Italy</b>	619,000	619,000	-
<b>Switzerland</b>	793,982	440,000	353,982
<b><i>Total:</i></b>	<b>8,558,769</b>	<b>5,063,179</b>	<b>3,495,590</b>

<b>Japan</b>	391,748
<b>India</b>	(621,350)

**Table 6: Budget and Expenditure for Programme Countries Covered by the Evaluation**

P r o j e c t s		Budget <sup>1</sup>	Expenditure <sup>2</sup>	%	P r o g r a m m e C o m p o n e n t s						
					1 Management	2 Hides & Skins	3 Private Industries	4 Environment	5 Women in Development	6 Institution Building	7 Marketing
<b>RALFIS:</b>	<b>US/RAF/92/200</b>	5,063,179	4,349,806	86	Y	Y	Y	Y	Y	Y	Y
	<b>XP/RAF/93/200</b>	100,000	98,529	99						Y	
	<b>XA/RAF/94/639</b>	94,000	90,157	96						Y	
	<b>XA/RAF/95/610</b>	143,960	143,210	99			Y				
	<i>Total:</i>	<b>5,401,139</b>	<b>4,681,704</b>	87							
<b>REFAM:</b>	<b>XA/RAF/93/603</b>	300,000	297,220	99						Y	
	<b>XA/RAF/95/611</b>	145,000	131,283	91			Y			Y	
	<i>Total:</i>	<b>445,000</b>	<b>428,503</b>	96							
<b>NALFIS:</b>	<b>US/ETH/92/200</b>	353,982	335,171	95			Y		Y		Y
	<b>DP/ETH/93/005</b>	593,218	537,941	91		Y					
	<b>DG/ETH/94/237</b>	225,400	154,502	69			Y		Y		Y
	<b>DG/ETH/94/239</b>	359,245	354,784	99				Y			
	<b>SI/KEN/96/801</b>	55,000	51,830	94			Y				
	<b>US/UGA/92/200</b>	863,300	744,862	86		Y	Y		Y	Y	
	<b>US/URT/91/110</b>	675,000	568,253	84		Y	Y	Y	Y	Y	
	<i>Total:</i>	<b>3,125,145</b>	<b>2,747,343</b>	88							

*Other Related Leather Projects*

<b>P r o j e c t s</b>	<b>Budget<sup>1</sup></b>	<b>Expenditure<sup>2</sup></b>	<b>%</b>	<i>P r o g r a m m e C o m p o n e n t s</i>						
				<b>1 Management</b>	<b>2 Hides &amp; Skins</b>	<b>3 Private Industries</b>	<b>4 Environment</b>	<b>5 Women in Development</b>	<b>6 Instituti on Building</b>	<b>7 Marketing</b>
US/RAF/92/142 UT/RAF/92/142 (footwear books)	621,350	607,320	98						Y	
TF/KEN/92/F10 (Nakuru Tannery ETP)	391,748	396,559	101				Y			

1: 13% support cost is not included in these figures

2: All expenditures include obligations as per financial delivery report as of December 1996

**Table 7: Break Down of Expenditures by Selected Inputs**

All expenditures include obligations as per financial delivery report as of December 1996

<i>P r o j e c t</i>		<i>Total</i>	<i>Experts</i>	<i>Training</i>	<i>Equipment</i>	<i>Remarks</i>
<b>RALFIS:</b>	US/RAF/92/200	4,349,806	3,098,020	229,048	752,094	
	XP/RAF/93/200	98,529	0	98,529	0	completed
	XA/RAF/94/639	90,157	44,047	40,085	0	completed
	XA/RAF/95/610	143,219	0	139,719	3,500	completed
<b>REFAM:</b>	XA/RAF/93/603	297,220	0	0	297,220	completed
	XA/RAF/95/611	131,283	16,148	23,922	88,213	completed
<b>NALFIS:</b>	US/ETH/92/200	335,171	74,248	25,564	190,514	
	DP/ETH/93/005	537,941	123,438	125,523	150,170	
	DG/ETH/94/237	154,502	28,403	33,482	86,617	
	DG/ETH/94/239	354,784	7,800	0	346,670	
	SI/KEN/96/801	51,830	23,900	3,104	20,000	
	US/UGA/92/200	744,862	277,087	48,605	377,738	
	US/URT/91/110	568,253	88,186	23,677	389,365	completed
<i>Other related project:</i>	TF/KEN/92/F10	396,559	199,235	24,581	143,987	
<b>Total:</b>		<b>8,254,116</b>	<b>3,980,512</b>	<b>815,839</b>	<b>2,846,088</b>	
<b>Percentage:</b>		<b>100</b>	<b>48</b>	<b>10</b>	<b>34</b>	

**Table 8: List of Experts Fielded Till December 1996**

<i>P r o j e c t</i>		<i>Budget Line</i>	<i>Name</i>	<i>Man/Month</i>
<b>RALFIS:</b>	US/RAF/92/200	11	Aloy	1.2
			Barothy	3
			Baseggio	1
			Berg	5
			Cabak	8
			Clonfero	4.8
			Chigudu	28
			Chuffa	2.5
			Clarke	1.5
			Felsner	42
			Foran	2
			Hamilton	2
			Higginson	5.3
			Kiruthu	27
			Le	6.5
			Lesuisse	3.1
			Linz	2
			Marzo Maranges	32.3
			Masera	0.5
			McCallin	4.5
			Melotti	0.5
			Murlasits	1.4
			Nestvold	1
			Niklas-Salminen	1.2
			Nishida	6
			O'Shaughnessy	1.5
			Rantala	3
			Ruppert	2
		Verschuur	1.4	
		Wieder	16.4	
Zink	25.3			
			<b>Total:</b>	<b>241.9</b>
		17	Abbo	2
			Chekol	1
			Jumbe	3
			Mbayah	26



<b>RALFIS:</b>	US/RAF/92/200	17	Muriuki	12	
			Muturi	1	
		<b>Total:</b>		<b>45</b>	
	XP/RAF/93/200				-
	XA/RAF/94/639	11	Lesuisse	2	
Marzo Maranges			1		
Zink			0.7		
<b>Total:</b>		<b>3.7</b>			
XA/RAF/95/610				-	
<b>REFAM:</b>	XA/RAF/93/603				-
	XA/RAF/95/611	11	Dianin	<b>0.7</b>	
<b>NALFIS:</b>	US/ETH/92/200	11	McCallin	<b>3.2</b>	
			17	Hailu	6
		Kebede		6	
		<b>Total:</b>		<b>12</b>	
	DP/ETH/93/005	17	Hailu	30	
			Kebede	30	
		<b>Total:</b>		<b>60</b>	
	DG/ETH/94/237	11	McCallin	<b>3.1</b>	
	DG/ETH/94/239	11	Clonfero	<b>0.7</b>	
	SI/KEN/96/801	11	Alano	1	
			Higginson	0.8	
		<b>Total:</b>		<b>1.8</b>	
	US/UGA/92/200	11	Benko	10.1	
Roberts			4		
<b>Total:</b>		<b>14.1</b>			
	17	Mwebe	<b>34.5</b>		
US/URT/91/110				-	
<b>Grand total:</b>				<b>420.7</b>	
<b>Other related project:</b>	TF/KEN/92/F10	11	Marzo Maranges	2.6	
			Nishida	12	
			Rantala	1.5	
			Zink	3.5	
	<b>Total:</b>		<b>19.6</b>		
	17	Gathuo	<b>6</b>		

## 4. PROGRAMME RESULTS

101. Assessment of Programme results follows the structure of the Programme and proceeds by Programme components. Within each Programme component, the coverage may deviate from the structure of the RALFIS project document to reflect the assessment of the Programme design as presented in Chapter 2.4.

### 4.1 Programme Management Component

102. The project documents envisaged that the Eastern and Southern Africa Leather Industries Association (ESALIA) would take over ownership and management responsibilities of the Programme. This assumes a network of national leather associations, the creation of which was included under the Institution Development Component. For reasons explained in Chapter 2.4, the evaluation includes this output under the Programme Management Component.

The Revolving Fund Operation can also be considered as part of the ownership and management system and, therefore, it is evaluated under this component even though it is a part of the Private Industry Development Component in the project document.

#### 4.1.1 National Leather Associations

103. National Leather Associations were established and became operational in all the countries visited. The project played a significant promotional and catalytic role in this process. The membership differs from country to country (30 members in Tanzania, comprising tanneries, traders and shoe manufacturers; in Ethiopia, the association consists of 9 tanneries only; in Kenya, there are separate associations of tanneries and shoe manufacturers, in Uganda, the association is relatively recent and consists mainly of shoe and leather products manufacturers). The associations meet regularly, at least once a year, and their committees meet more frequently. In some countries, the associations discuss problems of common interest and submit comments on industrial policy issues to Ministries. In this direction, the association in Uganda prepared a number of position papers and the association in Tanzania established good contacts with members of the Parliament. Some of them are considering establishment of common services such as import and sales of auxiliaries for SMEs. They also discuss participation at trade fairs, in training activities, etc. In all four countries, except Ethiopia, the leather associations manage or are involved in the management of the Revolving Fund.

104. The establishment of the associations is a considerable achievement of the Programme and of the leather industry. However, the process of developing these associations into self-confident and recognized representatives of industry is still far from completed. In Kenya, the existence of two associations and their rather rare contacts is weakening their lobbying position. In Uganda, most of the members are small and rather unassertive entrepreneurs so that the remarkable activity of the association depends to a great extent on the dynamism of its Chairman. In Ethiopia, 6 out of 9 members represent large state-owned tanneries; their decision-making is curbed by their subordination to the Ministry. In some countries the associations have difficulties in arriving at common positions because of conflicting interests between tanners and traders. Some associations also have to cope with ethnic diversity.

105. The functioning of associations is presently encouraged by their management of the Revolving Fund. Funds from RFO are also used to cover the operational costs of the associations (a secretary, travel costs, etc.) In the long term, the final success will depend much more on activities of their members, their capability to formulate and pursue common interest.

#### 4.1.2 Eastern and Southern Africa Leather Industries Association (ESALIA)

106. According to the project document, ESALIA should be established as a functional network of national industry associations at the sub-regional level and the project regional office should be transformed into a permanent office of ESALIA, after completion of the Programme operations. ESALIA was established covering nine countries at present. In addition to national associations as full members, it has a number of associate members. There are regular meetings - twice a year. The agenda items include exchange of information about the leather sector in the member

countries and consideration of development cooperation projects with UNIDO and other agencies. ESALIA also publishes a well-edited and attractively printed magazines on the leather sector. ESALIA is in the process of establishing formalized relations with UNIDO.

107. The member associations pay modest membership fees (large countries US\$1,000 and small countries US\$500 per year), the association of Kenya provided for the rental cost and the UNIDO project budget covered the cost of the secretariat personnel (one professional and one general service staff members).

108. While the national associations currently take an active part in and express support to ESALIA activities, the long-term sustainability of ESALIA will depend very much on the articulation of common interests, be it in the area of policies, common technological infrastructure or service facilities. The regular meetings of ESALIA should be used more as a platform to discuss in-depth a specific issue of common interest and articulate common position to be then pursued and promoted through diverse mechanisms at national and regional levels (lobbying, media, etc.). To ensure sufficient time for the preparation of national associations to formulate their positions, it is advisable to agree, at each ESALIA meeting, on the issue(s) to be addressed at the next meeting.

#### 4.1.3 *The Revolving Fund Operation*

109. The Revolving Fund Operation (RFO) is a mechanism initiated and elaborated by the UNIDO Programme and agreed upon with the Government authorities and UNDP, the purpose of which is to make it possible for the Programme to provide equipment financed by the project (and thus, funded by public money) to individual private companies. The key principle rests in the repayment (in local currency) of the value of machinery bought by the Programme to the Revolving Fund managed by a non-profit organization. The collected funds are then expected to be used for the development of the leather sector.

110. RFO was established in all the countries, except Ethiopia, covered by the Programme. In all these countries, it played an instrumental and positive role in implementing the UNIDO support to the private industry and in producing results reported under other Programme components (rehabilitation of tanneries and footwear and leather goods companies, establishment of effluent treatment plants, institutions, etc.). However, as the socio-economic and institutional framework of the leather sector changes and experience with the RFO is accumulating, some elements of the mechanism require certain improvements.

111. As the funds from RFO can be used and are used for purposes which do not imply repayment to the RFO (training workshops in hides and skins improvement, fuel and maintenance costs of motorcycles and cars used by the extension officers, etc.), the term "revolving" is rather misleading ("Repayment Fund" might have been more appropriate).

112. In all the countries in which the RFO was established, the administration of the RFO is entrusted to a national association of industry. In most cases, it is the association of the leather industry which, as a rule, was established with the support of the Programme. Management of the RFO, including monitoring of the repayments and decision making on the use of the funds, is in the hands of the Management Committees consisting of representatives of the association, the UNIDO Programme and in some countries, a ministry or another Government body. The key role of industry representatives in the Management Committees of RFO is apparent in all the three countries visited (Kenya, Tanzania and Uganda). On the other hand, the representation of the Government bodies and their role in the Committees seem to be diminishing. In such countries, the Governments should be encouraged to reactivate their participation.

113. The relevant accounts are established in reputable banks. Once a year the Funds are audited by an external auditor.

114. As a rule, the ownership of the equipment is transferred to the national association at the time the equipment is installed and operational. Prior to procuring the equipment by UNIDO, the beneficiary is requested by the association to sign a commitment to pay back the value of the equipment. The industry association in charge of the RFO also enters into a leasing agreement with the ultimate beneficiary specifying the terms of utilization of the

equipment (purpose, insurance), repayment (starting date, quarterly payments, duration) and transfer of ownership (after the final payment). This agreement is signed before the transfer of the ownership title to the national association.

*115.* While the above principles are similar for all countries, some detailed terms agreed upon with the local Government authorities differ. In most countries, the beneficiaries neither pay any interest on the outstanding balance nor any import duties on the equipment delivered by the Programme and the repayment in local currency disregards fluctuations in the exchange rate. In some countries, the terms stipulate payment of interest on the outstanding balance in case of default in payment. In other countries (Tanzania), the value in local currency is supposed to be adjusted on an annual basis to the changes in the exchange rate. However, it was not possible to verify whether such adjustments actually took place. The duration of repayment (10 years) in a few cases exceeded the terms applied in the standard practice.

*116.* It is apparent that the current terms of the RFO, which were agreed upon several years ago, may imply a subsidy component which may be perceived as market distortion or violation of principles of equal chances. This perception may be strengthened if the support is provided to a well-established medium-sized or large company with access to bank credits or in case of default in payment. The evaluation mission has come across comments along these lines both from the side of some Government officers (Uganda) and private companies (Ethiopia). [However, the comments by a tannery in Ethiopia about massive support targeted primarily at the large Awash Tannery, while psychologically understood, are not commensurate to the socio-economic conditions and institutional framework at the time when selection of the target tannery was made by the public holding company a number of years ago, and when no private tanneries of industrial size existed in the country.]

*117.* Defaults in payments as stipulated by the Agreements have occurred in all the countries visited, although to varying degrees. The Tables 9a, 9b and 9c: "Status of RFO" reveal that financial discipline needs to be improved. Frequently, repayments are delayed. Only in a very few cases, the beneficiaries have not started repayment at all. However, the situation may be affected by the fact that a beneficiary has not started repayment as scheduled due to delays in the installation of equipment. Another factor to be considered is fixing the starting date of repayment - without any grace period - at the moment of installation of equipment. This may be rather severe particularly for the small enterprises, such as those in Uganda.

Country: KENYA

Table 9a: Status of RFO as of December 1996

Beneficiaries	Equipment received (\$)	RFO in local currency: Kenyan Shilling (KSh)								
		Total			1 9 9 5			1 9 9 6		
		To be paid	Paid	%	To be paid	Paid	%	To be paid	Paid	%
1. Alpharama	57,780	1,668,686	1,668,686	100	138,672	138,672	100	-	-	-
2. Kays	259	7,471	7,471	100	-	-	-	-	-	-
"	24,526	1,432,318	0	0	-	-	-	119,359 <sup>1</sup>	0	0
3. Kitale	6,375	176,260	176,260	100	-	-	-	-	-	-
4. Nalina	37,015	1,066,050	1,066,050	100	319,132	319,132	100	-	-	-
5. Sana	21,268	612,537	612,537	100	-	-	-	149,893 <sup>1</sup>	0	0
"	30,800	1,798,720	0	0	-	-	-	-	-	-
6. Sagana	491,827	14,105,203	6,176,667	43.7	1,728,024	864,012	50	1,728,024	1,469,018	85
"	66,500	3,883,600	0	0	-	-	-	323,633 <sup>1</sup>	0	0
7. Nakuru	138,135	6,309,705	0	0	-	-	-	394,356 <sup>1</sup>	0	0
<b>Total:</b>	<b>874,485.00</b>	<b>31,060,550</b>	<b>9,707,671</b>	<b>31</b>	<b>2,185,828</b>	<b>1,321,816</b>	<b>60</b>	<b>2,715,265</b>	<b>1,469,018</b>	<b>54</b>

1 US Dollar (US\$) = 69.2 Kenyan Shilling (KSh) as of November 1993  
= 40 Kenyan Shilling (KSh) as of November 1994  
= 55.5 Kenyan Shilling (KSh) as of November 1995  
= 56.5 Kenyan Shilling (KSh) as of November 1996

1: 4<sup>th</sup> quarter

Country: Tanzania

Table 9b: Status of RFO as of December 1996

Beneficiaries	Equipment received (\$)	RFO in local currency: Tanzanian Shilling (TSh)								
		Total			1 9 9 5			1 9 9 6		
		To be paid	Paid	%	To be paid	Paid	%	To be paid	Paid	%
1. Twins Leather	15,946				1,996,500	250,000	12.5	1,996,569	500,000	25
2. Pellys Enterprises	11,655				0	0	0	2,149,232	0	0
3. Afro Leather	288,000				7,751,000	0	0	7,751,780	3,600,000	46
4. Shah Industries	30,000				1,372,384	1,372,384	100	1,372,384	0	0
5. Africa Trade Development	385,000				22,657,248	22,657,248	100	22,657,248	20,000,000	88
" "					13,098,000	7,500,000	57.3	26,730,000	21,470,091	80
6. Moshi Tanneries	69,886				0	0	-	16,433,333	3,280,116	20
<b>Total:</b>	<b>800,487</b>				<b>46,875,132</b>	<b>31,779,632</b>	<b>67.8</b>	<b>79,090,546</b>	<b>48,850,207</b>	<b>62</b>

1 US Dollar (US\$) = 454 Tanzanian Shilling (TSh) as of November 1993  
= 521 Tanzanian Shilling (TSh) as of November 1994  
= 603 Tanzanian Shilling (TSh) as of November 1995  
= 582 Tanzanian Shilling (TSh) as of November 1996

Country: UGANDA

Table 9c: Status of RFO as of 31 October 1996

Beneficiaries	Equipment received (\$)	RFO in local currency: Uganda Shilling (USh)								
		Total			1 9 9 5			1 9 9 6		
		To be paid	Paid	%	To be paid	Paid	%	To be paid <sup>1</sup>	Paid	%
1. Flying Tools	16,560	6,986,500	3,122,350	44.6	3,864,150	1,633,850	42	2,230,300	551,000	24.7
2. Uganda Shoe Co.	27,649	27,569,085	2,300,000	8.3	-	-	-	9,197,450	2,300,000	25
3. Daas	25,100	25,833,140	2,152,000	8.3	-	-	-	6,458,283	2,152,761	33.3
4. Equator Sports	22,323	25,277,250	4,400,000	17.4	-	-	-	9,197,450	4,400,000	47.8
5. Peoples Footwear	6,604	6,628,580	520,000	7.8	-	-	-	1,657,143	520,000	31.4
6. Gomba	116,053	29,951,500	29,951,500	100	29,951,500	15,000,000	50	14,951,500	14,951,500	100
"		78,088,450	0	0	-	-	-	7,808,900	0	0
7. Universal Sports	8,582	351,360	351,360	100	351,360	351,360	100	-	-	-
" "		7,356,195	0	0	-	-	-	2,452,000	0	0
8. Women Handtools	10,316	7,080,600	2,386,500	33.7				4,694,100	2,386,500	50.8
9. Slaughter House - Iganga	42,105	38,131,975	200,000	0.5				520,000	200,000	38.4
Slaughter House - Kamuli		38,131,975	0	0				720,000	0	0
<b>Total:</b>	<b>266,708</b>	<b>291,386,610</b>	<b>45,383,710</b>	<b>15.5</b>	<b>34,167,010</b>	<b>16,985,210</b>	<b>49.7</b>	<b>59,887,126</b>	<b>27,461,761</b>	<b>45.8</b>

1: Till end-October 1996

1 US Dollar (US\$)

= 1170 Uganda Shilling (USh) as of November 1993

= 910 Uganda Shilling (USh) as of November 1994

= 1040 Uganda Shilling (USh) as of November 1995

= 1060 Uganda Shilling (USh) as of November 1996

118. Despite these moderating considerations, the message that the financial discipline must be improved remains valid. In case of non-payment for a longer period of time, the management of the Fund should consider relocation of the equipment to another beneficiary who is ready to comply with the conditions of the RFO.

119. It should be recognized that the administrators of the Fund have a good overview of the payments (which made the Tables 9a, 9b and 9c possible); the documentation of the RFO is transparent, particularly in Uganda.

120. The RFO documentation also records all expenditures well. In Uganda and in Tanzania, the Fund has been used to finance the operational costs of the Association (office rent, car, salaries), to support the hides and skins extension officers and to provide some common services and short-term loans to the small leather goods manufacturing companies. In Kenya, most of the Fund was used for the establishment of the TPCSI. Use of the funds for the establishment and/or maintaining/subsidizing an institution, the services of which are needed and used by the industry, is a particularly commendable modality of the use of funds.

121. In order to achieve market conformity and to avoid criticism of the direct support to individual companies, the mission has proposed that the terms of RFO for the new projects should be redefined along the following principles:

- the equipment should be categorized, depending on the purpose for which it should serve, into equipment serving commercial (profit making) and non-commercial (environmental, or social) objectives;
- equipment serving non-commercial objectives may be provided on terms implying a subsidy (waiver of interest, longer repayment period, etc.); in cases of public interest, the terms may allow a grant component;
- equipment serving commercial purposes (production equipment) should be provided on terms equal or close to commercial terms; this should include interest rates, exchange rate clause, duration of repayment, etc.

122. In the case of production equipment, the mechanism should be used to exclusively support SMEs. Compared to a loan from a bank, the project will still have a potential advantage to offer to the small-scale industry: easier access to the credit (no collateral required) and the accompanying advisory and training services which are provided free.

123. In all cases, the use of this mechanism should be subject to prudent analysis not only of technical requirements and needs of the company but also of its economic and financial capabilities to pay back the installments in order to avoid, as much as possible, defaults in payment.

124. The case of Ethiopia, where the RFO has not been established, a special description of the situation is required. The support to the leather sector provided under the Programme has been channeled through three projects, two of which are nationally-executed projects funded by UNDP (UNIDO is the implementing agency). A Government Steering Committee was established to manage and supervise the national execution. An owner entrusted with the execution function was nominated for each project. In the case of the two leather-related projects the original owner, the Ministry of Natural Resources and Environment, ceased to exist after some time and the newly-created Ministry of Water Resources refused to take over the ownership responsibility for the projects. The Ministry of Trade and Industry was asked to coordinate the implementation activities but the Ministry has not considered itself to be the executing agency, the owner of the projects. At the time of the mission, the Ministry of Trade and Industry sent a letter to the Steering Committee requesting clarification of the project ownership, assuming that the Ministry would be assigned the function. Once nominated as the owner, the Ministry believes it will be able to settle a number of issues, including the establishment of the Revolving Fund.

125. Another issue affecting the delivery of equipment to the companies, since March 1995, is the policy of the new Government to levy standard import taxes on the equipment procured by the UN agencies, disregarding the duty-free status of UNDP projects. As the duty-free status was reflected in the project documents and the corresponding terms of duty-free equipment delivery were conveyed to the companies, the companies are reluctant to take over the equipment under less favorable terms. This results in long negotiations with customs authorities resulting in considerable storage charges and delays in implementation.



126. Both the above-mentioned issues have been followed up closely by the national expert and the UCD office. The problem of customs clearance has also been followed up by the UNDP office as it affects UNDP and other agencies as well. In spite of that, an intervention from UNIDO at the Government-level should be attempted. In order to be effective, it is not sufficient to address the problem to the Ministry of Trade and Industry alone; equally if not more relevant, is to address the problem to the Ministry of Economic Cooperation and Development. The following position of UNIDO is proposed:

- as regards the import duties, the prerogative of the Government to decide on the import tax policy is recognized, it will be reflected in the future project documents and implemented accordingly. However,
- for the deliveries under the currently valid project documents, the terms envisaged in those documents should be adhered to;
- as regards the Revolving Fund, its early establishment should be urged and application of the mechanism practiced in other countries recommended. The role of the Government in the management of the Fund could be adequately ensured through proper representation in the Management Committee. The terms to be specified in the lease agreements should differentiate between deliveries under on-going projects and deliveries under future projects. Deliveries under on-going projects should reflect as much as possible the terms implied by the project documents and negotiated with the beneficiaries at the beginning of project implementation. Terms of repayment of deliveries under future projects should follow the principles proposed by the evaluation mission.

#### 4.2 Hides and Skins Component

127. This component was included in the Programme documents for all the countries visited except Kenya.

The purpose (Immediate Objective) of the component was to improve the quality of hides and skins and to increase their collection in selected target areas. To achieve this purpose the Programme planned to support the target areas by:

- supporting the extension services (providing them with means of transportation, funding training and awareness-raising activities, providing butchers and extension officers with tools for hides and skins flaying and curing, etc.);
- construction of demonstration slaughter slabs and curing sheds;
- introduction of the Quality Grading System and advice on the motivational system and how to apply it;
- installation of statistical monitoring of quantity and quality of hides and skins.

Some of the support was extended also to non-target areas.

The results achieved are rather dubious.

##### 4.2.1 Support to extension services

128. Extension services in all the countries visited are undergoing a considerable reform. With the process of decentralization of the Government, the decision about the scope of extension services is delegated to regional authorities. Frequently, they cannot afford to maintain the hides and skins extension services at the previous level. Thus, the support by the project is particularly welcome. However, this is focused on the target areas, the other regions benefitting only from the country-wide training of extension officers and awareness raising activities supported by the project. The project cannot substitute the support of regional authorities to the extension services in the whole country.

129. UNIDO support (salaries, motorcycles, bicycles, training workshops, posters, flaying and ripping knives, etc.) was provided more or less as planned. The motorcycles and cars in the trading centers visited, of the target areas, as

well as the knives were in use. Problems were noticed in Ethiopia. Knives delivered to the regional authorities were not distributed to potential users; in fact it proved difficult to explain the long delay in the distribution process and to establish the current location of the knives. Selection of some equipment turned out to be problematic: as Honda motorbikes are not on sale in the local market, the spare parts cannot be purchased locally.

130. The training and awareness-raising workshops were attended by a large number of participants. However, effectiveness of all these activities could not be fully established as the use of knowledge acquired at training workshops is difficult to assess on the basis of rather random evidence. Most hides in the sheds visited were suspended properly and some extension officers were very competent in grading. However, there were cases of hides with large number of holes, of wrongly suspended hides and of extension officers being rather slow in grading. There were also complaints by the extension officers that the butchers and flayers did not follow the instructions and advice given during training seminars and about frequent staff turnover among flayers due to low salaries. Apparently training alone without proper motivation is not sufficient to improve quality of hides and skins.

#### 4.2.2 *Slaughtering slabs and sheds*

131. In all three countries, the construction of slaughter slabs and sheds was behind schedule and less than planned in terms of numbers to be constructed or rehabilitated. The delays were due to changes in design and specifications, contracting procedures, financial settlement, etc. The approval process involving decision making in Vienna makes the implementation rather cumbersome. The construction costs are increasing, participation of local bodies differs from site to site and associations of butchers or other users of the slabs and sheds do not exist at all sites. Without an association, the ownership of the slabs and sheds is not in the hands of major beneficiaries. This diminishes the motivation and responsibility for the use, operation and maintenance the facility and, thus, for the sustainability of the project output.

132. On the other hand, through testing and comparing various alternatives, the local professionals have acquired good knowledge about the design and construction requirements so that replication of such structures can be handled by the countries themselves.

#### 4.2.3 *Grading by quality*

133. The grading method as developed by the Programme under Phase 1 is generally accepted in all countries (in Ethiopia it is slightly modified). However, the application of grading for pricing purposes by traders and tanneries is limited. In order to advise on the mechanism motivating or enforcing pricing by grades, a study with a set of recommendations was prepared by the project for Ethiopia. The study was found useful but the key actors including the Ethiopian Tanners Association doubted that all the recommendations could be implemented since some assumptions (such as central handling of hides) were considered rather optimistic.

#### 4.2.4 *Statistical monitoring*

134. The standard forms for reporting on quantity and quality of collected hides and skins are used in all countries. However, the data on quality (grades) are not reliable for two reasons: first, the grading is affected by the selection of the sample (not all hides and skins can be graded individually); second, some defects (such as putrefaction) can be revealed only at the wet-blue stage. The information of quantities may be more reliable but it is also affected by factors such as tax evasion, difficulty in checking large quantities of hides or skins on stock or on a truck, etc.

135. The statistical value of the data in some countries is affected by the fact that the monitoring function is performed at the regional level only so that there is no country-wide overview of the quantity and quality of collected hides and skins. The more liberal approach to the hides and skins sector is also felt in the relaxed attitude to timeliness of reporting; the most recent data from the target areas dated several months back.

#### 4.2.5 *Impact*

136. Impact of the project on the quantity and quality of collected hides and skins in the countries visited is rather modest and varies. Only in one case (Jinja target area in Uganda), it was possible for the tannery procuring the hides and

skins to confirm that the hides and skins from the target area were of distinctly better quality compared to hides and skins from other regions. (The LIU Tannery in Jinja monitors the quality of wet-blue by geographical origin of the hide.) This is primarily due to reduced putrefaction of hides in the target area which is the result of reduction of ground drying. (The number of hides dried on the ground is reported to have been reduced in the target area (from 70% before the project started to less than 10% at present). It is assumed that the project contributed significantly to this development.

Some improvements in quality of hides were reported by the extension officers also in other target areas, but they could not be verified by the buyers of the hides.

137. In the Jinja target area (and, possibly, in some other target areas), the impact of the project seems to have been achieved through support to extension services rather than through support to the construction of slaughter slabs and sheds. Their numbers and the numbers of cattle slaughtered in each of them are too low to influence the share of controlled slaughtering in the total kill and, thus, the average quality of hides. (The slaughter of cattle in the slabs built with project support represents a few percent of the total kill in the target areas.)

138. Rather than the actual increase in controlled slaughtering, the demonstration effect of the slabs and sheds might have been more important. In this respect, the assessment is quite positive. The project helped amend and consolidate the basic design parameters of the slabs and sheds (dimensions, walls, etc.) There were cases of decisions by regional authorities to allocate their budget funds for construction of additional slaughter slabs and sheds.

139. However, the evaluation collected enough evidence that both the extension services and the demonstration effect of slabs and sheds can play only a supporting role in the hides and skins improvement. The key factor influencing the quantity of the collected hides and skins is their price level. (In Ethiopia, even in the target areas, the collection of hides decreased because of low price.) The key factor influencing the quality of hides is the level of centralized slaughtering and pricing of the hides by grades. To increase centralized slaughtering, considerable investment is required. To introduce pricing by grades (quality) is a problem of the whole system of procurement and trade (including export of raw hides and skins) which has not so far been settled satisfactorily. The Programme (including ESALIA) can play a significant role in this field by acting as a catalyst in the search for policy solutions.

### **4.3 Private Industry Development Component**

140. The purpose (Immediate Objective) of this component was to enhance the industrial development of the leather, footwear and leather goods sector by direct support to companies in:

- leather finishing;
- commercial utilization of fish skin;
- components manufacturing;
- leather footwear manufacturing;
- leather goods and leather garments manufacturing;
- maintenance of leather goods manufacturing machinery.

In addition to rehabilitation or establishment of new plants (frequently with demonstration function), the component included a sub-regional seminar on machinery maintenance and a training workshop in components utilization.

141. The component manufacturing plant was established in Zimbabwe and could not be visited by the evaluation mission but some components are produced by TPCSI, Kenya. The outputs related to maintenance and the training workshop in components utilization are planned for 1997. The evaluation covers the remaining outputs.

#### *4.3.1 Leather finishing*

142. Two tanneries were assisted during the project to upgrade the leather finishing capability. In Sagana Tanneries (Kenya), the finishing equipment is already installed and is operating. The finishing equipment delivered to the tannery

(approximately US\$60,000) together with the equipment procured by the tannery itself (US\$75,000) give the possibility to supply the local market with finished leather.

143. The other output in the original Programme document envisaged establishment of a large-scale leather finishing plant in Kenya. Due to lack of funds under REFAM the output was amended and linked to the Awash Tannery in Ethiopia which already had leather finishing capability established with the support of the project Phase 1. (The equipment delivered under Phase 1 is well-used and very properly maintained.) Phase 2 only complements the previous support to further enhance the finishing capability. The equipment under Phase 2 (spraying machine amounting to US\$131,400) was procured but not yet delivered because the equipment had been kept for two months in the port by customs authorities. If this situation is cleared, Awash Tannery will reinforce and enhance its leather finishing capacity.

144. The impact of the project support is manifested by the increased capacity to produce crust and finished leather. In the case of Sagana, the capacity was increased from 50,000 sq.ft. per month to 120,000 sq.ft. per month plus 20,000 sq.ft. of specialty leathers. In the case of the Awash Tannery, the domestic sales increased from 17.9 to 30.04 million Br (+68%) between 1994 and 1996. Export sales also increased from US\$10.87 to US\$15.72 million (+45%). Finished bovine leather is currently being exported to England. Project support under Phase 1 contributed considerably to this increase in sales.

145. The quality of the leather also improved, from corrected grain type with glossy finish to European type leather. In the case of Sagana, it is primarily the local shoe manufacturers which benefitted from the availability of finished leather (primarily Jua Kali) but the tannery is also delivering the Sana Shoe Ltd. which produces export articles. In the case of the Awash Tannery, the above specified increase in sales and exports has significant sectoral dimensions, both in terms of availability of finished leather for local producers and export earnings.

146. As leather finishing is more labour intensive than wet-blue tanning, the project support had also some impact on job generation (a few dozens of jobs at Sagana, more than 100 at Awash). Manpower and skillfulness of workers need to be higher in post tanning sections and in finishing, and women are more frequently employed in these processes.

147. Some shoe manufacturers in Ethiopia complain that the best quality leather produced by the Awash Tannery is exported and not available for local manufacturers. One of them (Kangaroo) decided to establish its own tannery. This is a rather unfortunate approach. Intensive cooperation with the Awash Tannery, including equity participation, should be sought instead.

148. Support to the above two tanneries also requires some clarification regarding the relevance of their selection as target beneficiaries. According to the statement of the Sagana management, without the UNIDO project, the tannery would not have survived. Given the excess tanning capacity in the country (two large tanneries in Kenya were closed down), a question may be raised about the relevance of investment in rehabilitation of such a tannery. It should, however, be noted that the rehabilitation of this rather small tannery, located in a remote region and managed by a devoted team, aimed not only at economic but also social objectives.

149. The Awash Tannery is the target beneficiary with the largest budget for equipment support (US\$834,000 delivered in the first phase and US\$450,900 budgeted under three projects in the second phase, including ETP-related equipment). While this may be the object of unfavorable comments by some other tanneries in the country, it should be understood that the decision was taken years ago (at the time of central control of the tanneries) by the NLSC and that the decision taken by local authorities was motivated by objectives valid at that time.

#### 4.3.2 *Commercial utilization of fish skin*

150. The original Programme document envisaged two outputs: a commercial-size model plant for the manufacture of fish skin leather and a commercial-size fish skin leather goods pilot plant.

151. The first output was produced through the support to the Gomba fish skins tannery in Jinja (Uganda). Under the project US/UGA/92/200, a total value of US\$111,595, mainly constituting production equipment, was delivered and considerable expertise was provided to the tannery to produce Nile perch fish skins. 15,000 pieces of good quality

crusted skins were produced. The technological process established, with the assistance of a UNIDO consultant, gave a very good result as the product obtained is of good quality.

The main problem of this tannery is the absence of an identified effective market for such a product. Some contacts were recently established with South Africa and Italy. Some finishing trials were run to produce ladies' shoes and leather goods. A trial order for 500 pieces of fish skin leather was placed by a Japanese company. Some other opportunities are yet to be evaluated. However, at the time of the evaluation mission, the market was not yet established and no significant customer was ready to buy large quantities of fish skins from this tannery. Thus the output was produced in technical terms but not yet in commercial terms.

152. The second output had not been attempted so far.

#### 4.3.3 *Leather footwear manufacturing*

153. The Programme envisaged establishment of fully-operational pilot factories in a number of countries as models for medium-scale shoe plants. In terms of quantity, this output exceeded the planned targets: support was provided to a greater number of shoe manufacturers than planned.

154. The assistance was focused on some core competencies in factory configuration and production methods. As a result, a number of companies progressed from craftsmanship to industrial production and upgraded the volume of production, quality of products and productivity. The Chairman of Kenya Footwear Manufacturers Association (KFMA) put it as follows: "UNIDO has brought us a long way towards industrial production. Before they came we were only craftsmen...".

155. Most remarkable results in the countries visited were achieved in Kenya (Sana) and Ethiopia (Ras Dashen and Kangaroo). The companies considerably upgraded their work methods, production flow, product design and quality. All three of them increased their sales, two of them are extending their production area. They could serve as model shoe manufacturing plants but the demonstration function was not supported by any special project activities.

156. In Uganda, which did not participate in Phase 1, the shoe manufacturing industry - except for the Bata company - is still at its infancy stage with workshops producing at the most a few dozens pairs per day. The results achieved through project support to shoe manufacturing in this country are rather marginal, with positive exceptions such as the Expert Shoe Makers at Mbarara, which improved product design and plan to enlarge the production area. In some workshops, the equipment provided by the project is not fully used. Apparently longer-term efforts will be required to produce results with impact, including the need to establish a small footwear production demonstration/facility centre in Kampala.

157. The activities under this component also revealed constraints inhibiting faster development of the sub-sector. In addition to the competition of second-hand shoes and imported shoes from the Far East, the local production is adversely affected by low quality of the PVC soles, limited assortment of auxiliaries and difficult access to credit (lack of collateral). The training in the classroom needs to be complemented by on-the-job training by the same trainers but conducted in the working environment of the trainees in the factory/workshop. More emphasis needs to be laid on management training.

#### 4.3.4 *Leather goods manufacturing*

158. The Programme envisaged the establishment of pilot factories in a number of countries, as models for medium-scale leather goods and leather garments plants. Support was provided to such factories in five countries. In the countries visited, the factories were rather small workshops. The Programme support was in most cases rather modest and so were the results achieved. In Uganda, the introduction of football production is noteworthy. In some workshops the quality of the garment and other leather goods came close to export standards. However, low capacity utilization was a frequent feature and some setbacks were also recorded due to the fall of the market. The Shah Industries in Tanzania is the most explicit example. It is particularly sad because a large percentage of the employees is handicapped.

159. As in the case of shoe manufacturing, in leather goods manufacturing lack of a variety of components easily available at local markets poses a grave problem affecting costs, quality of products, and thus prices and volumes of sales.

#### 4.4 Environment Protection Component

160. The purpose (Immediate Objective) of the component was to improve tannery effluent treatment and waste management capabilities and to introduce environment-friendly technology within the region. However, the output deals only with establishment of effluent treatment plants. The targets were three ETPs. An additional ETP (Nakuru, Kenya) was planned to be established under the related project TF/KEN/92/F10.

##### 4.4.1 ETPs supported

161. In total, seven companies were assisted in establishment or upgrading of effluent treatment plants. A total amount of nearly US\$670,000 was for equipment procured by the Programme. At the time of the evaluation mission the ETPs were at different stages of completion:

- The new ETP at the Nakuru Tannery, Kenya, is in full operation. The equipment installed is used by 80% to 90%, but the charcoal filter, after the primary treatment, seems unadapted to the process. Some improvement can be done in laboratory control and in fine-tuning of the treatment.
- The tannery at Morogoro, Tanzania, received the ETP equipment in due time, but the tannery itself is not yet ready to become operational due to long delays in obtaining a loan for tannery equipment. The starting of the tannery is scheduled not before June 1997.
- The tannery at Moshi, Tanzania, was in the process of completing the installation of the new equipment, planning to start operations in January 1997. The choice of aeration system for sulphide oxidation is not well-adapted so that some clogging will probably occur rapidly unless the equipment is changed for rubber type diffusers.
- In Mwanza Tannery, Tanzania, the equipment was delivered but not yet installed due to some difficulties in adapting to the civil works. Some modifications proposed by the mission would permit to set it up and to run these aerators. However, the expected result will not be sufficient and further improvement needs to be planned in view of the capacity of the tannery.
- In three other tanneries, Sagana (Kenya), Awash and Wallia (Ethiopia), the equipment is not yet available, either because of delay in delivery, or because of the customs clearance problem in Ethiopia. However, the selected equipment is well fitted to local conditions and will bring good efficiency in effluent treatment.

It should also be noted that the existing primary treatment plant in Sagana, constructed with the Programme support under Phase 1, is being operated in a very good manner with already high efficiency in pollution elimination.

162. In several ETPs supported by the Programme, the Programme included monitoring of the effluent treatment process. This is a very important and positive aspect of the environmental management. In this manner, tanners can prove that they operate their effluent treatment plant in good conditions. The current level of monitoring allows for improvement in terms of coverage of monitored agents and its frequency.

163. It is quite clear that most of the tanners became sensitive to environmental issues and this result can be considered as an important output of the project even though it was not explicitly planned. This was obtained through several training programmes organized either at a national level, or at a regional level. Assistance of environmental experts in increasing the awareness and upgrading the knowledge in this field was also very useful.

164. Not much work was done in solid waste management, be it safe deposit or basic solid waste recovery. This should be addressed in the next phase, with some demonstration projects in sensitive areas. Recovery of untanned waste

could be a major concern.

#### 4.4.2 Potential impact

165. The impact of the ETPs supported by the Programme can be assessed under the assumption that gradually all of them will be put into operation. Taking into account the capacities of the tanneries and the basic design of the treatment, the eliminated pollution will be as follows :

**Table 10: Elimination of Effluent**

<b>Tannery</b>	<b>COD in kg/d</b>	<b>BOD<sub>5</sub> in kg/d</b>	<b>SS in kg/d</b>	<b>N tot in kg/d</b>	<b>Cr in kg/d</b>	<b>S<sup>2-</sup> in kg/d</b>
Nakuru	1,300	420	1,440	77	57	42
Sagana	1,300	450	800	45	23	36
Moshi	1,630	705	1,270	92	35	72
Morogoro	3,420	1,300	4,480	240	200	290
Mwanza	1,920	765	1,870	140	80	120
Awash	5,500	2,100	4,700	295	135	197
Wallia	7,90	290	1010	87	35	54
<b>Total:</b>	<b>15,860</b>	<b>6,030</b>	<b>15,570</b>	<b>976</b>	<b>565</b>	<b>811</b>

This is a significant impact. The above table shows that the eliminated pollution can be compared to the Graulhet CETP in France where costs for equipment can be estimated at US\$3 million. (As mentioned above, the total value of equipment delivered by the Programme to the above ETPs amounted to US\$ 670,000.)

#### 4.4.3 Cleaner production

166. While there was no explicit output for the application of cleaner production, hair recovery will be used in the new factory of the Nakuru tannery and recovery of chromium is planned in the Awash Tannery. With the hair saving system at Nakuru, it is expected to process the unhairing liquors from 6,000 skins and to recover 1,800kg of hair per day. Considering that this hair is not dissolved in the effluent, it is possible to evaluate the waste reduction. In such a system, COD will be reduced approximately by 500kg and total nitrogen by 50kg per day.

167. As regards recycling of chromium, it should be taken into account that the average concentration of chromium in sludge (over 30g/kg dry solids) excludes the possibility to use the sludge for agricultural application. Therefore, before mixing the effluent, chromium separation is necessary. Subsequently, safe disposal of tannery sludge is the first option. Recovery is efficient only if large quantities are available. At the Awash Tannery nearly 200kg of Cr per day will be recovered (representing a value of about US\$1,200 per day).

168. Very low consumption of water in every country covered by the Programme makes it possible to postpone application of cleaner production methods and implement them only after the ETP. Cleaner production processes need many trials to be optimized and long delays in the beamhouse to verify their impact. Only then they could lead to an overall reduction of 30 to 35% of the pollution in each tannery, if three or four adapted technologies are used. Additional constraints for the application of cleaner technologies is the lack of specific chemicals and considerable investment in new equipment.

169. However, due to high cost of chemicals, recycling and cleaner technologies have a potential for application in the East and South African countries. Better maintenance and housekeeping are usually the first steps. The tanners should be trained in the various solutions on how to recover solid waste as early as possible in the tanning process, etc. This important aspect of the environment management needs to be addressed more intensely in the future activities of the Programme.

#### 4.4.4 *Environmental standards*

170. The Programme was not involved in supporting the Governments in establishing environmental standards for the leather sector which in many countries already exist and, in others are under elaboration. In both cases, there is a risk that they are set at level not achievable by the industry. For example, draft Uganda guidelines for tannery effluent standards, and specifically COD, prepared by Makerere University have no chance to be complied with as they implicate elimination of nearly 99.5% of the pollution. There is also no reason for limiting chloride at a higher level in sewer than in public waters, as the guidelines propose. This issue is also important in view of the need to apply the standards as a market-neutral instrument to be complied with by all tanneries. The Programme should offer advice on these policy issues.

#### 4.4.5 *Salting of hides*

171. Some proposals were made to improve quality of raw hides and skins by replacing drying of hides and skins by wet salting. However, due to high risk of salt pollution of water which cannot be removed easily, it is recommended to maintain drying practices particularly in regions remote from the ocean. In some cases, recycling of pickle floats could be an interesting approach to apply cleaner processes.

### 4.5 **Gender Development Component**

172. The purpose (Immediate Objective) of the component was to heighten the awareness of the importance of women's contribution to the development of the sector, to enhance their capabilities in the industry and to assist in their effective integration in the sector. In fact, the last objective is a true purpose, the first two being means/outputs to achieve it.

The 7 outputs resemble the above Immediate Objective and set quantified target indicators.

#### 4.5.1 *Production of outputs*

173. As a result of one output, the status of women in the leather sector was analyzed and a three-pronged strategy was recommended to improve the status of women:

- creating awareness of the role of women;
- training of women in industrial activities;
- creating self-assertiveness among women working in the sector, including women entrepreneurs.

174. As a follow-up to this recommendation, a number of activities have been undertaken which at the same time aimed at the production of some of the outputs:

- awareness-raising seminars in each country and a regional seminar on the basis of which guidelines and recommendations on gender issues were prepared;
- training courses, fellowships and study tours to enhance the managerial skills of selected women employed in the sector; more than 150 women were trained, in one case a female participant at a training course trained other women (in Ethiopia);



- direct support to approximately 10 women entrepreneurs (equipment, expert advice, participation at fairs).

Apart from above, the Programme promoted women to high-level positions also in institutions supported by the Programme. Director of the TPCSI is the most manifest example.

175. A report entitled "Policies, Strategies and Guidelines to Promote the Integration of Women in the Leather Industry" was published as a separate UNIDO document and was widely distributed.

176. While the awareness-raising and training outputs were produced more or less as planned, the creation of 150 employment opportunities for women was not fully achieved. Given the fact that creation of employment opportunities can hardly be ensured by the Programme (the decision depends on companies which may not be part of the Programme), this objective should have been considered as the purpose of the component, not as an output. Irrespective of that, the target was rather ambitious.

#### 4.5.2 *Impact*

177. The impact of the Gender Development Component is easily discernible as far as the female target beneficiaries (entrepreneurs) directly supported by the project are concerned. They appreciated the support which upgraded their professional capabilities and self-assertiveness. As a result, the economic position of their companies improved and their social standing was upgraded. Women promoted to high-level positions are performing well.

178. Wider impact of the awareness raising campaign on the employment and status of women in the sector is difficult to discern. Women could be found in all sub-sectors of the leather sector except for hides and skins collection and preservation. In tanneries, they work primarily in the post-tanning and finishing sections and in the management of ETP (including ETPs at Sagana and Nakuru tanneries). In the leather goods manufacturing, they represent the majority of the labour force. The Programme should try to change the situation in the hides and skins collection and preservation since it can be assumed that women could perform well in these activities.

179. Some detrimental social factors continue to be at work. Women entrepreneurs who promoted employment of young women in their companies report a high turnover of staff, including staff trained by the company. In order to avoid economic losses and yet to maintain the preference for employment of women, they turned to recruit more mature women, with satisfactory results.

## 4.6 **Institution Development Component**

180. The purpose (Immediate Objective) of the component was to improve the institutional capacities for human resource development and to strengthen the representation of industry in institutionalized bodies. The latter, including the related output (industry associations), was assessed under the Programme Component 1.

181. The Programme planned to strengthen the following sectoral institutions: Leather Development Centre (LDC/KIRDI), Nairobi, LIZ Bulawayo and the COMESA Leather and Leather Products Institute (LLPI), Addis Ababa. However, in the course of Phase 2 a new institute was established by the Kenya Footwear Manufacturers Association (KFMA) with the support of the Programme: the Training and Production Centre for the Shoe Industry (TPCSI) at Thika, Kenya. Most of the institution-building support was directed at this new institute. In addition, the Programme provided support to LDC, LIZ and the National Leather Technology Center (NLTC) at Khartoum. In addition to institution-building support to the four above-mentioned institutions, the Programme supported the COMESA LLPI in conducting two training courses in tanning methods, principles of clean technology and effluent treatment.

The mission visited LDC, TPCSI, LLPI and some other institutions relevant to the sector but not supported by the Programme (Tanzania Institute of Leather Technology [TILT], Mwanza and PIC in Addis Ababa).

#### 4.6.1 *The Leather Development Centre (LDC)*

182. The LDC was assisted primarily during the first phase of the project; the support during the second phase was modest. Today LDC has 21 staff and a very good tannery equipment. The staff includes 4 skilled operators, 3 leather technologists, the director and a leather expert. Unfortunately, two of the three staff trained during the second phase left the Centre.

183. The results in terms of actual training conducted by the Centre are rather meager, with the first training course for tannery operators conducted in November 1996. Product development activities were rather limited, only the development work on fish skin brought some results.

184. The Centre suffered from lack of autonomy and its linkage to the Government salary scale. In order to improve its financial situation, the Centre provides some production services to industry, its troubleshooting helps companies to overcome short-term bottlenecks in production (75% of LDC activities). In spite of that, on average, capacity utilization is rather low (even though at some short periods it is used at full capacity).

185. Commercial orientation of the LDC resulted in partial recovery of the operating costs. Income generated by the LDC covers procurement of spare parts, chemicals, hides and skins and the operating costs of vehicles. The Government (through KIRDI) pays for salaries and maintenance of building.

186. With qualified people, this Centre should not be used as a private tannery. It is more desirable to engage the Centre in training, product development, consulting and advisory services in leather manufacturing and environment management, promotion of cleaner production and in testing, including leather area controls. The Board of Directors should include more representatives from industry.

#### 4.6.2 *Training and Production Centre for the Shoe Industry (TPCSI)*

187. TPCSI was established at the request of the Kenya Footwear Manufacturers Association (KFMA) with substantial support from the Programme, financed in particular by the IDDA project XA/RAF/93/603. The delivery of equipment for the Centre amounted to approximately US\$313,000. The equipment was well-selected, but it covers only part of the leather footwear manufacturing process, namely, shoe upper manufacture and some bottom component production, and design & pattern cutting/pattern engineering/cutting die making. The Centre does not have lasting (making) and finishing equipment. Construction of the building housing the Centre was financed by the Revolving Fund administered by the Kenya Association of Manufacturers. As a private sector institution, the Centre is supervised by a Board of Trustees chaired by the Chairman of the Kenya Tanners Association (KTA).

188. The Centre started its operations in June 1994. It has 5 professional staff and conducts a variety of introductory, operative, supervisory, product design and management training courses in footwear designing/pattern engineering, shoe production and basic leather goods manufacture. From October 1994 to October 1996, the Centre conducted 9 regional courses (103 participants) and 16 local courses (66 participants). The institute provided training courses on the following subjects:

##### Footwear courses:

- Instructor training in stitching and cutting (clicking);
- Operative training in stitching and other operations of shoe upper manufacture;
- Operative training in cutting (clicking);
- Shoe design and pattern cutting training;
- Leather sole making;
- Cutting supervisory training;
- Cutting (clicking) supervisory training;
- Basic footwear technology.

Leather products courses:

- Basic leather goods manufacture.

The Centre also provided services to industry in cutting die-making, cutting of shoe components (insoles, toepuffs, leather uppers), design and pattern engineering.

189. Institution-building assistance to TPCSI in Thika was very successful and made it a viable institution capable of providing services to the footwear industry, and to some extent to the leather goods. The newly-trained professional staff of the Centre is capable of conducting training courses for trainees from the region. The institute's efforts were crucial as part of the integrated strategy of the Programme because most of the enterprises, assisted by the Programme, needed training in modern manufacturing methods.

190. The impact of this effort has been in disseminating knowledge in production methods, operative and supervisory training and product development. The Centre also contributed to building confidence and achievement motivation among the persons sent by the factories for training. The services to the factories in product design/pattern engineering, leather sole production and cutting shoe components, and making cutting dies facilitated their production processes, market entries, and contributed to reduction of costs, improved product quality and increase in production.

191. The institute charges a small fee for its services. Economically, the institute now covers the operating costs, but not depreciation. Taking into account that this is primarily a training institution, this is a considerable success. However, the demand for the training services had so far been supported by the Programme covering the travel costs of trainees from other countries of the region. The Centre is fully aware of the problem and, in order to sustain competitiveness, it is gradually adding new training and service modules to the present mix as needs of the developing firms become more "sophisticated". By adding new modules, the Centre should gradually build a larger set of training and consultancy services for various needs. When there will be sufficient demand, the institute could start longer and focused courses for technologists, entrepreneurs etc. by attaching modules to each other. Finally, it should be capable of conducting certificate and diploma courses.

192. While these efforts are commendable, both the Associations and the Government should recognize that human resource development can hardly be a commercial operation and that some subsidy should be provided in particular to such institutes which are successful in meeting the needs of their clients.

193. Footwear lasting finishing machinery should be made available in the Centre to train, demonstrate and provide facility services in complete shoe production. In order to further upgrade their qualifications, the staff of the Centre should take part in the consultancy work of the UNIDO experts in order to share their experience and learn how to provide advisory services.

194. Export shoe upper production by the trainees for nearby factories could give a further challenge and learning opportunity for the staff and students. The Programme should also analyze the possibility and provide advice on study loans or other assistance to students from low-income families.

#### 4.6.3 *Leather and Leather Products Institute (LLPI)*

195. The COMESA Leather and Leather Products Institute (LLPI), Addis Ababa, has a director, a leather technologist and an economist. Located in the premises of the Productivity Improvement Centre (PIC), it does not have its own premises with equipment for training or demonstration purposes. With the support of the Programme (financed by an IDDA project), the LLPI organized a few training workshops conducted primarily by external staff. A training in tanning technologies was hosted in the workshop of the Productivity Improvement Centre, with comments by some participants about outdated equipment in the workshop. LLPI also contributes to and distributes the ITC Market News related to the trade in hides and skins.

196. LLPI suffers from the lack of financial support by the COMESA countries so that it could not establish itself as originally planned. Thus, LLPI does not have its own capability to provide training, advisory, R&D and information services in a regional scope as originally planned. With its existing staff, the institute aims at the coordination function. However, having no professionals in shoe manufacturing, even the capability to carry out coordinating function is constrained and confined to leather manufacturing.

#### 4.6.4 *Other institutions not supported by the Programme*

197. There are other sectoral institutions in the region which provide or were expected to provide training, product development, consultancy and other services. Some of them were visited by the evaluation mission. The Productivity Improvement Centre (PIC) in Addis Ababa, with 2 professional staff in this field, is capable of providing systematic training in sewing. The equipment is suitable for training in complete shoe making, although some more equipment and tools are needed. PIC also conducts training in leather manufacturing and hides and skins improvement. More than 120 people are trained every year, the majority of which comes from the Ministry of Agriculture. However, the tannery equipment is 30 years old and needs to be renewed. Income from training covers only 25% of the budget of the leather section of PIC. It appears that the institute is short of resources.

198. The Tanzania Institute of Leather Technology (TILT) in Mwanza, was established with the assistance of a UNDP/UNIDO project long before the Regional Leather Programme of UNIDO started. Due to reasons which are difficult to satisfactorily determine, the institute has never started its actual operations. Seven persons are still paid by the Government as employees of the institute. However, except for the security agents and stock keeper, the staff could not be located in the premises of the institute.

199. TILT has equipment for the complete shoe training and crust leather manufacturing but due to long idleness and neglect, it would require reconditioning. However, as it is highly improbable that the institute would be revived, it is strongly recommended that:

- some equipment from the shoe manufacturing workshop be used for a small training centre;
- the remaining equipment be sold out to tanneries and shoe and leather goods manufacturers.

The decision should be taken as soon as possible in order to stop the continuous deterioration and loss of value of the equipment. The Programme Management should contact the Government to address the problem.

#### 4.6.5 *Impact of strengthening sectoral institutions*

200. From the institutions visited, those supported by the Programme, the most significant impact was achieved by TPCSI. The reason is that being an institution supervised by the industry, it was probably easier to tailor its activities to the needs of the industry and to keep qualified staff on board. (The manager herself is a dynamic person pushing for continuous improvement.) The main impact is on human resource development in the shoe manufacturing sector. Impact of the other institutions is less eminent. Most of the training in leather finishing and effluent treatment was provided directly by the Programme.

201. In general, impact of training is high as it is the principal way to get acquainted with and apply new production methods and technologies in a specific sector and, thus, to increase productivity. While the training was generally appreciated by the companies, they suggested that training in the classrooms and in the workshops of the training institutions be accompanied by on-the-job training of the trainees. It is assumed that this complementary training under working conditions well known to the trainees would considerably enhance the effectiveness of training and its impact. This on-the-job training could be conducted either by the trainers from the relevant institution or, in case of larger enterprises, by job trainers trained at the institution.

202. The training focused on technical aspects of production while the organizational and management topics were less represented on the training programme. The training programmes need to contribute more to entrepreneurship development. For this purpose, contacts with management training institutes in the countries should be established and customized training courses for different sub-sectors of the leather sector should be developed. The Programme should

advise on how to customize such courses. Apart from general management subjects, management training in manufacturing and trade systems in areas such as operations management (materials and production management), product development and marketing requires customized application models.

203. The capability to provide advisory services was not yet sufficiently developed to be recognized by the industry. The entrepreneurs, when specifying their needs for advisory services, usually assumed and expected that they would be provided by foreign consultants.

#### 4.6.6 *Principles to be followed*

204. Institutions providing training, testing and advisory services to industry are key elements of the local capability to support industrial development. Development of such local capabilities is the most prominent objective of UNIDO development cooperation activities. The Programme support to institution-building should continue and even be enhanced by making it more comprehensive and including capabilities which have not been sufficiently supported and which turned out to be serious bottlenecks in the development cooperation, in particular, management and entrepreneurship development.

205. However, having in mind the experience of TILT, the Programme support to institutions should be provided under the following pre-requisites:

- secured funding of the major part of operations of the institution either from the Government budget, through income generated by the sales of services, or through combination of both;
- autonomous position making it possible to apply salary scales and motivational systems not tied to the salary levels of the Government civil service so that qualified trainers do not leave the institution;
- significant participation of the industry representatives in the governing board of the institution;
- availability of staff with minimum qualifications required to perform the targeted services.

206. The future support to institution-building should also include support to testing services, quality management and common facilities, such as eyeletting and splitting. Such common facilities may be established to serve a cluster of industrial companies. In such cases, the facility might even be established at the premises of one of the companies.

207. As an urgent need, the expert in Uganda put forward a suggestion: to start a small training and common facility centre to train entrepreneurs and operators and provide production services in certain operations. The proposal is supported by the evaluation mission.

208. Instead of establishing new institutions, it is usually more cost-effective to reform and strengthen an existing one. Networking with other institutions is another option, both in the country and abroad. Cooperation with existing management institutes both at the country and regional levels (ESAMI in Arusha) can be recommended.

209. The capabilities should be strengthened gradually, with the possibility to market the services in a broader region once a certain level of excellence is achieved and recognized by the clients.

#### 4.6.7 *Coordination among the institutions*

210. The border-crossing training and other activities have so far been limited to a few institutions (primarily TPCSI, to a certain extent LIZ Bulawayo; the regional workshops organized by LLPI were conducted by external staff). Thus the need for coordination has not appeared strongly. However, gradual strengthening of the institutions will establish conditions for meaningful coordination. The Programme could advise on the desirable paths of development of the most prominent institutions in the region, taking into consideration the possibility of coordination in developing specialized services for the needs of the region. By adding new modules, as TPCSI is already doing, one can gradually build training

and consultancy services (syllabi, curricula, systems) for various needs. Each new module can be developed in one institute with the assistance of the Programme, and when needed, made available with necessary training to other institutes. Gradually, when there will be sufficient demand, some institutes could start longer, focussed courses for technologists, entrepreneurs etc. by attaching modules to each other, with related study credit accumulation and transfer schemes. As a result, some institutes of the region may be capable to start certificate and diploma courses.

#### **4.7 Marketing Development Component**

211. The purpose (Immediate Objective) of the component was to increase export of finished leather and leather products. The Programme planned to achieve this purpose through the production of the following outputs:

- An export marketing strategy;
- Export collections prepared with the assistance of Programme experts;
- Participation at selected trade fairs with feedback on market reactions and joint-venture opportunities;
- Exposure of a number of entrepreneurs to market intelligence.

##### *4.7.1 Production of outputs*

212. All the above outputs were produced, some of them in cooperation with the International Trade Centre (ITC). An export marketing strategy was elaborated and disseminated as a technical paper jointly with ITC: "Exporting Footwear from Africa". The booklet is designed to be a practical guide helping companies to improve their knowledge of marketing shoes from Africa. It is based on lessons learned from the previous assistance. Its instructive value is high and makes it suitable to support a management training course in export marketing.

213. Approximately 10 companies from Kenya, Tanzania, Ethiopia and Zimbabwe were supported during Phase 2 in the preparation of export collections. The assistance provided by a marketing and a design expert was conceived as an integrated package which included not only product design but also advice on and training in production methods and related management systems.

214. The same companies were supported, some of them repeatedly, in the participation at trade fairs (details regarding the companies visited are in Annex 2). The project sponsored a stand at the exhibition and covered the transportation costs of the samples; the companies themselves paid their own travel and lodging costs to attend the show. From September 1993 onwards, the GDS Shoe Fairs at Düsseldorf have had a UNIDO/ITC-sponsored stand and since 1996, a UNIDO-sponsored stands have been arranged at Riva Expo Shoe and MICAM in Italy. An excellent report on the results of and lessons learned from participation at the GDS Fairs is available. Its analysis and recommendations deserve intense utilization at training workshops in export marketing.

A number of entrepreneurs from the region and the director of TPCSI were sent to trade fairs in Germany, Italy and Hungary; 10 of them participated at a seminar on footwear industry management, organized by the Programme in cooperation with CUOA, Italy. While the seminar offered high-level professional inputs, its cost-effectiveness might have suffered from the heterogeneity of the trainees. Follow-up seminars in the countries of the region might be useful to activate the acquired knowledge and its application.

##### *4.7.2 Impact*

215. For a number of companies, the path to export market has been extraordinarily shortened. Some companies such as Ras Dasha in Ethiopia and Sana in Kenya have already established themselves at export markets. The total value of shoe exports promoted by the Programme amounted to almost US\$600,000 (see Table 11: "Export of Shoes from Africa Promoted by the Programme").

216. For a number of companies, the participation at trade fairs has not resulted in actual export deliveries. Either the export samples were not up to the market standards in terms of quality and design, or the price expectations were unrealistically high, or both. In some cases, orders were placed but the company could not implement them in the requested quantity and time. It was, however, observed by the accompanying consultant that participation at fairs has

had an impact on the perception and performance of most companies attending the fairs: the styling, quality and pricing of shoes improved show on show as the companies became more confident and experienced. The firms attending the foreign trade fairs learned a lot about the life-styles, related fashion phenomena, quality and timeliness and other requirements of the market. They also sensed the opportunities which motivated them to develop.

217. In order to improve the effectiveness and impact of the Programme support to marketing, it will be desirable to complement the activities undertaken under this component by additional supporting measures aiming at improving the performance of the companies (quality management, introduction of new finishing methods), the institutional infrastructure (testing, information on fashion, etc.) and availability of material inputs (finished leather, good quality soles, leather products finishing chemicals, leather goods fittings, etc.). In case of preference of local tanneries for export of the best quality finished leathers, a Government regulation should ensure that the needs of local shoe manufacturers are met first.

**Table 11: Export of Shoes from Africa Promoted by the Programme**

Country	Pairs	Delivery Pairs	Average Price	Total
France	6,000	-	12.00	-
Azerbaijan	6,000	6,000	18.00	108,000.00
South Africa	95	95	10.50	997.50
Denmark	1,500	1,500	14.00	21,000.00
Slovakia	12,000	12,000	8.00	96,000.00
Greece	5,700	5,700	8.00	45,600.00
UK	11,000	3,000	6.75	20,250.00
Japan	4,000	4,000	14.00	56,000.00
Denmark	700	700	8.00	5,600.00
Hungary	4,000	in process	8.00	32,000.00
Italy	6,000	6,000	9.00	54,000.00
Spain	6,000	6,000	9.00	54,000.00
Switzerland	800	800	9.00	7,200.00
Majorca	72	72	9.00	648.00
Yemen	3,000	3,000	11.00	33,000.00
S. Arabia (uppers)	4,000	4,000	4.00	16,000.00
France	1,200	1,200	18.00	21,600.00
Various	200	200	50.00	10,000.00
<b>Total:</b>	<b>72,267.00</b>	<b>54,267.00</b>		<b>581,895.50</b>

### 4.7.3 *Relevance*

218. The evaluation mission noticed that some consultants (outside the Programme) recommend that shoe manufacturing in Africa confine itself to local and regional markets. This may raise the issue of relevance of supporting industry in Africa to make efforts to access the European and other more advanced markets. This question may be further supported by the argument that there is not much difference between the domestic and foreign markets (due to liberalization the domestic market becomes part of the global market, with the presence of foreign competition).

219. The evaluation mission believes that access of the African shoe and leather goods industry to advanced export markets is important. First, foreign competition in the domestic market does not represent the whole variety of trends and it cannot reflect the emerging trends. Second, it is not only the product itself which is important for the company to be competitive, but also the knowledge of processes and practices applied in the export business contributes to its competitiveness. Thus, the two-pronged approach adopted by the Programme (marketing at both domestic and export markets) is justified and the component is relevant. However, support to companies which after repeated efforts failed to find importers, should be discontinued.

## 4.8 **Synergy of Programme components**

220. Impact (changes) in one development area (sector, sub-sector) always has repercussions in the related sectors/sub-sectors. Improvement in hides and skins invariably improves inputs for the tanneries, export trade, etc. From this point of view, any changes achieved in sub-sectors supported by the Programme have a secondary impact on the related sub-sectors.

221. The question is to what degree does this general mechanism apply also to Programme interventions themselves. To what extent is the Programme integrated so that individual Programme interventions (projects and their outputs) are mutually linked to achieve a synergy. In other words: to what extent does support to one development area (Programme component) contribute to the effectiveness of Programme support in another area?

222. In a number of cases, the synergy effect was confirmed by the evaluation. It was very transparent in case of the Institution-building Component: impact of the support to regional institutions, (in particular to TPCSI) supports and strengthens the effectiveness of the Programme activities in the Private Industry Development (leather products manufacturing), Gender Development and Marketing Development Components. There is also clear synergy in the support to the shoe and leather goods manufacturing companies (such as Sana, Ras Dashen, Kangaroo, etc.) in upgrading their performance and export marketing. There are also cases of synergy between Programme support to tanneries in introducing/improving finished leather and Programme support to leather products manufacturers procuring finished leather from these tanneries: Sagana tannery sells finished leather to Sana Shoes Ltd. for export and home market and to the Universal Company. (Sagana tannery was supported to achieve the capability of producing finished leather, Sana was supported both under the Private Industry Development Component and Marketing Development Component). Similarly, the synergy exists due to linkages between the LIU Tannery in Uganda and local producers of shoes and leather goods supported by the Programme, between the Awash Tannery selling finished leather and the Ras Dashen, Kangaroo and Sana shoe manufacturers and the GTK group (garment), between the LIK Tannery (Kenya) and Sana and a manufacturer in Zimbabwe supported by the Programme, etc.

223. On the other hand, only limited synergy could be identified between the Programme support to target areas in hides and skins improvement and the support to tanneries. As reported elsewhere, only in one case it was possible to confirm that support to hides and skins improvement was beneficial to a tannery supported by the Programme (hides and skins improvement scheme in the Jinja target area the LIU Tannery in Jinja, Uganda).

224. In some cases there existed linkages between target beneficiaries supported by the Programme but there was no direct synergy linkage between the Programme support to these beneficiaries (vegetable leather from Mwanza Tannery is used by the Shah leathers goods company, both Programme target beneficiaries in Tanzania, but the Mwanza Tannery was supported in enhancing effluent treatment and not in improving the quality of the leather procured by the Shah Industries Ltd.).



225. The general inter-sectoral impact of the Programme has, of course, broader repercussions going beyond the target beneficiaries of the Programme. Finished leather produced by the Awash Tannery and sold in Ethiopia (or in the region) is beneficial not only to the companies supported by the Programme (Ras Dashen, etc.) but also to all others who buy the leather. To increase the overall value added and employment impact for those countries covered by the Programme, it is essential that the output-input chain in the sector is extended as much as possible and that reasons for complaints such as those made by Kangaroo Shoe Company (Awash selling the best quality leather abroad) be eliminated.

## 5. SUSTAINABILITY

226. Sustainability is a concept which applies primarily to institution-building outputs, but it can be applied to any capability which is developed with the support of the Programme.

### 5.1 Sustainability of institutions

227. None of the training institutes supported by the Programme and visited by the mission reached a level of commercialization which would recover all production costs by income from sales (of services). Relatively close to this level is the TPCSI in Thika, Kenya, which has managed to recover fully its operating costs but not the true production costs as depreciation of the equipment which has been delivered under the Programme free of charge is not part of the production costs. However, once the Centre will have to modernize the equipment from its own resources, the gap will become apparent. The current economic performance is further indirectly subsidized by the Programme coverage of air travel costs of trainees attending the training courses at TPCSI from other countries of the region. It can be expected that without this support the number of trainees would have been lower and the income from fees reduced.

228. The above should not be interpreted as critical comments. In fact, the level of cost recovery achieved by TPCSI is surprisingly and extraordinarily high. Similar service institutions in developing countries show much lower rates of cost recovery (usually 30-40%). Most of the companies in the developing countries cannot afford to pay full costs of training. (From the firms met and assisted by the Programme, only three appear to have reached an economic level to be able to pay commercial charge for the training services.) However, even in advanced industrialized countries, vocational training is subsidized. Since investment in human capital is in the interest of the national economy, it is not only legitimate but highly desirable that such activities are subsidized. The problem starts at the moment of selection of an institution for subsidy: what are the criteria indicating that the subsidy is supporting an institution which is relevant and effective?

229. TPCSI in Thika demonstrates such criteria: There is an effective demand for its services as the companies are ready to pay a fee for each participant (approximately US\$100 per week). The Centre is capable of retaining competent staff and to continuously adjust, expand and improve its activities. (It is gradually adding new training and service modules to the present mix as needs of the developing firms become more "sophisticated".) These are clear indicators that the Centre has the key elements to maintain and further upgrade the developed capabilities. In such a situation a subsidy is well justified to make such a useful institution sustainable also in financial terms.

230. The capabilities developed at the Leather Development Centre could not be upgraded or even maintained at the same level due to some turnover of staff and lack of motivation. The Centre suffered from lack of legal and management autonomy. There is, however, still a good potential to revive the training, testing and product development capabilities as the equipment is in good condition and the core staff can be upgraded.

231. The other institutes visited by the mission (PIC, LLPI, TILT) lack the characteristics of dynamism as demonstrated by TPCSI. With sufficient support PIC can, however, be upgraded and converted into a sustainable institution. LLPI is a special case, its sustainability will depend primarily on the financial support of the COMESA member countries. TILT (built in 1979-1984) is a very sad demonstration on how large resources, both financial and human, can be squandered; the capabilities developed not only were they not sustainable, they have never been used.

232. The industry associations represent a special case. Their sustainability is not a matter of upgrading professional capabilities of the members or commercialization of services, their sustainability depends much more on the capability of their members to formulate and pursue common interests. The current situation and perspectives are described in Chapter 4.1.

### 5.2 Sustainability of developed capabilities in industry

233. The fact that most of the supported industry is privately owned is a factor supporting sustainability of the developed capabilities: it is in the interest of the entrepreneur to maintain and further developed capabilities which bring commercial results. With increasing enforcement of environmental legislation, this approach is being gradually applied

also to environment management capabilities since environment management may become a factor of "staying or not staying in business".

234. There was, however, some difference among industrial enterprises which was related to the size and level of performance of the companies. It was quite typical that for larger and well-performing companies (and, in particular, for companies with advanced division of labour) it was easier to maintain or upgrade the developed capabilities than for very small workshops. Repeated Programme interventions (training, advice) were required to maintain and upgrade the formerly reached level. The Programmes for such small workshops apparently have to be conceived as a long-term effort.

## 6. CONCLUSIONS

235. The conclusions are summarized under the headings of *relevance*, *efficiency*, *effectiveness* (broken down by Programme components), *impact* and *sustainability*. A separate paragraph is devoted to Synergy of components.

### 6.1 Relevance

236. The Programme supports development of an industrial sector in the Eastern and Southern African countries where there is a potential for companies to become competitive in the global market due to availability of local raw materials, technology which can be mastered, technology-related skills, knowledge and tradition, and growing domestic market. The sector was selected by COMESA as one of the development priorities for Eastern and Southern Africa.

237. While the development of the sector is constrained by factors, some of which can be eliminated only in the long term (infrastructure, human resources development, entrepreneurship development) or through policy measures (legal framework of business environment) and political stability in general, there is a role for development cooperation to play in supporting the development of the sector.

238. The Programme supported the sector by a set of integrated interventions strengthening its technological infrastructure, easing development constraints of selected companies and demonstrating advanced methods in hides and skins treatment, production and environment protection. It also contained social objectives of gender development. The integrated approach proved to be appropriate for the support to the sector.

239. The Programme addressed actual problems and needs in the core sub-sectors of the leather industry. In accordance with the recommendations of the evaluation of Phase 1, the Programme in Phase 2 strengthened its support to industrial companies in leather finishing, shoe manufacturing and leather goods sub-sectors. It continued support to the hides and skins improvement. Partly due to the failure to mobilize donor funding in the originally planned scope, the Programme did not sufficiently cover some other related sub-sectors and problem areas, such as:

- policy and strategy (trade, fiscal, licensing, etc.)
- access to credits
- investment promotion
- auxiliaries, components, chemicals
- cleaner production
- rural tanning
- cluster development

240. The process of liberalization, privatization and decentralization of Government control affected local ownership of the Programme which was taken over primarily by industry associations. This, however, should not eliminate the involvement of the Governments in the Programme. With growing recognition of the importance of Government policies for the alleviation of development constraints and creation of the enabling business environment, the Government bodies should continue to be an important partner and ally in the formulation and pursuance of Programme objectives.

241. Involvement of other institutions operating in the countries in diverse related fields (environment protection, management training, standards and quality management, export promotion, investment promotion etc.) require strengthening in order to perform well. The Programme initiated technical cooperation support to some of them (Environment Protection Agencies). Such a support to related local institutions needs to be initiated more intensely.

242. The Programme is distinguished by extensive direct support to industrial companies. As more and more industry is private or privatized, the Programme included establishment of and support to two mechanisms facilitating direct support to industry:

- \* the Revolving Fund Operations (RFO);
- \* the leather industry associations.

The term "revolving" is misleading.

243. Analysis of project documents reveals that:

- \* the projects are conceived as joint efforts of both UNIDO and the partners in the field (institutions, industrial companies, etc.); while the outputs result from these joint efforts, the activities described are only those for which UNIDO is responsible;
- \* the pilot/demonstration functions of some outputs are not ensured by specific activities; it is wrongly assumed that the demonstration function evolves on its own, once a model plant is operating.

## 6.2 Efficiency

244. In general, quality of UNIDO inputs was good or very good. In value terms, the experts represented the largest input to the Programme, followed by equipment. With a few exceptions, the expert advisory services were highly valued by the target beneficiaries. A comprehensive approach applied by the experts (integrating advice and on-the-job training) was effective. The Programme also used to some extent international experts recruited in Africa. This practice turned out to be both efficient and effective. National experts recruited under the Programme served primarily as part of project management and administration, having been involved only scarcely in professional/technical advisory services.

245. Most of the training and exposure to new technical and business environment was appreciated by both the trainees and their employers. It is highly satisfactory that the number of trainees who have left the sector after training is very low.

246. While appreciating the training at TPCSI and other training courses, the footwear and leather products manufacturers emphasized the importance of complementary on-the-job training of the trainees at the working place.

247. Equipment represented 34% of all expenditures. A significant part of the equipment was used to support several tanneries in establishing effluent treatment plants and rehabilitation of production workshops, a smaller part was used to support a large number of footwear and leather goods manufacturers and training and other institutions. While a large allotment of the equipment budget to tanneries is affected by capital intensity of the effluent treatment plants, efforts should be made to decrease it by larger participation of the tanneries themselves or by mobilizing funds from other sources.

248. Most of the equipment was found in use or under installation. To a great extent, this was influenced by the fact that most of the beneficiaries are from the private sector. However, some small entrepreneurs had problems either to install the equipment or to make full use of its capacity.

249. There were cases of inconsistent timing in the provision of matching inputs. The causes of such problems were usually beyond the control of the project management (delayed clearance of equipment by custom authorities). In one case, there was a considerable delay on the part of the target beneficiary in putting into operation its production equipment while the project provided and installed the matching effluent treatment plant on time as planned; thus the installed ETP was idle for more than two years.

250. In a few cases, the problems were related to the Programme Management. In one case, a mistake in delivery instructions routed a stitch marking machine to a wrong shoe making target beneficiary. More important is the factor related to selection of equipment. It was noted that some entrepreneurs would have preferred a different make of the machine than the one delivered on the basis of the UNIDO procurement criteria.

251. Balance among the inputs was quite reasonable, also due to a rather heavy input of expertise, using the experts on a roving basis, and targeting the training primarily at staff from the companies. Perhaps the only element which was inadequately covered was intense training and advice on company management. This field requires increased attention by the Programme.

252. Most of the inputs to the Leather Programme funded by the IDDA Programme were both efficient and effective particularly due to the fact that they were complementing other inputs and supporting achievement of well-established outputs and objectives of a large programme.

253. The Programme was managed at the UNIDO Headquarters by a Senior Industrial Development Officer assisted by another professional. After his retirement, the Programme has been managed by one professional staff only, supported by a rather modest general service. In spite of that change, the management of the Programme was well under control and the supporting recruitment, procurement and financial services praised the team spirit between themselves and the Project Manager. The periodic review meetings were used well as a monitoring tool.

254. While cooperation was well-established with some substantive sections of UNIDO (such as HEPD/WOMEN and HEPD/HRD), more intense involvement is desirable in case of some other sections (such as ISED/ENV, ITPD/IS). Involvement of other professionals in providing technical support to the Programme should be more visible particularly for project staff and target beneficiaries in the field.

255. Phase 2 was implemented without formal involvement of FAO. However, contacts at working level continued. Cooperation with ITC was practiced till end of 1995 but it was not extended into 1996. UNIDO Programme Management claims the cooperation generated rather limited value added and involved rather high administrative costs. Exchange of information about on-going activities, which is a prerequisite for preventing unnecessary duplication, continues.

256. Except for the need to apply special financial reporting on RALFIS (when breaking down the expenditures by donors), the multiplicity of donors did not have any adverse impact on the implementation process.

### **6.3 Effectiveness**

#### *6.3.1 Programme Management Component*

257. National leather associations were established and became operational in all the countries visited. They act as a platform for discussing issues of common interest. All of them (with the exception of Ethiopia) are involved in the management of the Revolving Fund. The project played a significant promotional and catalytic role in this process.

258. However, the process of developing these associations into self-confident and recognized representatives of industry is still far from completed. The functioning of associations is presently encouraged by their management of the Revolving Fund. Funds from the RFO are also used to cover the operational costs of the associations. In the long term, the final success will depend much more on activities of their members and their capability to formulate and pursue common positions and interests.

259. The Eastern and Southern Africa Leather Industries Association (ESALIA) was established and covers nine countries at present. In addition to national associations as full members, it has a number of associate members. It is increasingly involved in the management of the Programme and in coordinating other cooperation activities in the region. ESALIA is in the process of establishing formalized relations with UNIDO.

260. RFO was established in all the countries covered by the Programme except Ethiopia. In all these countries, it played an instrumental and positive role in implementing the UNIDO support to the private industry. However, as the socio-economic and institutional framework of the leather sector change and experience with the RFO is accumulating, some elements of the mechanism require modifications to exclude significant market distortions.

261. Defaults in payments by target beneficiaries have occurred in all the countries visited, although to differing degrees. Frequently, repayments were delayed. Only in a few cases, the beneficiaries have not started repayment at all.

### 6.3.2 *Hides and Skins Component*

262. UNIDO support to hides and skins improvement focused on selected target areas, the other regions benefitting only from the country-wide training of extension officers and awareness raising activities supported by the Programme. UNIDO support to extension services was provided more or less as planned but it could not substitute the support of regional authorities to the extension services in the whole country which was diminishing. In addition, in some target areas some inputs provided by UNIDO were not distributed and/or used (knives, hoists).

263. The construction of slaughter slabs and sheds was behind schedule and less than planned in terms of numbers to be constructed or rehabilitated. The delays were due to changes in design and specifications, contracting procedures, financial settlement, etc. The approval process involving decision making in Vienna makes the implementation of this output rather cumbersome.

264. The grading method as developed by the Programme was generally accepted in all countries. However, actual application of grading for pricing purposes by traders and tanneries is limited.

265. The standard forms for reporting on quantity and quality of collected hides and skins are used in all target areas. However, the data are not reliable.

### 6.3.3 *Private Industry Development Component*

266. Two tanneries (Sagana, Kenya and Awash, Ethiopia) upgraded the leather finishing capability. In one case (Sagana) the rehabilitation of this rather small tannery, located in a remote region and managed by a devoted team, aimed not only at economic but also at social objectives.

267. The Gomba fish skins tannery in Jinja (Uganda) developed the capability to produce Nile perch fish skins. The technological process established with the assistance of a UNIDO consultant gave a very good result as the product obtained is of good quality. The main problem of this tannery is the absence of an identified effective market for such a product. No steps were taken to establish a plant for leather products using fish skin.

268. In the footwear manufacturing field, the output exceeded the planned targets: the number of upgraded shoe manufacturing plants was higher than planned.

Most remarkable results in the countries visited were achieved in Kenya (Sana) and Ethiopia (Ras Dasha and Kangaroo). The results achieved in Uganda were rather marginal, with some positive exceptions. In some workshops, the equipment provided by the project was not fully used. Apparently longer-term efforts will be required to produce results with impact, including the need to establish a small footwear production demonstration/facility centre in Kampala.

269. External constraints inhibiting faster development of the footwear sub-sector were verified. In addition to the competition of second-hand shoes and imported shoes from the Far East, the local production is adversely affected by low quality of the locally produced PVC soles, limited assortment of auxiliaries and difficult access to credit (lack of collateral).

270. Support provided to leather goods workshops was rather modest and so were the results achieved. In Uganda, the introduction of football production is noteworthy. In some workshops the quality of the garment and other leather goods came close to export standards. However, low capacity utilization was a frequent feature and some setbacks were also recorded due to the fall of the demand.

271. The planned outputs related to maintenance and the training workshop in components utilization are scheduled for 1997.

#### 6.3.4 *Environment Protection Component*

272. In total seven tanneries were assisted in establishment or upgrading of effluent treatment plants. A total amount of nearly US\$670,000 was disbursed for equipment procured by the Programme. At the time of the evaluation mission, the ETPs were at different stages of completion. One ETP was fully operational (in Nakuru). Three others will become operational within a few months and one (Morogoro) by July 1997. As soon as the equipment under customs in Ethiopia is delivered, the two treatment plants for Awash and Wallia tanneries will be operational within six months. Three ETPs, Sagana with primary treatment already operational, Moshi and Awash, will be running at a high level of pollution elimination. The remaining three other ETPs will have partial treatment (40 to 50% elimination).

273. In several ETPs supported by the Programme, the Programme included monitoring of the effluent treatment process. This is a very important and positive aspect of the environmental management. The current level of monitoring allows for improvement in terms of coverage of monitored agents and its frequency.

274. Not much work was done in solid waste management and cleaner technology (hair saving system at the Nakuru tannery). Very low consumption of water makes it possible to postpone application of cleaner production methods and implement them only after the ETP. However, due to high cost of chemicals, recycling and cleaner technologies have a potential for application in the Eastern and Southern African countries.

#### 6.3.5 *Gender Development Component*

275. A number of activities have been undertaken which at the same time aimed at the production of some of the outputs:

- \* awareness-raising seminars in each country and a regional seminar on the basis of which guidelines and recommendations on gender issues were prepared;
- \* training courses, fellowships and study tours to enhance the managerial skills of selected women employed in the sector; more than 150 women were trained;
- \* direct support to approximately 10 women entrepreneurs (equipment, expert advice, participation at fairs).

Apart from above, the Programme also promoted women to high-level positions in the institutions supported by the Programme.

#### 6.3.6 *Institution Development Component*

276. The Programme strengthened the following sectoral institutions: Leather Development Centre (LDC/KIRDI), Nairobi, Leather Institute of Zimbabwe (LIZ), Bulawayo, the National Leather Technology Center (NLTC) in Khartoum and the Training and Production Centre for the Shoe Industry (TPCSI) in Thika, Kenya. Most of the institution-building support was directed at TPCSI. In addition, the Programme supported the COMESA LLPI in conducting two training courses in tanning methods, principles of clean technology and effluent treatment.

277. LDC was assisted primarily during the first phase of the project; the support during the second phase was modest. Today LDC has 21 staff and very good tannery equipment and a small leather goods workshop. In order to improve its financial situation, the Centre provides some production services to industry. Training and product development activities have been rather limited.

278. TPCSI started its operations in June 1994. It has 5 professional staff. As a private sector institution, the Centre is supervised by a Board of Trustees chaired by the Chairman of the Kenya Tanners Association (KTA). Institution-building assistance to TPCSI in Thika was very successful and made it a viable institution capable of providing services to the footwear industry, and to some extent to the leather goods. The newly-trained professional staff of the Centre is capable of conducting training courses for trainees from the region.



279. The border-crossing training and other activities have so far been limited to a few institutions (primarily TPCSI, to a certain extent LIZ Bulawayo; the regional workshops organized by LLPI were conducted by external staff). Thus the need for coordination has not appeared strongly. However, gradual strengthening of the institutions will establish conditions for meaningful coordination.

280. The capability of the institutes to provide advisory services was not yet sufficiently developed to be fully recognized and extensively used by the industry.

#### 6.3.7 *Marketing Development Component*

281. All outputs were produced, some of them in cooperation with the International Trade Centre (ITC). Approximately 10 companies were able to prepare export collections. The same companies participated, some of them repeatedly, at trade fairs in Germany and Italy.

282. Participation at fairs changed the perception of business and upgraded performance of most companies attending the fairs, even if they did not succeed in immediate exports. They learned a lot about the life-styles, related fashion phenomena, quality and timeliness and other requirements of the market. They also sensed the opportunities which motivated them to develop.

283. Some consultants (outside the Programme) recommend that shoe manufacturing in Africa confine itself to local and regional markets. The evaluation mission believes that access of the African shoe and leather goods industry to advanced export markets is important. First, foreign competition in the domestic market does not represent the whole variety of trends and it need not reflect the emerging trends. Second, a company is not only competitive on the basis of its products but also of its knowledge of export business practices.

### 6.4 **Impact**

284. Impact of industry associations (apart from their involvement in the Programme Management) on the pursuing of industry interests and formulation of Government policies is still marginal. (Qualified efforts were made in particular by the associations in Uganda and Kenya.) Associations will need more time to be fully recognized as partners in policy formulation.

285. Impact on the quantity and quality of collected hides and skins in the countries visited is rather modest and varies. Only in one case (Jinja target area in Uganda) it was possible for the tannery procuring the hides and skins to confirm that the hides and skins from the target area were of distinctly better quality. This is primarily due to reduced putrefaction of hides in the target area which is the result of reduction of ground drying. It is assumed that the project contributed significantly to this development.

286. The above impact was achieved probably thanks to extension services rather than construction of slaughtering slabs and drying sheds. The latter brings about limited results in terms of increased collection and improved quality of hides since the affected areas cover only small sections of the country. On the other hand, through testing and comparing various alternatives, the local professionals have acquired good knowledge about the design and construction requirements so that replication of such structures can be handled by the countries themselves. There were some cases of decisions by regional authorities to allocate their budget funds for construction of additional slaughter slabs and sheds, which were attributed to the demonstration effect of the Programme.

287. The evaluation collected enough evidence that both the extension services and the demonstration effect of slabs and sheds can play only a supporting role in the hides and skins improvement. The key factor influencing the quantity of the collected hides and skins is their price level. The key factor influencing the quality of hides is the level of centralized slaughtering and pricing of the hides by grades. The Programme (including ESALIA) can play a significant role in this field by acting as a catalyst in the search for policy solutions rather than by providing budgetary support to construction of slabs and sheds.

288. The impact of the project support to tanneries rehabilitation is manifested by the increased production of crust and finished leather. In the case of Sagana, the capacity was increased from 50,000sq.ft. per month to 120,000sq.ft. per month plus 20,000sq.ft. of specialty leathers. In the case of the Awash Tannery, the domestic sales increased from 17.9 to 30.04 million Br (+68%) between 1994 and 1996. Export sales also increased from US\$10.87 to US\$15.72 million (+45%) over the same period. Project support under Phase 1 contributed considerably to this increase in sales.

289. Quality of the leather also improved. In the case of Sagana, it is primarily the local shoe manufacturers who benefit from the availability of finished leather (primarily Jua Kali) but the tannery is also delivering Sana Shoes Ltd. which produces export articles. In the case of the Awash Tannery, the above specified increase in sales and exports has significant sectoral dimensions, both in terms of availability of finished leather for local producers and export earnings.

290. As leather finishing is more labour intensive than wet-blue tanning, the project support had also some impact on job generation (a few dozens of jobs at Sagana, more than 100 at Awash). Manpower and skillfulness of workers need to be higher in post tanning sections and in finishing and women are more frequently employed in these processes.

291. In the case of Gomba, 15,000 pieces of good quality crusted fish skins were produced but no commercial sales materialized. Future impact would be higher if the skins could be used in local production of final products, as originally planned or looking for export markets such as Italy.

292. In shoe manufacturing, a number of companies progressed from craftsmanship to industrial production and upgraded the volume of production, quality of products and productivity. Some of them increased their sales and extended their production area. Some could serve as model shoe manufacturing plants but the demonstration function was not supported by any special project activities so that the demonstration impact was minimal. Similarly, the leather goods plants upgraded by the Programme did not function as demonstration plants, as envisaged by the project document.

293. The impact of the ETPs supported by the Programme can be assessed under the assumption that gradually all of them will be put into operation. Taking into account the capacities of the tanneries and the basic design of the treatment, the total eliminated pollution will be as follows: COD = 15,860 kg/day, BOD<sub>5</sub> = 6,030 kg/day, SS = 15,570 kg/day, N (total) = 976 kg/day, Cr = 565 kg/day, S<sup>-</sup> = 811 kg/day. This is a significant elimination of effluent, comparable to elimination of effluent by a central ETP for a city of 160,000 inhabitants in Europe with an ETP having equipment to the value of US\$ 3 million. In a number of supported tanneries, the elimination of effluent takes place in environmentally sensitive areas (Nakuru Lake, Victoria Lake) which further increases the impact.

294. The impact of the Gender Development Component is easily discernible as far as the female target beneficiaries (entrepreneurs), directly supported by the project, are concerned. The economic position of their companies improved and their social standing was upgraded. Women promoted to high-level positions are performing well. Wider impact of the awareness raising campaigns on the employment and status of women in the sector is difficult to discern. The target of 150 new employment opportunities for women was not fully achieved, it turned out to be rather ambitious.

295. From the visited institutions supported by the Programme, the most significant impact was achieved by TPCSI. The main impact is on human resource development in the shoe manufacturing sector. Impact of the other institutions is less evident. Most of the training in leather finishing and effluent treatment was provided directly by the Programme.

296. In the LDC, product development activities were rather limited, only the development work on fish skin brought some results. However, troubleshooting services helped industrial companies to overcome short-term bottlenecks in their production.

297. For a number of companies, the path to export market has been extraordinarily shortened. The total value of shoe exports promoted by the Programme amounted to almost US\$600,000.

## 6.5 Synergy of components

298. Impact (changes) in one development area (sector, sub-sector) always has repercussions in the related sectors/sub-sectors. In a number of cases, the synergy effect was confirmed by the evaluation. It was very transparent in case of the Institution Development Component: impact of the support to regional institutions, (in particular to TPCSI) supported and strengthened the effectiveness of the Programme activities in the Private Industry Development (leather products manufacturing), Gender Development and Marketing Development Components. There was also clear synergy in the support to the shoe and leather goods manufacturing companies in upgrading their performance and export marketing. There were also cases of synergy between Programme support to tanneries in introducing/improving finished leather and Programme support to leather products manufacturers procuring finished leather from these tanneries.

299. On the other hand, only limited synergy could be identified between the Programme support to target areas in hides and skins improvement and the support to tanneries. (As reported elsewhere, only in one case it was possible to confirm that support to hides and skins improvement was beneficial for a tannery supported by the Programme.) However, the inter-sectoral impact of the Programme has broader repercussions, going beyond the target beneficiaries of the Programme.

## 6.6 Sustainability

300. None of the training institutes supported by the Programme and visited by the mission reached a level of income generation which would recover all production costs by income from sales (of services). Because investment in human capital is in the interest of the national economy, it is not only legitimate but desirable that such activities are subsidized, provided there is demand for such services and the institution has the key elements to maintain and further upgrade the developed capabilities.

301. Very close to financial sustainability is the TPCSI in Thika, Kenya which has managed to fully recover its operating costs but not the production costs. TPCSI meets fully the above criteria for a subsidy: there is an effective demand for its services, the companies are ready to pay a fee for each participant, and the Centre has managed to keep competent staff and to continuously adjust, expand and improve its activities.

302. The capabilities developed at the Leather Development Centre during Phase 1 could not be upgraded or even maintained at the same level due to some turnover of staff and lack of motivation. The Centre suffered from lack of legal and management autonomy.

303. The other institutes visited by the mission but not supported by the Programme (PIC, LLPI) lack the characteristics of dynamism demonstrated by TPCSI. With sufficient support PIC can, however, be upgraded and converted into a sustainable institution. LLPI is a special case, its sustainability will depend primarily on the financial support by the COMESA member countries. Tanzania Institute of Leather Technology (TILT), Mwanza, completed in 1984, has never started its operations.

304. Sustainability of the developed capabilities in industrial companies has been good. There was, however, some difference among industrial enterprises which was related to the size and level of performance of the companies. It was quite typical that for larger and well-performing companies (and, in particular, for companies with advanced division of labour) it was easier to maintain or upgrade the developed capabilities than for very small workshops.

## 7. RECOMMENDATIONS

The recommendations are directed at the UNIDO Project Manager, the CTA and ESALIA, and national leather associations.

### 7.1 Programme coverage and structure

305. It is recommended that the Programme be continued and any available sources of finance should be used to fund it.

306. Programme coverage and structure should be adjusted as follows:

- The Programme Management Component: Programme Management structures at the country and regional levels having been established, there is no need to have a separate component for this purpose.
- The Hides and Skins Component: downplay involvement of UNIDO projects in the construction of infrastructure (slaughtering slabs and sheds) and provision of means of transportation to extension officers and gradually pass on the management and funding of such activities to national associations and their RFO. Extend advisory and training support to policy bodies and extension services to make the pricing and procurement system more effective.
- The Private Industry Development Component: split the component into two: Tanneries Development Component and Leather Products Development Component and introduce cluster development in the latter one.
- The Environment Protection Component: include cleaner production and basic solid waste management.
- The Gender Development Component: the basic analytical and methodological work having been completed, it is recommended to apply mainstreaming and integrate the gender issues in other components.
- The Institution Development Component: increase importance (budget share) of this component in order to reinforce efforts to strengthen the local institutions in their capabilities to provide training, testing, product development and advisory services.
- The Marketing Development Component: extend the component into Industrial Cooperation Component and introduce more explicitly support to investment promotion and subcontracting.
- Introduce new problem areas to be supported by the Programme:
  - \* sector-related policies and strategies, including access to credits;
  - \* auxiliaries, components, chemicals.

307. While the Programme support should continue to be targeted at SMEs, requests of large or well-established companies for cooperation, for example in facilitating access to advanced technologies in leather finishing, to chemicals or to foreign investment, should also be considered. However, such a cooperation should be conducted on cost recovery principles.

308. In order to address a number of problems in an integrated manner, the Programme should recommend to the Governments, UNIDO or other bodies what other programmes and projects should be implemented as a means of strengthening other institutions operating in related fields (environment protection, management training, standards and quality management, export promotion, investment promotion etc.).

## **7.2 Programme Management recommendations**

309. The Programme Management should consider charging fees at local consultancy price levels to some companies for services of international experts. The fees should be paid to the RFO. Guidelines for selection of such companies should be elaborated with the leather associations.

310. National experts recruited under the Programme should be more involved in professional/technical advisory services. Their involvement in professional work should include close cooperation and joint work with international experts.

311. Training in the classroom should be complemented by on-the-job training at the working place, particularly in the case of leather products manufacturing. The Programme Management should take steps to apply this principle as much as possible.

312. The Programme should consider introducing for different training events targets for participation of women.

313. The selection of equipment must be done in consultation with the target beneficiary and with due consideration of its technical, infrastructural and manpower conditions and qualifications. UNIDO procurement system should make such a selection of equipment involving consultation of the target beneficiary possible. The Programme Management should initiate a review of the procurement system in order to meet the above requirement.

314. Provision of equipment under the Revolving Fund mechanism should be subject to prudent analysis, not only of technical requirements and needs of the company, but also of its economic and financial capability to pay back the installments. The current system of commitments in writing by the target beneficiaries to pay back the value of equipment as a pre-requisite for ordering the equipment by UNIDO should be maintained.

315. As regards changes in Government policies of some countries on duty free import of equipment for UNDP/UNIDO projects, the following position is recommended:

- the prerogative of the Government to decide on the import tax policy is recognized and should be reflected in the future project documents and implemented accordingly;
- for the deliveries under the currently valid project documents, the terms envisaged in those documents should be adhered to.

An intervention by UNIDO Headquarters at the Government-level in Ethiopia should be attempted to speed up the clearance of equipment held up by customs authorities.

316. Governments should continue to be a partner in formulation and pursuance of Programme objectives. The Programme Management should consult Government bodies in the course of project preparation and seek their cooperation and support in implementation of relevant policy and infrastructure-related activities.

317. Future project documents need to be improved at least in the following aspects:

- pilot/demonstration function should be ensured by adequate activities (leaflets, presentations, etc.);
- responsibilities of the development partners should be spelled out explicitly either as assumptions or activities.

318. Cooperation with other substantive units of UNIDO (such as ISED/ENV, ITPD/IS) in providing technical support to the Programme should be established/strengthened and involvement of other professionals in providing such a support to the Programme should be more visible particularly for project staff and target beneficiaries in the field.

319. Contacts with FAO and ITC should be maintained and duplication of efforts targeted at the same development partners and target beneficiaries avoided.

320. Monitoring of follow-up of selected activities by institutions or national experts should be introduced in order to learn about the results of such activities (for example training of women).

### **7.3 Component specific recommendations**

#### *7.3.1 Associations/Policy Reviews*

321. National associations should deal more intensely with policy, such as import duties, taxes, ban on export of raw hides and skins, hides and skins procurement system, human resource development, availability of inputs, infrastructure, etc., and formulate proposals for corrective measures. (Analysis of import of second-hand shoes by the leather association of Uganda is a good example of such activities.)

322. The regular meetings of ESALIA should be used as a platform to discuss in-depth specific issues of common interest and articulate a common position to be pursued and promoted through diverse mechanisms at national and regional levels (lobbying, media, etc.). If requested, the Programme should provide support to such deliberations.

323. The country and regional development strategies and policies for the leather industry should be updated. ESALIA should initiate this process. Industry associations, Governments, regional bodies such as COMESA and other concerned parties should take part in it and the Programme should offer advisory services.

#### *7.3.2 Revolving Fund Operations (RFO)*

324. Change of the name of the Fund from "Revolving" to "Repayment" should be considered.

325. Future terms of providing equipment to individual industrial companies through the RFO should be redefined along the following principles:

- the equipment should be categorized, depending on the purpose which it should serve, into equipment serving commercial (profit making) and non-commercial (environmental, or social) objectives;
- equipment serving non-commercial objectives may be provided on terms implying a subsidy (waiver of interest, foreign exchange risk, longer repayment period, etc.); in cases of public interest, the terms may allow for a grant component;
- equipment serving commercial purposes (production equipment) should be provided on terms equal or close to commercial terms.

In case of production equipment, the RFO mechanism should be used to support exclusively SMEs.

326. Financial discipline needs to be improved. In case of non-payment for a longer period of time, the management of the Fund should consider relocation of the equipment to another beneficiary who is ready to comply with the conditions of the RFO. On the other hand, a grace period of several months should be granted.

327. A standard form on the status of repayment to RFO should be designed by the Programme Management and periodic reporting by RFO management introduced and monitored. Tables 9a, 9b and 9c of this report could be used as a prototype.

#### *7.3.3 Hides and skins*

328. As mentioned above, UNIDO projects should downplay involvement in the construction of slaughtering slabs and sheds (handing over management and funding of such activities to RFO) and should focus on advisory and training support to policy bodies and extension services to make the pricing and procurement system more effective.

329. Support to the Hides and Skins Component should be guided by the following principles and objectives:

- Training, extension services and construction/rehabilitation of facilities should concentrate on elimination of ground drying;
- Mass media (primarily radio) should be used in the awareness raising campaign and for the dissemination of price information;
- The awareness-raising campaign and the price and procurement system should encourage the use of the drying sheds by farmers slaughtering in the backyard;
- Syllabi of training workshops and awareness-raising campaigns should encompass environmental principles of treatment and storage of hides and skins, including the application of chemicals;
- Women should be encouraged to take jobs in the hides and skins handling activities and to participate in related training events;
- It is correct that knives and other tools are not distributed free to the butchers. However, when procuring the knives and other tools which should be sold, it is important that the products be selected with due consideration of the willingness of the target beneficiaries to pay the price. Cheaper products seem to be preferred.

330. When completing the on-going projects, the Programme Management should focus on the completion of the delayed activities so that the delivered inputs can be used by the target beneficiaries (installation of hoists in the completed slaughtering slabs, distribution of the knives and tools).

#### 7.3.4 *Tanneries*

331. The Programme should aim at improved maintenance of tannery machinery by combination of seminars and consultants organizing the job in some specific companies to serve as models.

332. On-the-job training in leather finishing should be organized in order to improve quality of finished leather produced with African hides and skins, taking into account the wet-blue or the crust already available.

333. Occupational health and safety knowledge should be improved in tanneries to decrease risks due to unprotected machinery and harmful chemicals used in leather production. The Programme should include these issues in training programmes and job descriptions of tannery consultants.

334. The Programme should train the tanners in basic methods of quality improvement and consider how to provide them with facilities to operate basic controls to test the leather. This could be possible in a centralized laboratory, but the response is faster when tanners have their own basic testing facilities.

335. Due to the high concentration of chromium in sludge when tanners are not using cleaner technologies (high chromium exhaustion, chromium recycling or reuse), safe disposal of tannery sludges is to be organized. If chromium separation is obtained, some tests could be run with sludge for growing trees, for example.

336. Some common workshops, associating shoemakers and tanners, should be organized to support better understanding of the business partners and establish good commercial relationship between the two types of companies.

337. Associations should approach the Governments in order to harmonize the value added tax on leather in the region.

### 7.3.5 *Environment*

338. The Programme should propagate the practice of containing salting and maintaining the prevailing practice of preservation of hides and skins by drying. This should be followed particularly by tanneries which are situated far from the ocean. This is the only economical way to avoid salt pollution.

339. The Programme should organize a visit by an expert to each existing tannery in order to identify main measures to be taken to improve environmental protection. Such measures should ensure that each ETP is equipped with a control laboratory checking, as a minimum, regularly some basic parameters such as pH, COD, settleability and chromium. A recording system should be organized to prove the efficiency and sustainability of the treatment.

340. It is recommended to train tanners and to demonstrate some basic methods for cleaner technologies, at the beginning particularly those technologies which bring savings in chemicals used for leather fabrication.

341. The Programme should demonstrate some basic solutions for solid waste disposal or its recovery, to prevent misuses or unsafe disposal of solid waste and residual sludge. In this context, tanners should be trained on the various potential solutions to obtain solid waste earlier in the process, in order to have higher possibilities for recovery.

342. The Programme should conduct an assessment of the current role of rural tanning and possibilities to address its environmental effects.

### 7.3.6 *Gender development*

Gender mainstreaming approach should be strengthened through application of gender assessment and impact analysis in the implementation of Programme components and establishment of appropriate indicators, wherever applicable.

### 7.3.7 *Leather products industry*

343. The Programme should focus on improving the appearance of leather, shoes and leather goods by continuously introducing new finishing methods. For this purpose, the Programme should invite world class shoe and leather finishing chemical firms to demonstrate their products and methods.

344. The Programme should analyze the possibilities of cluster development and, if affirmative, provide support to cluster development with due regard to the following principles/objectives:

- for micro enterprise development, speed up learning of modern techniques creating "distributed facility centers", in which one provides production equipment to enterprises in such a way that the machine in a factory is serving the other producers in the same local cluster;
- to ensure quality, make quality control training, information and material testing service available in the clusters;
- make fashion information and product design/pattern engineering services available in the clusters;
- for synergy, assist enterprises to work together in marketing, product development and procurement;
- work also with entrepreneurs in smaller towns and in villages near larger cities to avoid cluster development in big cities alone.

345. When selecting companies for direct support and when working with the companies, preference should be given to companies demonstrating capability to develop and utilize opportunities. Provision of free services should be phased out once the company achieves sustainable growth.



346. The Programme should include issues of occupational health and safety in training and advisory activities.

347. The Programme should design and implement support to development of the components and tools industry to make primarily the following materials and components available:

- good quality bottoming components such as soles;
- leather products finishing chemicals and knowledge;
- leather goods fittings.

348. Footwear manufacturers should be discouraged to establish their own new tanneries if there is sufficient tanning capacity in the country. Instead, the footwear manufacturers should aim at establishing closer industrial cooperation with a tannery, including equity participation, in order to improve and obtain good quality leather.

#### 7.3.8 *Marketing*

349. As mentioned under 7.1, the Programme should extend the activities to include support to all forms of industrial cooperation including investment promotion and subcontracting.

350. In order to increase effectiveness of product development, the Programme should train talented persons with design education in basics of the shoe or leather goods marketing, production and pre-production engineering.

351. The Programme should contribute to marketing the countries as opportunity locations for production and subcontracting of leather industry-related products.

#### 7.3.9 *Institutions*

352. As mentioned under 7.1, the Programme support to institution-building should continue and even be enhanced by making it more comprehensive and including capabilities which have not been sufficiently supported and which turned out to be serious bottlenecks in the development cooperation, in particular, management and entrepreneurship development. However, having in mind the experience of TILT, the Programme support to institutions should be provided preferably under the following pre-requisites:

- secured funding of the operations of the institution either from the Government budget and/or through income generated by the sales of services;
- autonomous position making it possible to apply salary scales and motivational systems not tied to the salary levels of the Government civil service;
- significant participation of the industry representatives in the Governing Board of the institution;
- availability of staff with minimum qualifications required to provide the planned services.

353. The training capabilities to be developed/strengthened should include management training; for this purpose, contacts with management training institutes at the country and regional (ESAMI) levels should be established and customized training courses for different sub-sectors of the leather sector developed.

354. The future support to institution-building should also include support to testing services, quality management and common facilities, such as eyeletting and splitting. Such common facilities may be established to serve a cluster of industrial companies. In such cases, the facility might even be established at the premises of one of the companies (see also 7.3.6).

355. The Programme should undertake a study of the needs for knowledge/skills improvement in industry and of the training/consultancy/facility service capabilities with a view to:

- improve the variety, quality and local/regional availability of training/consultancy services;
- make the services more flexible and responsive to the changing industry needs;
- enable study credit accumulation and its transfer among the institutes;
- propose possible cooperation among the institutes in the region.

356. As a principle, the capabilities should be strengthened gradually, with the possibility to market the services in a broader region once a certain level of excellence is achieved and recognized by the clients. The process may be managed as follows:

- by adding new modules, one can gradually build training and consultancy services (syllabi, curricula, systems) for various needs. Each new module can be developed in one institute with the assistance of the Programme and, when needed, made available with necessary training to other institutes;
- gradually, when there will be sufficient demand, some institutes could start longer, focussed courses to technologists, entrepreneurs etc. by attaching modules to each other. Finally, some institutes of the region will be capable to start certificate and diploma courses.

357. In order to support the recommendation on combination of classroom and on-the-job training (see 7.2), TPCSI should train job trainers from larger enterprises so that these companies can introduce the same effective operative training methods.

358. Capabilities of the institutions to provide consultancy services should be strengthened, *inter alia*, by participation of the staff of the institutes at the work of international consultants in the factories.

359. Capabilities of TPCSI should be extended to cover complete shoe production; for this purpose footwear lasting-finishing machinery should be provided to the Centre.

360. LDC should focus on training, products development, consulting and advisory services, promotion of cleaner technology and testing (including leather area controls) and reduce in parallel the troubleshooting services for industry. Some training courses could be organized in cooperation with AHITI. The Programme should intervene in favour of an autonomous status of the Centre and, at the same time, support the above process by encouraging industry to make use of its services.

361. The proposal made by an expert in Uganda to establish and operate a small training and facility centre to train entrepreneurs and operators and provide production services in certain operations should be supported and implemented by the Programme. However, terms of ownership, management and operating it need to be specified before its establishment.

#### 7.4 Recommendations on selected policy issues

The Programme should promote adoption of the following policy recommendations:

- 362. - Standards and limits for industrial effluent should be established by the Government authorities at levels achievable by industry and taking in account savings in water used for leather fabrication. 90 to 95% elimination for SS and BOD<sub>5</sub>, 85 to 90% for COD are considered as reasonable objectives.
- 363. - In order to prevent market distortion the authorities should enforce compliance with environmental regulations by each tannery. To be able to do that, the environmental authorities need to be strengthened.
- 364. - As human resource development is an important socio-economic objective, investment in human capital is in the interest of the national economy and training services can hardly be profitable to be provided on a commercial basis. It is not only legitimate but also desirable that such activities are subsidized, provided the training institution has the capability to sustain and upgrade its capability to provide services for which there is demand.

365. - The tariff and tax structures should:
- a) not discriminate domestic production against imports of finished products (by higher tariffs on imports of raw materials needed for domestic production);
  - b) be harmonized among the countries of the region.

The tax structure may include subsidy to support achievement of social objectives (such as employment of handicapped people).

366. Various policy measures (taxes) and services (banking, telecommunications, post, power supply, etc.) should support development of industrial clusters.

### **7.5 Recommendations related to individual partners/target beneficiaries**

367. Annex 2 contains specific recommendations almost for each visited company, institute and target area. The Programme Management and the national association should consider implementation of these recommendations when providing further support to these target beneficiaries.

368. One specific recommendation related to TILT needs to be singled out. As it is highly improbable that the institute would be revived, it is strongly recommended that:

- some equipment from the shoe manufacturing workshop be used for a small training centre or used for trials in a pilot scale workshop;
- the remaining equipment be sold out to tanneries and shoe and leather goods manufacturers.

The decision should be taken as soon as possible in order to stop the continuous deterioration and loss of value of the equipment. The Programme Management should contact the Government to address the problem.

## 8. LESSONS LEARNED

### 369. Factors of success:

- involvement of leather associations in the management of the Programme which supported their feeling of "ownership" of the Programme; this manifested itself particularly strongly in the case of TPCSI;
- a repayment fund (RFO) making it possible to provide direct support to private industry;
- application of fees for training services, even though not on cost-recovery basis; freely given assistance may lead to non-commitment;
- a stable core of trusted international consultants, the competence of whom has been verified in the long-lasting contacts with the UNIDO Leather Unit;
- dedicated Programme Management with well-established contacts to donors, supported by the CTA and national experts which allowed for good monitoring of the Programme and a capacity to intervene at activity level.

370. **Replicability of the Programme:** the general advantage of achieving synergy effects makes the Programme approach applicable to leather sector also in other regions of Africa, provided sufficient funds can be mobilized. However, the coverage of the Programme and structure of its components would have to depend on the specific problems and needs of the countries concerned. The success of replicating a similar programme in other countries would depend on the existence of some of the above-mentioned success factors, in particular, on the existence or possibility of establishing leather industry associations.

371. **Direct support to private industry:** while the use of equipment provided by the project is generally satisfactory (it concurs with the commercial interests of the company), it is not a sufficient guarantee that in all cases the project inputs are actually used; the beneficiaries in the private industry should also be subject to monitoring of their use of project inputs with the possibility taking corrective measures.

372. **Government support:** ownership of the Programme and management of RFO by industry associations require an explicit agreement of the Government authorities; contacts with Government bodies need to be maintained in order to ensure their continuous support to the arrangement, implementation of policy measures, etc. The key partners on the Government side are not only the Ministries of Industry and Trade, but also other ministries involved in the formulation of policies affecting the sector, regional authorities (such as COMESA), etc.

373. **Relation of input elements:** equipment should be part of a balanced package of services, including advice on the organization of the processes in which the equipment is to be used, and training. The selection of equipment must be done in consultation with the target beneficiaries and with due consideration of its technical, infrastructural and manpower conditions and qualifications.

374. **Programme approach:** the Programme consisting of a set of projects supporting different development partners and target beneficiaries in different sub-sectors, has the advantage of achieving synergy effects among the partners and target beneficiaries supported by the Programme. The scope of the synergy effects depends on the existence of business linkages among the Programme partners and target beneficiaries. The larger the Programme budget, the higher the number of beneficiaries and, thus, probability of vertical integration and business linkages among them. On the other hand, the scope of the synergy effects can be influenced by the Programme Management through selection of target beneficiaries with established input-output linkages.

375. **Direct support and institution building:** as a rule, direct support to industrial companies brings about visible impact within a short term. Building up local capability to provide such a support to industrial companies takes much longer and is usually less successful. In spite of that, this should be the ultimate goal of development cooperation, that is to say, that the technical support can be provided by local expertise and the external support in that particular field becomes redundant.

376. **Demonstration function:** a pilot plant hardly functions as a model for others unless the demonstration function is supported by specific activities. Sometimes, instead of building a new pilot plant/structure, an existing plant may perform the same function if such specific activities are implemented (leaflets, presentations, etc.).

377. **Flexibility in project documentation:** given the complexity of the Programme, it is not possible to plan all details of the Programme at the time of Programme formulation. The principal Programme document needs to specify the purpose and categories of outputs under each Programme component; target indicators at purpose and output levels can be elaborated only at the time when a specific project document is prepared. This should preferably be done when financing is tentatively secured.

Annex 1 – not attached

## COMPANIES, INSTITUTIONS AND PROJECT SITES VISITED

### A. SUPPORTED BY THE PROGRAMME

#### K E N Y A

#### SAGANA TANNERIES Ltd

##### 1. Background information

The tannery processes 20 tons of dried hides and 20 tons of salted hides monthly, giving a total input of 60 tons equivalent wet weight. The bovine hides are collected from 500 butchers in the region.

Employment: 100 persons (50 permanent, 25 short-term contracts and 25 occasional employees); 10 women (secretariat, finishing and ETP). Market: finished leather sold to local market (mainly Jua Kali)- approximately 90% of income. Wet-blue exported.

##### 2. Project support

###### 2.1 Inputs delivered

UNIDO provided considerable support to the tannery during the first phase: equipment to the value of US\$492,000 (6 liming and tanning drums, 3 fleshing machines, 1 splitting machine, 1 continuous chrome sammying machine, 1 vegetable sammying machine) and technical expertise.

In the second phase a new embossing press (value US\$66,500) was delivered. All the above equipment is rigorously paid back to the RFO. (At the same time the company purchased some equipment for finishing: a shaving machine, a staking machine and a roller coating machine for a total value of US\$75,000).

Two persons were trained in Nairobi (one week), one finishing technologist was trained in India and in Holland. The ETP technologist was trained in Ethiopia.

UNIDO also provided support in improving the treatment plant. A consultant studied and designed the biological phase of the treatment plant according to the results obtained in the first phase. The equipment has not yet been delivered to the tannery and civil works will start soon, as only earth works were completed. A control laboratory, to be equipped by the project, will also be installed.

The selection of equipment was adequate and the delivery was on time. The competence of the consultants was appreciated both in case of the finishing process and the biological waste water treatment.

###### 2.2 Use of the inputs

All the trained staff is still employed in the tannery. All the equipment is in use. The existing treatment plant is operational and is being maintained in good condition, and purification levels are good. However, the solid waste management could be improved, mainly for chrome sludge and for shavings and finished trimmings.

When visiting the tannery, a certain lack of organization and maintenance can be noted. Raw hides storage in the workshop hinders proper maintenance. Instead, the old drying shed could be used for storage.

### 2.3 *Impact*

The finishing equipment delivered to the tannery gives the possibility for the tannery to supply the local market with finished leather. Instead of a finishing capacity of 50,000sq.ft. per month, the tannery has the possibility to produce 120,000sq.ft. per month plus 20,000sq.ft. of specialty leathers.

According to the statement of the Chairman, without the UNIDO project, the tannery would not have survived. Firstly, the environmental regulations are now being complied with so that nobody can come and close the tannery for this reason. Secondly, the equipment installed in 1975 was outdated and had to be replaced after 15 years of service. Nobody was ready to lend equipment before UNIDO assistance to the tannery. (It seems, however, that the pay-back time for the equipment delivered under the RFO is too long; standard term should be less than five years.)

When completed, the treatment plant will result in an overall pollution elimination of 90% - 95% (COD=1300kg/day and suspended solid=800/day). At the time of the evaluation mission, the treatment plant was underloaded due to the low level of activities in tanneries during the last two months.

The treatment plant should also serve as a model treatment plant. The book of visitors records more than 200 entries, including Bata, Coca Cola Bottles and some industries in the region; the majority of visitors are school children and students.

## 3. **Recommendations**

Improve the maintenance of equipment and the storage of raw materials. Improve the management of solid waste, either with some recovery or with measures to ensure safe deposit of the solid waste. Arrange for on-the-job training of workers, who will operate the roll coating machine, in the finishing department.

### **NAKURU TANNERS Ltd.**

#### **1. Background information**

The tannery was established during the 1960s, with a capacity of 4,000 skins a day (and 150m<sup>3</sup> effluent per day.) At present, 4,000 skins are processed from raw to wet blue. Seventy persons (55 permanent) are employed in the factory. The wet-blue sheep and goat skins are exported to Italy, Pakistan, India and Japan. At the time of the visit, the prices and trade in wet-blue were very low and the storage was full. The company also buys hides and sells them to Nairobi for further export to Pakistan.

A new tannery with a capacity of 6,000 skins per day (200-220m<sup>3</sup> effluent) to produce wet-blue is adjacent to the old one. However, the new tannery is not yet in operation because of the delayed connection to the electricity grid caused by the utility. Once the new tannery is put into operation, the old premises will be transformed to be used as post tanning sections to produce crust and finished leather.

In Kenya, there are 6-7 million skins annually and 1,4 million hides, of which 0.5 million are processed. The quality of skins is considered as satisfactory: I, II and III grades 70%, IV grade 26% and rejects 4%. However, wet-blue is graded as follows I, II and III grades 30%, IV grade 40% and V grade 30% (VI grade and rejects are for the local market only).

Storage of chemicals is not properly managed: Na<sub>2</sub>S is stored close to sulphuric acid with a high risk of H<sub>2</sub>S generation.

## 2. Project support

### 2.1 *Inputs delivered*

Under the project TF/KEN/92/F10, the total expenditure was US\$396,559. A total amount of US\$138,135 of equipment was delivered and installed, with the civil works built by the tannery. The original budget for equipment (US\$124,750) was increased to provide some spare parts and an additional generating set to improve the reliability of the Effluent Treatment Plant (ETP). The inputs also included equipment for hair removal (already installed in the new tannery) which will reduce the volume of waste to be treated by the effluent treatment plant. This is, in fact, the most visible demonstration of cleaner technology applied at present in the tanneries visited. (Recycling of chromium is planned in the Awash Tannery in Ethiopia.)

The selection of equipment was appropriate.

### 2.2 *Use of the inputs*

The Effluent Treatment Plant (ETP) is in operation since June 1996. At the time of the visit, the treatment plant was treating effluent coming from the old tannery.

The treatment plant is organized to process 200m<sup>3</sup> of waste water per day. It has manual and fine mechanical screening, a mixing tank equipped with air distribution (490m<sup>3</sup>/hour, 9kW blower with one spare equipment) and primary settling after chemical addition. Sludge is sent to sand drying beds. Chrome floats are separated, precipitated and dried. A kind of charcoal filter (procured by the company itself) connected to the outlet of the settling tank, is used to improve the efficiency of the ETP. However, the filter installed is maladjusted to the prevailing conditions: due to high level of suspended solids it cannot work properly.

The space for sludge drying is limited. It was observed that a lot of fleshing are drained into the sewer needing frequent cleaning of the manual screening. Five hundred kgs of raw skins waste, 10m<sup>3</sup> of fleshing and 500kg of wet-blue trimmings are dumped with chrome and ETP sludge.

Laboratory equipment was installed and was operational. However, only pH and settleable solids are checked and registered. Additionally at least COD and Cr should be analyzed.

One trainee in waste water treatment (at LIRI, South Africa) is in charge of the ETP. The other trainee was recruited from the municipality.

### 2.3 *Impact*

The location of the tannery close to the Nakuru Lake Park (flamingos) is extremely sensitive, therefore, the selection of this tannery for project support was very appropriate.

The efficiency of the ETP seems good, but it could be improved. Some analyses of waste water discharged after treatment performed by the Nakuru Lake water quality testing laboratory (Mr. Andrew Kulecho) give the following results :

pH	= 8
COD	= 5500mg/l
BOD <sub>5</sub>	= 2628mg/l
SS	= 762mg/l
NH <sub>4</sub> <sup>+</sup>	= 226mg/l
TKN	= 1150mg/l
Cr tot	= 5.23mg/l



Normal standards in Kenya for effluent going into a public sewer are the following :

$$\text{BOD}_5 = 450\text{mg/l}, \text{SS} = 300\text{mg/l}, \text{NH}_3 = 100.$$

When the new tannery is operating, the discharge volume will be between 200-220m<sup>3</sup> per day. Due to hair removal, the raw pollution will be reduced. It is estimated that the total pollution removed will be 1300kg COD, 420kg BOD<sub>5</sub>, 1440kg suspended solid, 77kg nitrogen total, 57kg chromium and 42kg sulphide.

This ETP, in combination with the hair removal that will operate in the new factory, represents a very good example of tannery effluent treatment close to a very sensitive zone such as the Nakuru Lake Park. It needs, however, to be completed by biological treatment.

### **3. Recommendations**

The solid waste management should be improved. The Programme should provide support to the tannery in this area.

Some additional advisory services (2-3 weeks) in laboratory controls and on improved efficiency of the ETP should be considered by the Programme.

As there is no space available on the tannery site, the biological treatment plant should be designed and constructed by the municipality as a common treatment plant capable of treating industrial effluent from other industries in the Nakuru area.

It is difficult to find a solution to the charcoal filter. It will not be possible to move the content of the filter as the charcoal will be clogged. The only possibility would be to use the existing concrete tank as storage tank for sludge during the rainy season.

## **LEATHER INDUSTRIES OF KENYA Ltd., Thika**

### **1. Background information**

The tannery processes 1200 hides purchased in dried, salted or green state. Green hides come from the Nairobi slaughterhouse and represents 35 to 40% of the input. Seventy percent of the leather produced is exported to France, Great Britain and East African countries (Bata Malawi, Bata Uganda and elsewhere).

The tannery is well equipped to produce good finished leather, but it does not possess sufficient knowledge in obtaining good results in finishing on African hides. (Spain, Portugal and Italy are said to have much better results.) Advisory services are needed to increase the quality of the finished leather produced.

The waste water treatment results are very good: COD = 80 to 90mg/l; BOD5 = 25mg/l; the MLSS in the biological treatment is about 4,5 - 5,6g/l. The cost of effluent treatment is evaluated at 4 US cents per sq.ft (7% of the selling price of 58 cents for wet blue). Due to unfair competition of some countries, LIK tannery is considering to start again exporting raw hides as it could be more profitable.

In the summer of 1996 a Shoe Upper unit was established:

Products:	Men's, ladies' and children's shoe uppers
Employees:	3 cutters, 7 closing operators
Markets:	Export

### **2. Project support**

#### *2.1 Inputs delivered*

Five persons from LIK attended the UNIDO Regional Seminar on Leather Finishing.

Some consulting services in effluent treatment were provided.

Employees of the new Shoe Upper plant were trained by the TPCSI staff.

#### *2.2 Use of the inputs*

The trainees are still employed at the LIK.

#### *2.3 Impact*

The inputs, being rather small, contributed only to the good performance of the tannery. The purification level obtained in the treatment plant is very high as the water discharged from the two lagoons is used by farmers for irrigation.

In November 1996 the shoe upper plant was still at the learning stage.

### **3. Need of further assistance**

The sewing operatives need analytical training machining training to learn better work methods in order to increase productivity. Consultancy and on-the-job training by a shoe upper expert are needed for a few months.

#### **4. Recommendations**

The Programme should negotiate with the company technical assistance on cost-sharing principles, both for the transfer of advanced leather finishing technology and for the shoe upper plant. The person in charge of the shoe upper unit should take part in the supervisory courses of TPCSI. The sewing operators could be sent to TPCSI in Thika for analytical sewing machining training. An alternative could be to further train the operators in the factory by TPCSI's trainers. As it appears that this unit will grow and new persons will be trained frequently, one person from the factory should be trained by TPCSI to become job-trainer.

## **SIMJON SHOES, Nairobi**

### **1. Background information**

Products: Men's and ladies' shoes (mainly men's)  
 Production: 60 pairs/day  
 Employees: 16 operatives  
 Markets: Local  
 The firm is still in its infancy.

### **2. Project support**

#### *2.1 Inputs delivered*

Eight persons, including the entrepreneur received training in design, sewing, sole making and in some management issues. The training was considered useful. Swayam Siddha (self-learning) training manuals were received. Consultancy was provided by advising and providing on-the-job training for the personnel. The experts helped in production methods by showing video films and giving on-the-job training in work methods. Equipment to the value of US\$3,465 was received.

#### *2.2 Use of inputs*

The people trained are still working in the firm. Swayam Siddha (self-learning) training manuals are used for technical reference. Equipment, a sewing machine received is in use.

#### *2.3 Impact*

The training which was received improved the technical and managerial skills both on operative and management levels. It was crucial for the development of production methods. The sewing machine received opened a capacity bottleneck to facilitate higher production.

### **3. Need of further assistance**

The entrepreneur, not being familiar with the mechanised technology, would like to have more training in how to lay out a factory in order to avoid mistakes in investment.

The firm is having problems with poor quality of the PVC soles which are now available. The local suppliers of the soles, three firms, are more interested in serving the lowest price bracket than paying attention to the quality of footwear market. This poor quality is an obstacle for the firm to sustain growth in its market segments. The entrepreneur would like the Programme to find a solution to the matter.

### **4. Recommendations**

The Programme should continue to assist the company by providing on-the-job training and consultancy. The Programme should consider how to increase availability of shoe soles of suitable quality and design.

## COUNT SHOES, Nairobi

### 1. Background information

Products:	Men's, ladies' and children's shoes
Production:	100 pairs/day
Employees:	23 persons
Markets:	Local markets; export efforts, no export results yet

Leather purchased from the Leather Industries of Kenya Limited (LIK) is appropriate to the market segment which the firm is supplying. Poor quality of the available PVC soles.

### 2. Project support

#### 2.1 *Inputs delivered*

Several operators and a designer were trained at TPCSI in Thika, Kenya. The training received was found useful.

The entrepreneur attended the UNIDO/CUOA Management Seminar conducted in connection with Linea Pelle and SIMAC Fairs in Italy.

Swayam Siddha (self-learning) training manuals were received.

One expert was consulted in the factory.

A study tour to GDS Fair in Germany; one person in 1996

Products were promoted to start export in the fairs:

- Riva Expo Schuh (Riva Del Gavola), Italy: once in 1996
- MICAM, Italy: once in 1996

Equipment to the value of US\$51,128 was still in transport during the evaluation mission. Shoe lasts had been received.

#### 2.2 *Use of inputs*

The persons trained are still working in the firm. Swayam Siddha (self-learning) training manuals are in use. The factory stopped normal production for the whole week when the expert was training and consulting in the factory. The expert provided assistance in factory configurations (production flow, layout), quality control and production methods. The shoe lasts received are used in the production.

#### 2.3 *Impact*

Technical and managerial capabilities of the firm have been enhanced to improve quality and productivity. The designing and pattern engineering competence was increased.

The equipment, once received, will remove several production bottlenecks, thus facilitating growth of the production. The product range shown in the Düsseldorf Fair was not fit for the segment intended. The firm would have needed more product design assistance before promoting the product abroad.

**3. Need of further assistance**

The company will need further export assistance to get results including assistance in product development and promotion, and more operative, supervisory and management training and consultancy on sustainability of the development. Refresher training is needed in the UNIDO/CUOA seminar management subjects.

**4. Recommendations**

The UNIDO/CUOA Management Seminar held in Italy was quite loaded in content. For this reason, refresher training is needed in the context of actual situation of the firms of the participants. TPCSI should conduct a part of this activity, as it is now developing its strengths in the areas of the seminar, such as in the planning systems.

**KAY'S ENTERPRISES, Nairobi****1. Background information**

Products: Men's, ladies' and children's moccasins and cemented shoes  
Production: 50 pairs/day, now planning to increase it to 100 pairs/day  
Employees: 20 persons  
Markets: Local markets and export

The firm is small but has been operational long enough for the entrepreneur to learn much of the functioning of the trade.

**2. Project support***2.1 Inputs delivered*

Operators and supervisors were trained at TPCSI in Thika, Kenya. The entrepreneur attended the UNIDO/CUOA Management Seminar conducted in connection with Linea Pelle and SIMA, in Italy.

Swayam Siddha (self-learning) training manuals were received.

Consultancy was provided in production methods.

Product range was developed and promoted in the following fairs:

- Riva Expo Schuh (Riva Del Gavola), Italy: once in 1996
- MICAM, Italy: once in 1996

Equipment of value US\$36,529 was received.

## 2.2 *Use of inputs*

The production methods learned have been implemented. Machines and lasts received are in use. Training manuals are in use.

## 2.3. *Impact*

The training received improved necessary design, technical and managerial skills. It has "helped a lot" in increasing the production capacity, but recently the high labour turnover on operative level experienced has temporarily reduced the capacity. Training of new operatives is in process. Consultancy has helped in establishing better production methods and workflow. No export results yet. The machines received are essential for building up the production capacity of the firm. The types and quantity of shoe lasts received have improved the fit of the shoes.

The female entrepreneur is employing mainly women, but the labour turnover of women has been found to be a problem. Young trained women easily leave the field and the trade. She is now recruiting mature women.

## 3. **Need of further assistance**

The firm requires further assistance in export product range, design, promotion and training in some production methods such as how to use the recently received "bed-lasting" machine.

Refresher training is needed in the UNIDO/CUOA seminar management subjects.

## 4. **Recommendations**

This firm, like others in the Programme, may find it problematic to approach banks for loans. For sustained growth, the firms need working capital. The Programme should find schemes for financing the accelerated growth of small enterprises.



**JOAPET ENTERPRISES Ltd., Kiambu****1. Background information**

Products:	Men's and ladies' shoes and sandals	Employees:	25 persons
Production:	80 pairs/day	Markets:	Local markets

Small enterprise, fairly well established and improving.

The entrepreneur has earlier worked with Bata and has learned basics of the trade there. Consequently, he has made some simple machines to produce products of adequate quality.

**2. Project support***2.1 Inputs delivered*

Training in design/pattern cutting and sewing at the TPCSI in Thika, Kenya.

The entrepreneur attended the UNIDO/CUOA Management Seminar held in connection with Linea Pelle and SIMAC, in Italy. Swayam Siddha (self-learning) training manuals were received.

Expert provided advice and trained the personnel on-the-job in product quality and production methods.

Product range was promoted for export in the following fairs:

- Riva Expo Schuh (Riva Del Gavola), Italy: once in 1996
- MICAM, Italy: once in 1996

Equipment to the value US\$21,968 was received.

*2.2 Use of inputs*

The persons trained (except for a few) are still working in the firm. After marriage, female workers in this village are prone to stay at home. The entrepreneur is gently influencing some more families to allow women to work in the factory. Swayam Siddha (self-learning) training manuals are used for technical reference. The footwear technology expert provided assistance in factory configurations (production flow, layout), quality control and in production methods. The methods learned have been adopted. Equipment received is in use.

*2.3 Impact*

The equipment was important in making larger production possible.

Training improved design, technical and managerial skills of the operatives and the entrepreneur. The firm highly regards the training received at TPCSI in Thika, Kenya and in Italy. (The entrepreneur expressed that "it was difficult to operate before the training at TPCSI".) With the help of consultants the production methods and flow were improved enabling the firm to operate its equipment for better quality and productivity.

The export samples the firm exhibited in Europe were not yet up to the mark in terms of quality and design. The firm has learned its lesson and is working towards export performance. The firm would have needed product design support before the export promotion. (Unfortunately, the firm designed its product range without exposure to the foreign market.) The training visit to Italy has imparted the entrepreneur much needed insight to the market requirements and marketing practices in Europe.

**3. Need of further assistance**

Assistance is needed particularly in making the export product range including related technical and promotional inputs, more marketable

Refresher training is needed in the UNIDO/CUOA seminar management subjects.

**4. Recommendations**

It should be noted that this factory is situated in a small village with no other industries. The main market is in Nairobi which is about 35km away. Labour force is mainly female. For these reasons, and for the Programme to gain rural improvement experience in creating modern manufacturing enterprises outside large cities, it is important to continue assisting this firm.

## **SANA SHOES LIMITED, Thika, Kenya**

### **1. Background information**

Products: Men's cemented shoes and moccasins for the local market, ladies' sandals for export.  
 Production: 150 pairs/day  
 Employees: 30 persons  
 Markets: Local and export

Still a small firm but developing its operations systematically. Since 1993, it has promoted its products in export market through fairs.

Earlier, the entrepreneur studied shoe technology in Wellingborough College in the UK. His knowledge of footwear technology basics made it easier for him to learn more and to develop his firm.

### **2. Project support**

#### *2.1 Inputs delivered*

Operators were trained at TPCSI in Thika, Kenya and the designer in Italy and Zimbabwe. TPCSI's assistance in product design and provision of facility service in pre-finished leather sole production has been crucial for the firm's export. One person was trained in footwear technology in Czech Republic.

Swayam Siddha (self-learning) training manuals were received.

Shoe designs for export were prepared by the TPCSI with the firm.

Experts were consulted to improve production methods in the factory.

Product range was promoted for export in the following fairs:

- GDS, Germany: in September 1993, 1994, 1995 and 96
- Riva Expo Schuh (Riva Del Gavola), Italy: twice in 1996
- MICAM, Italy: once in 1996

Equipment to the value US\$30,800 was received in Phase 2, (the firm received equipment to the value of US\$21,268 in the Phase 1).

#### *2.2 Use of inputs*

The trainees, except the one trained in Zlin, Czech Republic, are still working in the firm.

Swayam Siddha (self-learning) training manuals are in use for technical reference.

The firm implemented recommendations on production flow, work methods, product quality etc.

The entrepreneur attended trade fairs for export.

Equipment received is in use.

### 2.3. *Impact*

Training enhanced management, production methods, design and marketing skills. The equipment opened production capacity bottlenecks and made larger production possible.

Consultancy improved work methods, production flow, product quality, product design and export capability of the firm. The firm is now continually receiving export orders. Leading Italian shoe fashion magazines presented the "out of Africa" collection of this firm. It should be noted that even for world-class producers this is most difficult to achieve. The achievement is making a positive impact in developing the African image as shoe designers and manufacturers. The export orders which the company now continuously receive are clear indication of the success of the selected "strategy of stretch" and related risk-taking by both the participating enterprises and the Programme.

### 3. **Need of further assistance**

The firm still needs some assistance. The new training packages now coming to use at TPCSI could further enhance the information, processing and planning systems which are needed in larger production. The new supervisory training modules of the same institute, when implemented in the factory, would increase labour, machine and materials productivity.

The entrepreneur feels that in future some courses should be tailored according to the actual needs of the firm with in-plant training when applicable. He is now even willing to pay more for the training/consultancy than for the nominal fees charged. He is also recommending that the Programme revolves the fee for assistance in the emerging enterprises.

The Programme should charge a fair fee for services rendered.

To build confidence and motivation, the Programme should organise visits for the emerging firms to well-established firms.

## **LEATHER DEVELOPMENT CENTER (LDC), Nairobi**

### **1. Background information**

The Centre is operated by 21 persons, including 4 skilled operators, 3 leather technologists and the Director of LDC, a leather expert trained in Nene College, and for eight years at Bata Limuru. A leather goods workshop with 4 persons is also part of the LDC. Main activities cover the post tanning and finishing parts of leather fabrication with spraying, embossing, and measuring.

With regard to the equipment installed in the LDC/KIRDI in Nairobi, possibilities in modern tannery processing and training are high. At this time, however, the equipment is mainly operated as production equipment used by private companies for their troubleshooting (75% of LDC activities). Other activities are:

- 5% training;
- 5% consulting and advisory services;
- 5% product development (for example, use of castor oil for fat liquoring);
- 10% proper production for leather workshop or selling (this creates unfair competition with tanneries).

It is regrettable that the main physical and chemical testing facilities are separated from the LDC. Some equipment, such as pH-meter, chrome testing, flexometer, could be installed in the workshop.

### **2. Project support**

#### *2.1 Inputs delivered*

During the first phase of the project, a considerable amount of equipments was delivered to the LDC. In the second phase, only some spare parts for the Krause press were given to the Center for a total amount of US\$1,560. The plant manager was trained in leather finishing (Nairobi, one week). Three other staff was trained in Ethiopia in manufacturing technology. The theoretical part was considered highly satisfactory, practical demonstrations, however, were less useful due to outdated equipment at the training site (LLPI/PIC).

The equipment for the LDC was well selected.

#### *2.2 Use of the inputs*

Two of the trainees are no longer with the Centre. The equipment is used but, on average, capacity utilization is rather low (even though at some short periods it is used at full capacity). Training performed in the LDC is very limited, with a first course of two weeks for tannery operators starting in November 1996.

#### *2.3 Impact*

This is rather limited. Development work on fish skin brought some results. Troubleshooting helps companies to overcome short-term bottlenecks. Some demonstrations performed by chemical manufacturers at the Center were successful.

#### *2.4 Sustainability*

Commercial orientation of the LDC resulted in partial recovery of the operating costs. Income generated by LDC covers procurement of spare parts, chemicals, hides and skins and the operating costs of vehicles. The Government (through KIRDI) pays for salaries and maintenance of building.

### **3. Recommendations**

The LDC should focus on:

- training;
- products development;
- consulting and advisory services (manufacturing and environment);
- promotion of cleaner technologies;
- testing, including leather area controls.

Some training courses could be run in association with AHITI. The Board of Directors should include more representatives from industry.

## **TRAINING AND PRODUCTION CENTRE FOR SHOE INDUSTRY (TPCSI)**

### **1. Background Information**

TPCSI was established at the request of the Kenya Footwear Manufacturers Association (KFMA) with substantial support from the Programme, financed in particular by the IDDA project XA/RAF/93/603. Construction of the building housing the Centre was financed by the Revolving Fund administered by the Kenya Association of Manufacturers. The Centre is supervised by a Board of Trustees chaired by the Chairman of the Kenya Tanners Association (KTA).

The Centre started operations in June 1994. It has 5 professional staff and conducts a variety of introductory, operative, supervisory, product design and management training courses in footwear designing/pattern engineering, shoe production and basic leather goods manufacture. It also provides advisory and production services to the shoe manufacturing industry.

### **2. Project support**

#### *2.1 Inputs delivered*

Under Phase 2 the delivery of equipment for the Centre amounted to approximately US\$313,000. Extensive training was provided to the staff both through external trainers working in the Centre and study tours. Training software worth approximately US\$15,000 was also provided.

The equipment for the TPCSI was well selected, but it covers only part of the leather footwear manufacturing process, namely, shoe upper manufacture and some bottom component production, and design&pattern, cutting/pattern, engineering/cutting and die making. The Centre does not have lasting (making) and finishing equipment. The rented building is fairly adequate for the present volume of activities, but lecturing is problematic because of noise from the machines.

#### *2.2 Use of the inputs*

The inputs are well and intensely used as reflected in the number of training courses and participants. From October 1994 to October 1996, the Centre conducted 9 regional courses (103 participants) and 16 local courses (66 participants).

The institute provided training courses on the following subjects:

Footwear courses:

- Instructor training in stitching and cutting (clicking);
- Operative training in stitching and other operations of shoe upper manufacture;
- Operative training in cutting (clicking);
- Shoe design and pattern cutting training;
- Leather sole making;
- Cutting supervisory training;
- Cutting (clicking) supervisory training;
- Basic footwear technology.

Leather products courses:

- Basic leather goods manufacture.

The Centre provided services to industry in cutting die-making, cutting of shoe components (insoles, toepuffs, leather uppers), design and pattern engineering.

### 2.3 *Impact*

Institution-building assistance to TPCSI in Thika was very successful and made it a viable institution capable of providing services to the footwear industry, and to some extent to the leather goods. The newly-trained professional staff of the Centre is capable of conducting training courses for trainees from the region. The Centre's activities were crucial as part of the integrated strategy of the Programme because most of the enterprises that were assisted by the Programme needed training in modern manufacturing methods.

The impact of this effort has been in disseminating knowledge in production methods, operative and supervisory training and product development. The Centre also contributed to building confidence and achievement motivation among the persons sent by the factories for training. The services to the factories in product design/pattern engineering, leather sole production and cutting shoe components, and making cutting dies facilitated their production processes, market entries, and contributed to reduction of costs, improved product quality and increase in production.

The institute charges a small fee for its services. Economically, the institute now covers the operating costs, but not depreciation. Taking into account that this is primarily a training institution, this is a considerable success. However, the demand for the training services had so far been supported by the Programme covering the travel costs of trainees from other countries of the region. The Centre is fully aware of the problem and, in order to sustain competitiveness, it is gradually adding new training and service modules to the present mix as needs of the developing firms become more "sophisticated". By adding new modules, the Centre should gradually build a larger set of training and consultancy services for various needs. When there will be sufficient demand, the institute could start longer and focused courses for technologists, entrepreneurs etc. by attaching modules to each other. Finally, it should be capable of conducting certificate and diploma courses.

### **3. Recommendations**

By adding new modules, as the ones now in preparation for supervisory and production management, the Centre should gradually build a larger set of training and consultancy services (syllabi, curriculum, and systems) for various needs. When there will be sufficient demand, the institute could start longer and focused courses for technologists, entrepreneurs etc. by attaching modules to each other. Finally, it should be capable of conducting certificate and diploma courses. Footwear lasting-finishing machinery should be made available in the Centre to train, demonstrate and provide facility services in complete shoe production. The staff of the Centre should take part in the consultancy work of the UNIDO experts in order to share their experience and learn how to provide advisory services. Export shoe upper production by the trainees for nearby factories would give a further challenge and learning opportunity for the staff and students. Favourable study loans or assistance to students from low income families should be considered.



**HIDES AND SKINS IMPROVEMENT SCHEME, Mwanza Region****1. Background Information**

Tanzania consists of 21 regions, each region consists of 4-7 districts. In each district there are 25-30 villages with trading centres. The geographical area covered by a district may be considerable, with distances up to 50km between the remote villages and the district centre.

The Ministry of Agriculture operates a system of extension officers in charge of veterinary services, inspection of slaughtering techniques and meat quality, and hides and skins improvement. In each village there is a village extension officer who is supervised by the district extension officer. The village extension officers are expected to train butchers in the proper handling of the hides and skins. They collect a tax to be paid to the Government for each animal slaughtered in the slaughterhouse or slab, and report on the quantity and grades of the hides and skins slaughtered and collected in the district.

The relevant extension officers also issue permits to the traders to transport the hides and skins from the village/district/region. On this occasion they check the quantity and quality of the hides and skins and make some assessment on the grades.

The Mwanza Region consists of 6 districts. The most recent consolidated data available in the office of the regional coordinator (July 1996) disclose the following situation as regards hides collection:

	Quantity	G r a d e s ( % )				
		I	II	III	IV	Reject
Controlled slaughtering	2,196	17	37	26	19	1
Collection by traders	75,440	20	36	16	28	
Price (TSh/kg)	650	600	550	450		

The following conclusions can be drawn from the above:

1) The percentage of controlled slaughtering (slaughter houses and slabs) is very low (3%); to a certain degree this is influenced by the fact that the traders located in the Mwanza region also collect hides from other regions.

2) Quality of hides from slaughter houses and those collected by the traders does not differ significantly.

It is, however, difficult to confirm whether this picture reflects the reality or whether the data are of little value. According to the information provided by the tannery procuring the hides, the grading after the wet-blue process in any case reveals a considerably different grade structure (much larger percentage of lower grades). Information on prices may also be misleading as it implies pricing by grades. However, the tanneries, when purchasing, distinguish between grades I-III and IV only.

As regards goats and sheep, their slaughtering in controlled slaughter houses and slabs is negligible.

The mission visited the Sengerema district which has approximately 30 villages. The project supported the district centre in establishing a slaughterhouse. According to the district extension officer, the monthly kill of cattle in the district amounts to 300 heads, of which 120 are slaughtered in the slaughterhouse constructed by the project, 60 in

village slabs (there are 7 such slabs in the district, with only one of them with a roof) and the rest (120) in the backyard. This, however, cannot be the true picture: comparison with the data for the whole region indicates that the proportion of backyard slaughtering in the district must be much higher.

## 2. Project support

### 2.1 Delivery of inputs

The project provided the target area (Mwanza) with cars, motorbikes and bicycles, more or less as planned in the project document. However, construction of infrastructural facilities deviated considerably from the planned targets:

	Planned	Implemented
New drying sheds	15	0
Drying sheds to be rehabilitated	20	6
Slabs to be rehabilitated	26	0
Slaughterhouse	0	1
Defleshing tables	0	6

It is apparent that there is a considerable gap between the planned and actual output of drying sheds, and a performance in construction of slaughter houses and defleshing tables. However, as the most important factor resulting in low quality of hides is ground drying, the gap in construction/rehabilitation of drying sheds cannot be offset by construction of the slaughterhouse in the district village.

Functioning of the slaughterhouse is affected by the fact that it is neither provided with water nor with a hoisting device.

### 2.2 Use of the inputs

The slaughterhouse is used adequately (120 cattle slaughtered monthly), flaying knives are also used. The motorbike used by the district extension officer is operating. No assessment could be made on the use of bikes for extension services.

The drying shed related to the slaughterhouse was in use but the worker started suspending the hides more than 4 hours after the slaughter and his handling of the hide (holes for the rope unnecessarily too large) prompted comments to which, however, he did not react. Apparently training alone without proper motivation is not sufficient to improve quality of hides and skins.

The grading method as developed by the Programme under Phase 1 is generally accepted in the whole country. However, the reported numbers probably deviate considerably from the reality for a number of reasons, such as tax evasion, difficulty to check large quantities of hides or skins on stock or on a truck, etc.

### 2.3 Impact

Controlled slaughtering increased by 120 heads of cattle per month; in the context of the whole target area, it represents a very small percentage. The demonstration effect might be more important than the actual increase of controlled slaughtering but no replication could be identified.

The impact of the support to extension services (means of transportation, training workshops) could not be confirmed also: the tannery in Mwanza could not qualify hides and skins from the Mwanza or Shinyanga regions as

being of better quality.

The baseline data on collected hides in 1989 as presented in the project document turned out to be unrealistically low as they were derived from the statistical data of parastatal organizations. After trade liberalization the annual figures on collection of hides escalated from 130,000 to almost 1 million in the Mwanza Region alone, which made the target indicators in the project document irrelevant.

## **MOSHI TANNERY**

### **1. Background information**

Moshi tannery was established in 1970 and privatized in 1995. It now belongs to IPS group which also operates the LIK in Kenya. Total capacity is 600 hides per day. The tannery is well-equipped and possibilities to increase the production exist. As an example, the wet workshop runs 4 soaking tanks with lateral doors, 2 drums for 300 hides in liming, 2 drums for tanning, a SGS5 Rizzi fleshing machine, a Tre P continuous sammying machine.

However, currently the tannery is operating below its capacity which is caused by low market for wet blue. Ninety percent is processed as wet-blue, only 10% is processed as finished leather, which is sold mainly (70%) to the informal sector. Wet-blue has been exported to Italy (it takes 21 days for the shipment to reach Italy) and recently to Spain. Because of the low market in wet-blue the storage room is full. Raw hides (average size 26 square foot) are purchased mainly in a dried state, but some green and salted hides are also procured (maximum input of 20%).

The tannery is facing problems common to the whole sector. It was estimated that local market for finished leather would amount to 120,000 sq.ft. per month. In order to meet this demand, it is enough to process only 200 hides per day. All the remaining capacity has to be exported either in wet-blue or finished leather. Government tax on finished leather is 30%, but it is only 15% in Kenya. Most of the raw hides are exported (1,8 million out of 2 million hides collected in the country).

The effluent treatment plant was almost completed and expected to become operational in the beginning of 1997. As constructed, the effluent are sent to the ETP through two lines. Chrome effluent are separated and precipitated with lime. After settling, supernatant is mixed to other effluent for biological treatment. Beamhouse effluent and post-tanning effluent are mixed and sent to an aeration tank to obtain sulphide oxidation. Then the effluent is sent to the biological treatment.

### **2. Project support**

#### *2.1 Inputs delivered*

Inputs delivered to the tannery consisted of equipment for the effluent treatment plant to the value of approximately US\$70,000. (Construction cost carried by the tannery itself amounted to approximately US\$40,000). A complementary electrical generator of 250kW was delivered just before the visit.

#### *2.2 Use of the inputs*

Most of equipment was already installed. However, some changes might be required. The tank has a total volume of 320m<sup>3</sup>, but the maximum effluent volume is 160m<sup>3</sup> per day. As tanning effluent (40m<sup>3</sup>/day) is not mixed, it means that the residence time in the aeration tank will be 2.5 days. As a result it will be necessary to run the aeration for 24 hours per day as aeration equipment delivered is ceramic porous type and can be clogged rapidly if the aeration stops frequently. If the tank is only filled with 120m<sup>3</sup>, the water level will be 1m and the aeration efficiency very low in regard to the blower installed (230m<sup>3</sup>/h). As a tanner wishes to operate this tank on a 12 hours basis to save energy, it should be preferable to replace the type of air diffusers and to use 40 rubber membrane tubes that can be fitted instead of ceramic diffusers.

The electrical cabinet is located in the same room as the air blower. It would be better to establish a separate room for the noisy air blower. The rest of the equipment delivered to the tannery is adapted to the treatment and the oxidation ditch will be nearly ready to be operated with new 15kW aerators (brush type).

### 2.3 *Impact*

When fully operational, the effluent treatment plant will eliminate at least 90% of the pollution generated by the tannery, that is: COD=1,800kg, BOD<sub>5</sub>=650kg, suspended solids=1,200kg in the vicinity of Kilimanjaro National Park and this is an important contribution to environment protection.

## 3. **Recommendations**

Ceramic diffusers should be replaced with rubber type ones to cope better with the discontinuous process of treatment. Relocation of the blower to a room separated from the electrical cabinet should be considered.

## MOROGORO TANNERY

### 1. **Background information**

The tannery was built in 1978. After privatization, it was decided to rehabilitate it. A loan was negotiated with the International Finance Corporation. The negotiations protracted, however, so that the original time schedule was not adhered to and the plant is to start operations only in mid-1997.

The buildings are well-maintained, with several crane bridges. Internal concrete structures were eliminated to allow installation of new drums. Most of the equipment is still not delivered or is being dismantled for renewing. New drums will be installed for beamhouse and tanning operations. Post-tanning and finishing equipment is to be renewed. New equipment was ordered and was expected to be delivered in January 1997.

The tannery is planned to process 2,000 hides and 4,000 skins per day. This represents 600,000 hides per year (30% of the available hides in Tanzania) and 1,200,000 skins per year (40% of the available skins in the country). It is expected to produce only half of these quantities in the first few years of production.

The treatment plant was planned to process 1000m<sup>3</sup>/day of effluent. It is organized with a chrome recycling inside the factory to be implemented as part of the tannery rehabilitation (paid by the IFC loan) but this equipment has not yet been installed.

### 2. **Project support**

#### 2.1 *Input delivered*

Equipment for a primary treatment plant was delivered and installed in 1994. Total value of this equipment was US\$153,031. Advisory services related to the design and installation of equipment were also provided.

#### 2.2 *Use of the inputs*

While the ETP was constructed and installed in 1994, as originally planned, it could not be put into operation because of the delay in rehabilitation of the tannery. Review of the plant reveals some shortcomings: the lack of operational safety in equipment (spare pumps) and absence of reliable solution for sludge as the centrifuge would not have the required capacity. Some additional equipment will certainly be needed to efficiently run the ETP.

In detail, the situation is as follows: A first line collects beamhouse effluent that passes through a rotating filter screen. This effluent is collected in a 75m<sup>3</sup> tank equipped with 2 Venturi aerators and a submersible pump connected with 2 switch levels. During the sulphide oxidation phase, manganese sulphate is added. After the oxidation phase the

effluent is transferred to the equalizing tank. A second line collects all other effluent. This line is also equipped with a rotating screen and the effluent enters into a 40m<sup>3</sup> tank where a submersible pump is located. A second pumping device was to be installed, but it was used for sludge pumping. This effluent is sent to the mixing tank.

Two tanks (approximately 1,000litres each) are used for coagulant and flocculent preparation. No specific equipment is used for polyelectrolyte preparation. Two pumps transfer these reagents to 3 other tanks equipped with 3 pumps. These pumps are delivering coagulant and flocculent to the equalizing tank. The mixing tank was recovered from the previous project. It was equipped with air diffusers (Flygt rubber membrane type). The level of the diffusers varies in the different parts of the tank. Two blowers (one spare) are installed in a room close to the equalizing tank. Then the effluent is pumped to the primary settling tank with scraping device. The overflow weir is not fitted correctly. After settling the clarified effluent is sent to the municipal sewer and passes through a Venturi weir for metering. Then the primary sludge is recovered in a pit close to the settling tank and the pump sends the sludge to the mechanical dewatering equipment installed at the origin of the tannery. Two centrifuges, built in 1977, are to be used. They have a bowl 35cm in diameter and 50cm long with a maximum rotating speed of 3500t/mn. The power installed amounts to 7,5kW each. Taking into account the age of this equipment and the need for this machine to process at least 175 to 200kg/h DS, it is planned to build some sludge drying beds. With 3.5tons of DS and a sludge concentration of 30g/l, the volume to be dried amounts to 115m<sup>3</sup>/day or for the centrifuge working ten hours per day: 6m<sup>3</sup>/hour. 115m<sup>3</sup>/day, with normal drying time of 10 days, need a surface of sludge drying beds of 3000m<sup>2</sup> at a minimum. This construction is only envisaged after the starting of the operations.

### 2.3 Impact

When the tannery is in operation, the treatment will reach 75-85% in case of suspended solids and 45-55% of organic matter (COD and BOD<sub>5</sub>). In absolute terms, it will reduce the discharge from the tannery as follows: COD=3420kg/day, BOD<sub>5</sub>=1,300kg/day, SS=4,480kg/day, total N=240kg/day, Cr=200kg/day, sulphide=290kg/day.

## 3. Recommendations

Introduce control of chrome recovery inside the tannery in order to reduce the chrome discharge to the ETP. Organize monitoring of effluent at the entry and at the outlet of the treatment with a minimum set of determinations (COD, pH, Cr, settleability). Implement sand drying beds in order to have a good safety margin in case of ineffectiveness of equipment.

Check correct adaptation of all ETP equipment before running the treatment plant.

## AFRICA TANNERIES in Mwanza (Africa Trade Development Ltd)

### 1. Background information

The capacity of the tannery is 1,000 hides per day but at the time of the visit, only 500 wet-blue leathers were produced. The tannery is established in large buildings with possibility to further increase the production. It is mainly equipped with 4 beamhouse drums for 500 to 700 hides of medium weight in each. These drums can also be used for 300 to 400 heavy hides. One of these drums was purchased by funds delivered during the first phase of the project. Four smaller size drums are used for tanning. Another set of 6 retanning drums (two different sizes) are installed in the same workshop. There are 3 fleshing machines (in good condition), 2 splitting machines (2;2 m opening), and equipment for post tanning section. The finishing section is composed of four finishing lines with one roller coating machine (3 rollers). A vegetable leather workshop is also equipped with a set of 6 to 8 drums, the maximum capacity is 200 hides per day.

There is not much difference in quality of hides between regions supported and not supported by the project. The best quality hides come from the island Ukerewe because they have a different breed of cattle. The main problem affecting the quality of hides is delayed drying and putrefaction. Competition for raw hides between various trading companies and the tanners reduces profit. With the price paid for one square foot of raw hide (US\$0.41), selling price

(US\$0.80) and the cycle of 90 days for wet-blue it is hardly possible to make any profit.

The tannery also processes wet-blue fish skins, using a three-compartment plastic drum (French type), with a daily capacity of 5,000 fish skins. Orders are only available for 1,000 fish skins, and quality of finishing could be improved.

At the time of the visit, the finishing department was processing corrected grain leather (500 sides per day, that is to say its maximum capacity) for the Morogoro Shoe Factory (export of military boots). They were using grade five and six wet-blue leather for this production. The finishing department was also producing leather for car seats for local use.

The tannery is operated by 65 persons, including 25 tannery operators (6 for finishing section), 20 administrative and security staff and 20 engineering and maintenance personnel.

The ETP is very basic. Chromium is separated, collected in tank and precipitated with lime. The supernatant goes to the ETP and the sludge is sent to 2 sludge drying beds. After manual screening, effluent is aerated for sulphide oxidation, and then settled in two circular tanks. No data are available on the quality of final effluent (only pH=9!). Effluent is discharged to Lake Victoria.

## **2. Project support**

### *2.1 Input delivered*

The two aerators (US\$34,800) provided by UNIDO were just delivered to the tannery. The project also supported the tannery by providing advisory services in upgrading the ETP and by training two staff on ETP (study tour to South Africa).

### *2.2 Use of inputs*

One of the trainees is in charge of the ETP, one left and is employed in a brewery.

The equipment is not yet in use. To install it, it is necessary to modify the civil works. This was not clearly explained by the consultant to the person in charge of the treatment. However, even with the modification of the civil works, the overall efficiency of the aerators will be limited.

### *2.3 Impact*

Under the present conditions, it is expected to remove 50% of the organic pollution (COD and BOD<sub>5</sub>). Using the new aerators, some 10% more will be removed. Assuming production at full capacity (1,000 hides per day), the following quantities (kg/day) of effluent will be retained: COD=1,920, BOD<sub>5</sub>=765, 1,870 SS, total N=140, Cr=80 and sulphide=120.

The remaining 40% of organic pollution will be discharged to Lake Victoria, that is to say about 1300kg/day of COD and 500kg of BOD<sub>5</sub>. It will be necessary to set up controls of the pollution load discharged to the lake and to improve the treatment with an efficient biological system, that is, an aerated lagooning system.

## **3. Recommendations**

Modify the civil works of the circular tanks in order to reduce the level of water and to fit the aerators to the existing structure. Introduce monitoring of effluent entering and going out from the ETP. COD, Cr, pH and settleability are considered as minimum requirements. Implement an efficient biological secondary treatment. This could be adapted to the existing tanks under an aerated lagooning system.

## SHAH INDUSTRIES, Moshi

### 1. Background information

Products:	Large variety of leather good products, mostly for tourist trade
Production:	Varying, depending on products and demand
Employees:	38 persons, 50% disabled
Markets:	Retailing to tourists in the workshop and now new retail outlet in the city. Some export.

The firm is a well established leather goods producer, innovative, having large variety of products, mainly goods for tourists.

### 2. Project support

#### 2.1 *Inputs delivered*

Training: Leather goods fellowship training in the UK for 6 months, and in Germany for 3 months. Marketing assistance: Visit to a trade fair in Germany in June 93. Equipment received to the value of US\$35,631.

#### 2.2 *Use of inputs*

The trainee continues working in the company. The demand for the products is now low resulting in low use of productin machines, such as sewing machines.

#### 2.3 *Impact*

Despite the project support, the value of production decreased. One reason for the lower sales of the leather products is the market's shift from leather products to synthetics products. However, it should be noted that the firm has acquired much skill for this type and also other types of leather good products over the years. The machinery input may turn out to be a burden for the entrepreneur because of the repayment obligation towards the Revolving Fund.

### 3. Need of further assistance

The firm does not need further assistance except when introducing more sophisticated type of products not produced so far.

### 4. Recommendations

The competitiveness problem of the firm is unfortunate as the firm is employing disabled persons as half of its work force. Unfortunately, for this purpose the firm does not receive any financial assistance. The Programme should study the tax and tariffs structures of the countries and advise how to influence decision makers to correct the fiscal systems, including support for employing disabled persons. The machines, if they cannot be used, should be transferred to a company which can make use of them and pay back the price.

## **G & T SHOES CO. Ltd., Morogoro**

### **1. Background information**

Products: Industrial/army boots and shoes; ladies' shoes and sandals; canvas shoes.  
 Production: 1500 pairs/day; including army and industrial boots 800 pairs/day, assorted shoes 700 pairs/day. Installed capacity as stated by the firm: 4,000 pairs/day  
 Employees: 180 persons  
 Export markets: Export of army and work (safety) boots to the neighbouring countries and canvas shoes to Far-East.  
 Local markets: Assorted shoes to local markets.

The factory which was established in 1979, is large and was closed for a period. It was privatised in 1993 after which the new owners made the enterprise operational.

Success in the home markets has been limited because of the dominating importers strongly controlling the market. In order to overcome this, instead of selling to retail shops, the firm provided street vendors trolleys, but the government forbade this practice. Second-hand shoe imports and the taxation structure are also an obstacle in the local market. The factory was closed for the weekend during the mission's visit. The manager was most helpful in providing necessary information.

### **2. Project support**

#### *2.1 Inputs delivered*

One person was trained at TPCSI in shoe design/pattern cutting. Product range was promoted in the GDS Fair in Germany 1994.

#### *2.2 Use of inputs*

The designer trained is still working in the factory.

#### *2.3 Impact*

The firm is satisfied with the design/pattern cutting training, but from the discussion it appears that the designer is not yet competent in cutting patterns.

### **3. Recommendations**

Consultancy on design/pattern cutting and production methods should be considered by the Programme. Taxation and market obstacles should be looked into by the Programme.



**PELLEY'S ENTERPRISE near Dar-es-Salaam****1. Background information**

- Products: Brief-cases, handbags, wallets, army belts and army conference folders.
- Production: Not known, as the female entrepreneur was not present. Some information was provided by her son who was not in the trade.
- Employees: 5 persons
- Markets: Selling to local wholesalers, and to the army. It appears that the firm is ahead of its competitors in some product types because of the quality of the products.

The firm is purchasing leather both from Morogoro Leather and Moshi, but prefers leather from the latter. For sustaining quality, the entrepreneur selects leather in the tanneries herself.

**2. Project support***2.1 Inputs delivered*

No training or consultancy training input were provided to the firm at this Programme stage. (The entrepreneur was earlier trained at the Central Leather Research Institute (CLRI) in Madras, India, and in Bulawao in Zimbabwe). Equipment to the value of US\$11,655 was received. The firm appears to possess the required skills. The decision to supply machines only was sound.

*2.2 Use of inputs*

The machines received are in use.

*2.3. Impact*

The machines enabled the firm to make higher-priced quality products. The sewing machines installed earlier were for textile material, not quite fit for leather.

## HIDES AND SKINS IMPROVEMENT SCHEMES, Jinja and Masaka areas

### 1. Background Information

There are 39 districts in Uganda. The Ministry of Agriculture used to operate a system of extension services similar to the one in Tanzania. However, in the course of decentralization of Government responsibilities, the decision on providing the extension services was delegated to the districts. At present, the district extension officers are retained only in the two areas supported by the project; the other district authorities abandoned these services. This is considered as one of the causes for deterioration of the quality of hides (primarily putrefaction). Other causes include lack of motivation, malpractice (removing hides from the frames before they are completely dry to increase their weight), competition of exporters who do not care very much about grades. A meeting of the parties concerned proposed that employers (butchers) pay bonuses to their workers for quality and that an awareness campaign be conducted by the Ministry of Agriculture in the radio and newspapers.

Export traders and the Leather Industry of Uganda (LIU) tannery compete for the hides; the traders are in a position to pay 1,500US\$ per kg of grade I while the tannery pays only 1,300US\$.

The evaluation mission visited both target areas supported by the Programme (Jinja and Masaka).

### 2. Project support

#### 2.1 Delivery of inputs

Both target areas received the means of transportation (3 cars, 6 motorcycles) as planned in the project document except for the 18 bicycles (no delivery). Both target areas also obtained ripping and flaying knives (altogether 1,500 pieces).

Support to the construction of infrastructure had to be re-directed to one target area (Jinja) because the town councils did not contribute, as planned, to the construction of the slaughter houses in Iganga and Kamuli so that the project budget had to also cover their share in order to have at least some facilities completed. As a result, the targets set in the project document were not met:

	Planned	Implemented
Slaughterhouses	6	2
Slaughter slabs	5	2
Drying sheds	9	0

The dependence of local communities on the budgetary support provided by the project also manifested itself in the Masaka area where a relatively simple improvement of an existing slaughterhouse is requested to be funded by the project.

Two hides improvement (extension) officers are on project payroll.

#### 2.2 Use of the inputs

As far as it could be observed, the knives were sold to butchers and used. However, the knives procured from Austria were considered as expensive, preference should be given to cheaper knives (such as those from Zimbabwe). There were no complaints about the means of transportation.

On average 10 cattle are slaughtered per day in the Iganga slaughterhouse which was built by the project. The butchers pay US\$80 per month to the Revolving Fund. (The hides are suspended in the drying shed erected by the town council; the quality of work is good.)

A large number (over 1,000) of butchers, flayers and collectors were trained or instructed by extension officers in the two target areas (particularly in the Jinja area). The flayers at the Jinja slaughterhouse operated in a skilful manner. However, one of the extension officers (in Masaka area) was rather slow and not very decisive in grading the hides suspended in the drying shed. He also complained that the butchers and flayers did not follow the instructions and advice given during training seminars. Apparently the attitude of each individual and his/her motivation influence considerably the effectiveness of training.

### *2.3 Impact*

The number of cattle slaughtered in the Iganga slaughterhouse represents approximately 4% of the total kill in the district; thus, the demonstration effect should be more important than the increase in controlled slaughtering.

The number of hides dried on the ground is reported to have been reduced considerably in the target area (from 70% before the project started to less than 10% at present). As a result, the quality of hides improved, and, in particular putrefaction decreased. This is confirmed by the LIU tannery in Jinja which monitors the quality of wet-blue by origin of the hides: the quality of wet-blue produced from the hides procured from the Jinja target area is distinctly better compared to wet-blue from hides from other regions.

As putrefaction is the main cause of bad quality of hides (which, in addition, is difficult to identify when the hide is in dry condition) it is imperative that hides and skins improvement efforts be targeted primarily at elimination of ground drying.

### **3. Recommendations**

It is correct that knives and other tools are not distributed free to the butchers. However, when procuring the knives and other tools which should be sold it is important that the products be selected with due consideration of the willingness of the target beneficiaries to pay the price. Cheaper products seem to be preferred. Training, extension services and construction/rehabilitation of facilities should focus on elimination of ground drying. The project should support implementation of the recommendations adopted by the MOA-organized meeting (awareness raising campaign in the radio and newspaper) and introduction of a motivation system for the workers handling the hides and skins.

## LEATHER INDUSTRIES UGANDA, Jinja

### 1. Background information

The former ULATI public company was recently privatized. It has a capacity of 600 hides per day but actual production is 250 hides per day. Ten percent is processed to finished leather and sold to the local market ((Bata, Uganda Shoe Factory, etc.) Ninety percent is exported as wet blue to Italy, Spain and Pakistan. Currently the price is very low (US\$0.62 per sq.ft.).

The company has 80 employees. Equipment is composed of 6 large drums for beamhouse and tanning, 4 drums for retanning and dyeing, continuous sammying machine, splitting machine, two setting out machines, two shaving machines, a drying tunnel, a vacuum dryer with 3 plates, a Mollissa staking machine, a Slocombe staking machine, two buffing and one dedusting machine, 20 frames for toggle drying, one manual spraying and two finishing lines (one with automatic spraying and one with padding), and one measuring machine. The equipment is well maintained, the workshops are kept clean. Some physical testing - tensile strength, flexometer, lastometer and wet rub fastness - on finished leather is performed:

Ten percent of the raw hides is of very bad quality and 20% to 30% are of poor quality. Main defects are putrefaction and flycuts and the most important source of defects is ground drying. Hides originating from the Iganga area supported by the project are of the best quality; this is confirmed by the tannery's monitoring of the quality of wet-blue the regional origin of which is identifiable thanks to marking of the raw hides. The tannery pays 1,300US\$ per kg for grade I (= US\$1.3per kg, = US\$0.26 per sq.ft.). Some green hides are procured from the Kampala and Jinja slaughter houses. The quality of these hides is better, but hides are dirty and require long washing.

The treatment plant is organized in two lines. The chromium floats are precipitated with lime and sludge sent to drying beds. The supernatant is drained to a general sewer and sulphide oxidation takes place in an aerated tank equipped with air pipe distribution. The equipment is not very efficient, as the tank needs to be cleaned frequently to remove the sludge. After mixing and aeration, the effluent is sent to a sedimentation tank, with pyramidal shape. Then the effluent is sent to public sewer and processed in the municipal treatment plant. Primary sludge is sent to sludge drying beds.

For solid waste, the tannery plans to burn the fleshing after drying and this is certainly not the most appropriate solution. Wet-blue trimmings and shavings are dumped in a municipal deposit.

### 2. Project support

#### 2.1 *Inputs delivered*

The tannery was only minimally supported: two staff were trained and some chemicals were delivered in 1994 to improve the quality of finished leather. An expert provided advice (one month) on the rehabilitation of machinery.

#### 2.2 *Use of inputs*

The advice was considered very useful and was followed-up. The trainees are no more with the company as they left after the privatization of the tannery.

#### 2.3 *Impact*

In view of the small inputs, the impact cannot be significant. However, follow-up on the advice of the consultant contributed to satisfactory endowment of the tannery with machinery and its capability to improve the quality of finished leather. Continuous improvement of the finished leather is confirmed by the Bata company.

### **3. Recommendations**

The efficiency of the aeration system in the equalizing tank should be increased by modification and better fixation of the distribution pipes. Some rubber diffusers could be installed to improve the sulphide oxidation. An efficient screening system should be used at the main entrance to the treatment plant. Monitoring of final effluent should be introduced to check at least the concentration of COD and Cr before the effluent is mixed with domestic sewage. Advisory services should be provided in the treatment and disposal of solid waste.

**GOMBA FISHING INDUSTRIES Ltd., Jinja****1. Background information**

This new tannery, established close to Gomba Fishing Factory, is processing Nile perch skins. About 20,000 skins have already been transformed into crust. Large quantities of salted skins of various sizes are available in the workshop.

**2. Project support***2.1 Inputs delivered*

Several pieces of equipment were provided by the project: a fleshing machine (Capdevilla), three stainless steel drums (Dose) and second-hand shaving and buffing machines (Glenk). Some chemicals were also delivered. Total value of these inputs was US\$ 116,053. Some technical expertise in fish skin leather processing (3 months) was provided to the tannery to improve the technology.

*2.2 Use of the inputs*

Equipment and technology delivered were used to produce large quantities of fish skins, either in crust, or in dyed crust. At the time of the visit, approximately 15,000 fish skins had been processed and stored in the factory. The quality is good and the technical processing is well established for the preparation of the crust.

*2.3 Impact*

The main problem of this factory is the absence of an identified effective market for such a product (price is estimated at US\$3 per sq.ft.). Some contacts were recently established with South Africa and Italy. A trial order for 500 fish skins was placed by a Japanese company.

**3. Recommendations**

Further efforts should be made to improve the presentation of the finished article without eliminating the appearance of the crust state, for which a band shearing machine may be needed. Finishing with plating does not seem adapted to the quality of the crusted skin. Additional project support should be confined to technical assistance in the marketing effort.

## **FREBA TANNERY, Mbarara**

### **1. Background information**

Construction of this tannery started in cooperation with a Chinese partner who, however, left the project after some time. The tannery has been functioning on trial runs only, and is not yet operating on a full-scale basis.

The tannery is sized to process 600 hides per day. It is constructed in an open air area with some sheds over the equipment and storage place for wet-blue. Production equipment primarily from China includes some soaking pits, 3 liming drums (3 x 3m), 1 reconditioned fleshing machine (old Turner 3m type), 1 splitting machine (2.7m wide), 5 tanning drums (2.5 x 2.5m) and a sam-setting machine. Close to tanning drums are located some pits to recover tanning floats that must be precipitated before supernatant is sent to the main sewer. The treatment plant comprises 12 tanks, 8 of which are equipped with air distribution through round rubber diffusers. The fixation of the plastic distribution pipes is not properly done and some breaks can occur due to the vibrations. Sedimentation takes place in the other four tanks which have limited outlets. After sedimentation, the effluent flows into a large lagoon with a surface of about 3000m<sup>2</sup> (100 x 30m) and a depth of 1.5m. The bottom of this lagoon is covered with grass and it seems that no tightness was made. The circular wall of the tank is not completed everywhere to the same height. Some effluent was entering in the lagoon where it was rapidly absorbed in the ground. No outlet is built to lead the effluent to the river at 200m distance. Sludge drying beds were not designed, neither for chromium sludge, nor for primary sludge. Equipment for the recovery of the sludge was not available.

The quality of chemicals used in the factory is not satisfactory. The application of chromium could be improved with some high exhaustion technology.

### **2. Project support**

#### *2.1 Inputs delivered*

Advice was given by the regional effluent expert to change the site.

#### *2.2 Use of inputs*

The advice was followed.

#### *2.3 Impact*

The tannery site was changed.

### **3. Recommendations**

There is an urgent need to address the problems mentioned above and to adjust the treatment plant before the tannery starts full-scale operations. The Programme should consider providing assistance to the tannery.

## UGANDA SHOE COMPANY, Kampala

### 1. Background information

Products:	Men's and ladies' leather type cemented shoes and sandals
Production:	20 -25 pairs/day
Employees:	10 operators
Markets:	Local

The firm is managed by two brothers. Third brother recently started his own shoe workshop. The present production of the firm is low. It rents out a large part of the factory space.

### 2. Project support

#### 2.1 *Inputs delivered*

The expert has given advice on factory configuration, production flow and work methods, product design and product costing. Equipment to the value US\$72,401 was received.

#### 2.2 *Use of inputs*

The factory was reluctant to implement the recommendations suggested by the expert. Due to low production at present, equipment supplied is in limited use. Folding machine is not in use because it was supplied in wrong set up. It can be converted for folding purpose if some parts were provided. In this situation, the use of knowledge and equipment inputs is not effective.

#### 2.3 *Impact*

The factory layout and work methods still resemble artisan principles. They waste much time in unnecessary work transport, etc. The company did not contribute new product ideas to the market. In fact, the company is unwilling to properly contact retailers. The new equipment is improving the quality of the products. The equipment could open production capacity bottlenecks because the new machinery allows higher production.

### 3. Need of further assistance

The firm has much factory space and equipment. The recommendations of the consultant need to be followed up in order to have the firm properly functioning.

### 4. Recommendations

The Programme should pay special attention to this firm and motivate the management to implement the recommendations.



## **UNIVERSAL SPORTS Ltd., Kampala**

### **1. Background information**

Products:	footballs, volley balls etc.
Production:	25 balls per day
Employees:	22 persons
Markets:	Local markets

There is now a programme in Uganda to provide balls to schools. The female entrepreneur has worked as a physical education teacher in schools. Leather for the production balls is supplied by the Leather Industries Kenya Ltd. (LIK), and Bulleys Tannery. For the purpose, the leather supplied by the former is sometimes too soft, and that from the latter is sometimes too thin.

### **2. Project support**

#### *2.1 Inputs delivered*

A leather goods expert has provided consultancy in running-in and in production operations. Equipment to the value of US\$8,582 was received.

#### *2.2 Use of inputs*

The persons trained on-the-job are working in the firm. They are using the production methods learned from the expert. The equipment, except the ball forming machine, is in use. A small compressor is needed for operation of the machine. The firm cannot provide collateral for a bank loan in order to purchase the compressor. The firm also needs a set of smaller cutting dies for the production of netballs. The dies supplied for that purpose do not correspond to the related size of the ball and the forming tool.

#### *2.3 Impact*

The firm learned and started ball-making. The equipment received makes it possible to produce quality balls. Unfortunately, the balls produced are not properly shaped as the ball forming machine cannot be used without a compressor.

### **3. Need of further assistance**

Compressor is urgently needed. Cutting dies for the smaller ball size are also needed.

### **4. Recommendations**

Compressor and cutting dies should be provided.

**DAAS, Kampala****1. Background information**

Products: Men's and ladies' shoes  
Production: 40 - 50 pairs/day  
Employees: 50 - 60 operatives depending on orders received.  
Markets: Local

The firm has now new owners and an Ethiopian expert on the payroll.

**2. Project support***2.1 Inputs delivered*

Expert has given some advice; Equipment to the value of US\$20,629 was received.

*2.2 Use of inputs*

The folding and the 2-needle post bed sewing machines received are in use.

The splitting and the eyeletting machines are not in use. The firm is of the opinion that it does not need these two machines. (The eyeletting machine has not been set for the eyelets now in use in the factory. Some spare-parts are necessary to make the adjustment).

*2.3 Impact*

The equipment has opened some production capacity bottlenecks but the unutilized machine is a burden on the cash flow.

**3. Recommendations**

The eyeletting machine not in use should be transferred to another company which may need it (possibly to the Uganda Bata Shoe Company).

**EQUATOR SPORTS, Kampala****1. Background information**

Products: Leather Balls, such as footballs  
Production: 25 balls per day  
Employees: 15 persons  
Markets: Local markets. Selling to schools and sport shops.

**2. Project support***2.1 Inputs delivered*

A leather goods expert trained the personnel in ball production methods. The entrepreneur attended two local trade fairs to promote products; equipment to the value of US\$6,441 was received.

*2.2 Use of inputs*

Production methods learned from the expert were applied. The trained persons are with the firm. Two ball forming machines supplied are in use. The cutting press and splitting machine are not yet in use because of lack of 3-phase power supply, expected to be installed soon.

*2.3 Impact*

On-the-job training and consultancy by the expert has been crucial in starting ball production. The equipment received made the ball production possible. Once all the machines are in use, they will improve the quality of the balls.

**3. Recommendations**

As the entrepreneurs were not present, further assistance needs could not be defined; the Programme may look into the matter.

## **PEOPLE'S FOOTWEAR & GENERAL ENTERPRISES, Jinja**

### **1. Background information**

Products: Gents', ladies' and children's shoes and sandals  
(Making shoes to measure as well.)  
 Production: 30 pairs footwear per day  
 Employees: 11 persons  
 Markets: Local markets. Retail also in the workshop premises

### **2. Project support**

#### *2.1 Inputs delivered*

One person was trained at TPCSI, Thika, Kenya in cutting, stitching and costing. Swayam Siddha self-learning training manuals were delivered. Expert trained the management in production methods. Equipment to the value of US\$7,076 was received.

#### *2.2 Use of inputs*

The person trained is working in the firm; machines delivered are in use.

#### *2.3 Impact*

Training and consultancy improved the productivity and the product quality of the firm but further productivity improvement is needed. The equipment received opened some production capacity bottlenecks making higher production possible.

### **3. Recommendations**

The company (as in the case of many other shoe factories visited) needs assistance in shoe finishing. Improving the shoe finishing could add value to the products. The assistance could be provided by inviting world class shoe and leather finishing chemical firms to demonstrate their products and methods.

## **EXPERT SHOE AND HANDBAG MAKERS, Mbarara**

### **1. Background information**

Products:	Men's and ladies' shoes
Production:	40 pairs/day.
Employees:	20 persons
Markets:	Local

In former times, there were several shoe manufacturers in the town. Competition from the second-hand shoes forced the firms to close down. The entrepreneur recently lobbied the town council to forbid selling imported second-hand shoes in the streets. The vendors now need to rent indoor retail space. It is hoped that this will create more equal terms for the competition.

The entrepreneur is providing practical training to the footwear students of the local technical school. The school is first giving theoretical training in production technology. Practical training in the firm, for a duration of about two months consisting of 5 - 10 students in a group, is also offered.

### **2. Project support**

#### *2.1 inputs delivered*

One of the business partners (the wife) received one month training at TPCSI in Thika, Kenya in shoe clicking and closing work methods. Swayam Siddha (self-learning) training manuals were received. Expert provided some advice on production methods. Equipment, only hand tools, to the value of US\$1,500 was received.

#### *2.2 Use of inputs*

The trained person is working in the firm. The learned methods were implemented in the production. Swayam Siddha (self-learning) training are manuals used for technical reference.

#### *2.3 Impact*

The firm is well established in the market place. Thanks to the training received at TPCSI, a number of changes in product design and production were introduced. The hand tools received made certain operations easier to perform.

### **3. Need of further assistance**

The firm needs loans for work-in-process to increase its production. According to the entrepreneur, 20% interest on bank loans makes it not possible.

### **4. Recommendations**

The firm should improve footwear finishing methods for better appearance of the products. The firm is now about to rent more space in order to increase production. The Programme should look into the assistance needs in this context.

## **HIDES AND SKINS IMPROVEMENT SCHEME, Oromiya Region**

### **1. Background Information**

In view of the large tanning capacity developed in Ethiopia, the Government has adopted a number of measures to ensure availability of raw hides and skins for the tanning industry. Ethiopia is the only country (among those visited by the mission) which in 1988 banned any export of hides and skins. (This measure is, however, only partly effective: It is estimated that only 60-70% of the collected hides reach the tanneries; the rest is either taken by local small-scale tanners or smuggled from the country. The impact of the export ban on prices and thus on collection rates also deserves critical analysis.) Hides and skins can be traded by licensed traders only (approximately 1,400 licenses were issued in the past). A complex system of extension services was operated by the Ministry of Agriculture. A Governmental Committee on hides and skins was established under the chairmanship of the Prime Minister.

International cooperation with development agencies in this sub-sector was welcome. As long as 20 years ago, under the 2nd Livestock Project, 59 slaughter houses and sheds were constructed throughout the country. UNIDO and FAO support to hides and skins improvement started in 1989. Recently, the European Community funded the establishment of three slaughter slabs. UNDP, in addition to the project under review, provided some funds to the Productivity Improvement Centre which were put towards the organization of two training courses in hides and skins improvement.

The whole hides and skins improvement system was designed and established at the time of central control, with the public National Leather and Shoe Corporation (NLSC) as the main beneficiary. The system of extension officers provided not only advisory services and training, it also monitored the trade in hides and skins, since any physical move of the hides and skins by the licensed traders was subject to the issuance of a permit by the relevant extension officer. [One of the objectives was to prevent illegal transportation of goods under the hides and skins.] On this occasion, a sample of the consignment was spot-checked and graded. On the basis of this activity, monthly reports on quantity and quality were prepared by the extension officers and submitted to the Zone, Region and the Ministry of Agriculture.

At the present time, there exist 13 regions in Ethiopia with a considerable degree of political autonomy. In each region there are 7-10 zones, in each zone there are 4-6 districts, and in each district there are 5-10 trading centres (villages or towns which have a licensed trader). Under the new economic system, (with NLSC dissolved), the system of extension services is undergoing a change. There are still 400-450 extension officers, primarily at the district level, but with the increased political power of the regions the role of the Ministry of Agriculture in the system is diminishing. Even the monitoring function is performed at the regional level only so that there is no country-wide overview of the quantity and quality of collected hides and skins.

In addition to fragmentation of the statistical data, their reliability is also questioned in particular, with regard to information on the quality of hides (grades). The use of information on the quality of hides is also not clear since the tanneries purchase the hides by weight, with little regard to grades, in spite of the Government decision that pricing by grades should be adopted. The monitoring and trade licensing function of the extension officers is commented upon unfavourably by the licensed traders with reference to the fact that illicit trading in hides and skins is beyond any control.

The current low prices of hides and skins adversely affect the collection rates. The quality of sheep skins deteriorated due to the "small pox" (Ekek) disease.

## 2. Project support

Two target areas have been supported by the project: the Southern Ethiopia Nations, Nationalities and Peoples (SEP) Region (formerly the Awasa and Boditi districts) and the Oromiya Region (formerly the Zwai Region). The former region was already supported under Phase 1. The evaluation mission visited two project construction sites in the Oromiya Region: Cheffe Donsa and Asgori. In addition, the mission visited a number of non-project facilities in the Oromiya region, such as the EC-funded slaughtering slab, a private trader, slaughtering slabs at Arsi Negelle, and a large drying shed and storage facilities at Debri Zeit. Some of these facilities benefitted or were expected to benefit from project inputs and activities (knives, training, etc.) The evaluation mission also met the Regional Coordinator of the SEP region.

### 2.1 Inputs delivered

Total budget: US\$354,000 from IDF, US\$593,000 from UNDP

Construction/rehabilitation of slaughtering slabs and drying sheds. The target figures (for both target areas combined) in the project document and the work plan differ:

	Project Document	Work Plan
Slaughtering slabs	9	13
Sheds	7	11

The project document, however, also includes rehabilitation of the old facilities (40 slaughter houses and slabs and 330 drying sheds). Hardly anything has been done in this direction.

New construction is still below the target levels: so far 5 slaughtering slabs and 3 drying sheds have been completed and 2 sheds and 2 slabs are under construction. Preparatory work for additional sites is under way but budgetary constraints will probably hinder achievement of the target figures specified in the Work Plan.

There have been considerable delays in the construction due to changes in design and specifications, contracting procedures, financial settlement, etc. The local construction costs per slab and shed increased considerably and amount to approximately US\$10,000, hoists (delivered by the project) not included. The two visited slabs suffer from lack of clean water; in one case it is pumped from a distant well, in the other case from a well 25 m deep, the water being of poor quality. As the slabs do not have electricity, the slaughtering can only start at the break of the day. Septic tanks and fencing are still to be completed.

The cost of construction is rather high, partly due to high transport costs of construction materials. The construction technology is very simple and does not need input of technical know-how of an international organization since the local professionals are well qualified to design and construct such sheds and slaughter slabs. Therefore, the project's role is primarily budgetary support.

#### - *Equipment and tools*

2 vehicles and 15 motorcycles (project document: 25) were provided to support the services of extension officers. Other tools were delivered as follows:

	<b>Project Document</b>	<b>Actual delivery</b>
Knives	1,720	770
Marking hammers	110	120
Slaughtering steel	110	110
Hoists	?	20

Some of the delivered tools were also forwarded to the non-target regions. Selection of some equipment turned out to be problematic: as Honda motorbikes (delivered by the project) are not on sale at the local market, the spare parts cannot be purchased locally.

- *Training*

A number of training courses (usually lasting one week) were organized for traders, artisans and extension officers to reduce the hides and skins defects and to support application of the grading system. In total 550 participants attended the courses which exceeds the planned target of 520. Additional workshops are planned. However, the butchers/farmers at the Cheffe Donsa project site have not yet been trained.

A study tour to other Programme countries in Africa was cancelled for budgetary reasons. According to the SEP Regional Coordinator the disappointment on the part of the extension officers concerned may become a factor of their passiveness.

- *Expert advice/studies*

Two studies were conducted and completed to provide advice on acute problems: a study on the hides and skins procurement system and a study on the sheep skin "small pox" (Ekek) disease.

20,000 awareness-raising posters were produced.

## 2.2 *Use of the inputs*

At the project site, Cheffe Donsa, the slaughtering started shortly before the evaluation mission arrived. Only 5 cattle were slaughtered at the slab in two days (total kill in the district was estimated at 30). At the project site, Asgari, slaughtering started one week before the mission arrived; 16 cattle were slaughtered during the week. In both cases the fee is very low (US\$1 per cattle). While the use of the slabs was rather limited, it is expected that it will increase as the farmers become aware about the facility. However, their use will continue to be constrained by the absence of electricity, limited availability of water and the (intended) peripheral location of the project sites. For comparison: the EC-funded slab located at a main road reported 75 slaughtered cattle per week on average, with a peak of 30 cattle per day. The fee is US\$2.5 per cattle. The slab is well supplied with water, has a hoisting device and two permanent flayers. It is owned by a butchers association (14 members). Location at the main road also affected the construction costs (approximately US\$8,000).

Establishment of butchers associations in the remote areas is more difficult because the division of labour has not advanced enough to distinguish clearly between butchers and farmers. Without an association, the ownership of the slabs and sheds is not in the hands of major beneficiaries of this project output. This diminishes the motivation and responsibility for the operation and maintenance of the facility and, thus, for the sustainability of the project output. [At the Asgori project site the national expert was under pressure from the municipal authorities to provide additional inputs.]

The use of the sheds is linked to the use of the slabs. However, hides of the cattle slaughtered in the backyard



were not brought to the shed. Thus the capacity of the shed was used to a very limited extent only. It may increase with the expected increase in the use of slabs but a mechanism should be developed to motivate the other farmers/butchers slaughtering in the backyard to avail themselves of this facility.

Hoists procured under the project were not installed. Knives were delivered to the regional authorities but not distributed to potential users; in fact it proved difficult to explain the long delay in the distribution process and to establish the current location of the knives.

The use of knowledge acquired at training workshops is difficult to assess. There were cases of hides with large number of holes, of a wrongly suspended hide and of extension officers being rather slow in grading. However, most hides were suspended properly and some extension officers were very competent in grading.

At one private drying shed and storage facility, the use of DDT was noticed. This may cause problems when exporting the hides and skins to Europe as the chemical can be detected in the waste water.

The two studies produced by the project were reviewed by the relevant authorities. The marketing study (procurement system) was found useful but the key actors including the Ethiopian Tanners Association doubted that all the recommendations could be implemented since some assumptions (central handling of hides) were considered rather optimistic. Implementation of the "Ekek disease" study awaits the completion of a parallel FAO study.

### 2.3 *Impact*

Impact of the newly-constructed facilities cannot be assessed easily since all of them (except for the drying shed at the Delbo site which - due to the long distance - was not visited by the mission) were completed only recently. However, even an increased use of the slabs and sheds constructed by the project will not result directly in a noticeable increase in collection of hides and their quality; the numbers of cattle slaughtered in the project slabs will remain modest in comparison to the total kill.

As explained at the Ministry of Agriculture, the demonstration effect was supposed to be more important than the direct contribution to the quantity and quality of collected hides. It was, in particular, in view of this purpose that peripheral districts located rather remote from urban areas, were selected for project sites. It was expected that demonstration of such simple facilities would result in their replication elsewhere. In this respect the assessment is quite positive. The project helped amend and consolidate the basic design parameters of the slabs and sheds (dimensions, walls, etc.) The SEP Regional Coordinator reported that the Regional Administration allocated 237,000Br for the construction of 4 additional sets of slabs and sheds and 158,000Br for the extension services.

There was no impact on the quality of hides by the delivered hoists and knives since they were not in use.

The impact of extension services (supported by project motorbikes) will vary depending on the professional capabilities, motivation and attitudes of individual officers; the evaluation mission came across extension officers of different levels of competence.

In view of the above, it is interesting to find out that the statistics from the two project areas indicate a decrease (-10%) in collection of hides, a considerable increase in collection of goat skins and some increase in collection of sheep skins. As regards quality, the percentage of grade I increased in both hides and skins (for hides currently 52% against 42% in the baseline). However, the data on grades are not reliable for two reasons: first, the grading is affected by the selection of the sample (not all hides and skins can be graded individually); second, some defects (such as putrefaction) can be revealed only at the wet-blue stage.

Changes in the collection of hides and skins (this data is more reliable) indicate that the volume of collected hides and skins also depends on other factors than those supported by the project. In this particular case, the lower collection of hides resulted from lower prices for raw hides.

## **AWASH TANNERY, Addis Ababa**

### **1. Background information**

Awash Tannery is a modern unit. It employs 860 persons and processes 3.3 million skins and 300,000 hides per year (11,000 skins and 1,000 hides per day).

The quality of hides has improved, with the best quality hides being those procured directly from the large slaughterhouses.

Awash tannery is equipped with large drums and efficient equipment. The equipment is well maintained. About 20% of the tannery equipment was delivered by the UNIDO project.

### **2. Project support**

#### *2.1 Inputs delivered*

In the four countries visited by the mission, the Awash tannery is the target beneficiary with the largest budget for equipment support (US\$834,000 delivered in the first phase and US\$450,900 budgeted under three projects in the second phase). While this may be object of unfavourable comments by some other tanneries in the country, it should be understood that the decision was taken years ago (at the time of central control of the tanneries) by the NLSC and that the decision taken by local authorities was motivated by objectives valid at that time.

However, no equipment has so far been installed under the second phase (except for a computer/printer). The finishing rotary spraying machine (US\$131,400) was procured but not yet delivered as it had been for more than 2 months under customs clearance. It seems that 18% of import duty (US\$26,000) may have to be paid to receive the equipment. There is also a risk that a high storage fee (exceeding the import duty itself) will also have to be paid. This delay and serious complications result from the change of Government policy. Though they are beyond the control of UNIDO project management, in view of the weighty financial implications an urgent action at the Government level is needed. The problem may be aggravated when the effluent treatment plant is delivered, that is to say, the equipment for the chromium recycling (US\$307,422) and for the control laboratory (US\$7,739).

It seems quite questionable that unproductive equipment should have to bear some import duties, as it will be used to protect the environment. However, while respecting this Government policy by incorporating adequate measures in new technical cooperation projects, it should also be recognized by the Government authorities that the terms agreed upon in the original project document should be adhered to.

The tannery also benefitted from some training activities (waste water treatment, leather finishing technology). The quality of training was appreciated.

The former management of NLSC recommended that tanneries be more involved in the selection of equipment. The current management of the Awash tannery is highly satisfied with all the assistance received from UNIDO.

#### *2.2 Use of the inputs*

The equipment delivered under Phase I is well used and very properly maintained. The computer and printer delivered under Phase II are used for equipment maintenance management. The trainee in waste water treatment is in charge of the ETP project. The two trainees in leather finishing are in high management positions.

#### *2.3 Impact*

The finishing equipment installed in the first phase of the project contributed considerably to the capability to produce finished leather for the home market as well as for export. Finished bovine leather is currently exported to England.

Between 1994 and 1996, domestic sales were increased from 17.9 to 30.04 million Birrs (+68%). Export sales were also increased from US\$10.87 to US\$ 15.72 millions (+45 %).

Installation of the effluent treatment plant will eliminate an estimated quantity of 5,500kg COD, 2,100kg BOD<sub>5</sub>, and 4,700kg suspended solids (when the tannery is running at the nominal capacity).

### **3. Recommendations**

All parties involved, including the management of the Awash tannery and the UCD office should continue and intensify their efforts to settle the issue of customs clearance; intervention from UNIDO Headquarters might be considered.

There should be no further support to the tannery in production equipment. However, additional assistance may be considered in introducing cleaner technology processes (such as hair saving methods in the unhairing-liming process) and, later on, in fine tuning the operations of the effluent treatment plant.

## **WALLIA TANNERY, Addis Ababa**

### **1. Background information**

Wallia Tannery is a private tannery located in Addis -Ababa. With 100 workers, the tannery is processing either 7,500 goat skins, or 5,500 sheep skins, or 450 hides per day. Production comprises pickle pelt, wet-blue, crust and finished leather. As the production started 7 years ago, the equipment is relatively new and of good quality. Some new workshops were built last year and some new shops will increase the production area of the pickling and wet-blue sorting. In order to obtain the chromium float separation, fleshing machines and some drums were relocated and placed separately from the tanning section. A new plating press was installed in the finishing section but only hand spraying facilities are available.

Green hides are bought in Addis Ababa slaughterhouse (slaughtering 500 cattle per day). Price of green hides sold at auction was formerly 2.3Br/kg, actual price is 1.7Br/kg. For dry hides, prices are 75Br per 17kg for the first and second grades, 60Br for the third grade, 40Br for the fourth grade. That implies a price reduction of 15% between I, II and III grade. Grading is also carried out for skins, with a difference of 2Br between the first and second grades (15Br per sheep skin) and the third grade (13Br per skin).

The proposal of a central auction system for all hides and skins is considered to be too complex to be effective, as it is difficult to organize it in a centralized place in Ethiopia. The best way to improve the quality of raw hides and skins would be to strengthen the action of extension officers, to enforce the trading by grade and to improve the training of people specialized in grading.

### **2. Project support**

#### *2.1 Inputs delivered*

Equipment to the value of US\$31,134 (DG/ETH/94/239) and US\$30,733 (US/RAF/92/200) is to be delivered in 1997 to install a primary treatment plant. Some civil works have already started to modify the sewer leading to the effluent treatment plant, but no works for the ETP itself were performed. Some modifications of the ETP were recently agreed upon with the project consultant and new drawings were sent to him in order to obtain his approval. These modifications do not effect the choice of equipment for the ETP.

At the time of the mission's visit the tannery had no information about the status of procurement of the equipment.

#### *2.2 Use of the inputs*

Advice provided by the expert on the design of the ETP was followed up.

#### *2.3 Impact*

The tannery is located in an urban area and effluent are discharged into a small river. Once operational, the ETP will reduce the discharge of effluent as follows: 790kg COD, 290kg BOD<sub>5</sub>, 1,010kg suspended solid and 35kg chromium.

### **2.4 Recommendations**

The project management should keep the tannery informed about the current status of the procurement of equipment. It is important to obtain a good level of primary treatment. Therefore, additional support might be needed to improve the quality of the waste water treatment. In particular, some laboratory equipment to run the basic chemical analysis (pH, COD, settleability, Cr and possibly Sulphide) will be required. Wallia Tannery has a great need of a finishing line. However, any additional support to upgrade production facilities should comply with the terms of the new Government policy as regards taxation and payment of interest.

## **RAS DASHEN SHOE FACTORY, Addis Ababa**

### **1. Background information:**

Products: Shoes: Men's and ladies' footwear by cemented and moccasin construction.  
 Component production: Unit soles by injection moulding.  
 Production: 900 pairs/day (maximum reached so far).  
 Employees: 80 persons (full time), 50 persons (part time) in moccasin hand-stitching, (1993 total 30 persons employed).  
 Markets: The firm has established its market share for its footwear brands and soling components (unit soles) in the local and in some export markets.

According to the entrepreneur, the local market has declined due to local factors (increased price of raw materials), and there is some competition from smuggled second hand shoes. However, he is now extending his factory building in order to increase production.

### **2. Project support**

#### *2.1 Inputs delivered*

Four persons were trained at TPCSI in Thika, Kenya. Entrepreneur attended the UNIDO/CUOA management seminar in connection with Linea Pelle and SIMAC, in Italy. Swayam Siddha (self-learning) training manuals were received. Shoe designing expert assisted in designing export product range. Marketing expert advised product development, plant configuration, production methods and equipment selection.

Promoted product range in the following fairs:

- GDS Fairs in Germany twice a year in 1994, 95 and 96.
- Study tour to GDS Shoe Fair in Germany by two persons in 1996.
- Equipment to the value of US\$84,768 was received.

#### *2.2 Use of inputs*

The training improved the design, technical and managerial skills. The trained people are still working in the firm. The expert's recommendations were implemented in the field of factory configuration (production flow, layout), quality control, production methods and product costing. The machines are in use. However, one Stitch Marking (Upper Marking) machine, which was intended for the Kangaroy, was erroneously delivered to this factory. The machine was found unpacked and is to be transported to the Kangaroy. The cutting block planing machine is used only occasionally. It could serve other manufacturers as well; the entrepreneur is willing to let others to bring their cutting blocks to be planed, to make the surface even.

#### *2.3 Impact*

Training improved motivation to develop the firm utilising the learned technical and management skills. The firm did not benefit much from the Design Expert's visits because the visits were too short to design and make ready a full range of products. As a result of the visit of the Marketing Expert who was also a footwear technologist, the production flow, quality and quantity consistency improved considerably. The equipment made larger production possible, and improved product quality.

Participation at the foreign trade fair gave the entrepreneur the opportunity to study and understand opportunities in export. This motivated him to prepare and participate at other fairs, and to seriously work with the Programme. As a result, during 1995 - 1996 the firm received and produced 22,000 pairs of shoes to the value of US\$300,000 for export. Shoe soles were also exported.

The strategy of stretch adopted by the Programme is producing fruits. The firm is now producing 9,000 pairs

of shoes per month for the USA, and has just agreed to produce 6,000 pairs to the UK. To cope with this demand, the firm is now building extension to increase capacity.

### **3. Need of further assistance**

To become truly a world-class company, and for sustainability, the firm needs further consultancy from the Marketing Expert to further improve the production methods for quality, productivity and quick-response.

Refresher training is needed in the UNIDO/CUOA seminar management subjects.

### **4. Recommendations**

The "strategy of stretch" and related assistance components, as applied at this company, should be continued by the Programme. The machines, like the cutting block planing machine, that are used only occasionally, should be available to serve other manufacturers as well. As the company has already reached a self-sustainable development path, further assistance should be provided on cost-recovery.

**GENUINE LEATHER CRAFT Pvt. Ltd. Co., Addis Ababa****1. Background information**

Products: Mainly leather garments; also handbags (from left over pieces)  
Production: 8-16 garments per day, depending on the types of products  
Employees: 32 persons  
Markets: Local and export

The firm is part of the GTK Group of firms (pooling large sales orders when necessary)

**2. Project support***2.1 Inputs delivered*

Only technical consultancy and machinery were received from the Programme as CDI (European Union) has assisted the firm. (Note: total value of the equipment for the GTK Group delivered: US\$36,208).

*2.2 Use of inputs*

Consultancy by the expert was found by the firm very useful.

The firm was visited after working hours. The machines supplied appear to be in use. They would have opted for Pfaff machines instead of Adler to have the same fleet for easier maintenance.

*2.3 Impact*

Taking into account the assistance provided by the CDI, the equipment component provided by this project supported well the build up of capacity.

**3. Need of further assistance**

The firm needs more operatives to be trained, and more machines to cope with the market demand.

**4. Recommendations**

The leather garments of the firm are of exportable design and quality. The Programme should discuss with the entrepreneur the assistance needs for further improvement and growth. It should be noted that access to credit is limited because the banks do not regard machines as guarantee.

## **GENERAL LEATHER GOODS MAKER, Addis Ababa**

### **1. Background information**

Products:	Leather garments, bags, belts and wallets
Production:	Leather garment 7 - 11 per day in addition to bags etc.
Employees:	14 operatives
Markets:	Local market; no export at present because of expensive local leather is high; competition from Pakistan, China and South Korea.

The firm is part of the GTK Group of firms (pooling large sales orders when necessary). The firm is assisted by the CDI.

### **2. Project support**

#### *2.1 Inputs delivered*

Equipment was received. (Note: total value of the equipment received by the firms belonging to the GTK Group is US\$36,208.)

#### *2.2 Use of inputs*

The equipment is in use. However, because of halt in export, the equipment of the firm is not used to its potential as the capacity is two to three fold of the present production.

#### *2.3 Impact*

The equipment supplied is supplementing the inputs of the CDI's programme. Currently, however, the impact on production volume is limited.

### **3. Need of further assistance**

Product design and quality of the leather garments and goods are high. The firm tailors to measure as well. No assistance is required at present time.



## **KANGAROOY SHOE FACTORY, Addis Ababa**

### **1. Background information**

Products: Men's and ladies' shoes; "trekking" shoes, "Clarks type", moccasins, street shoes  
 Production: 750 pairs/day of trekking and Clarks type, 1200 pairs/day moccasins, or 1000 pairs/day street shoes  
 Employees: 230 persons  
 Markets: Local but actively working to secure export orders.

The firm is starting construction of its own tannery because Awash Tannery is allegedly selling the best leather abroad.

### **2. Project support**

#### *2.1 Inputs delivered*

One person trained at TPCSI, Thika in cutting; 4 person trained at TPCSI, Thika in closing; 1 person trained in UNIDO/CUOA management seminar in connection with Linea Pelle and SIMAC in Italy. A Marketing Expert helped the firm to convert the production from moccasins to trekking shoes which are now in great demand, while adding mechanisation. Design expert introduced new styles.

Product range was promoted in the fairs:  
 - GDS Fair in Germany once a year each in 1995 and 1996

Equipment to the value of US\$37,888 was received.

#### *2.2 Use of inputs*

The persons trained continue working in the factory. The systems learned at the UNIDO/CUOA seminar, valuable for the management, were not disseminated in the firm. The recommendations of the consultants were implemented. The consultancy effort was part of the export effort to get the products (design and quality), price (cost), and availability right.

The machines provided are in use. However, the block planing machine is used only occasionally. The firm is ready to plane other manufacturers' blocks. Purchase of the similar machine to Rash Dashen could have been avoided.

After the first promotion of their products in the GDS Fair, they received a fairly large order from France, due to leather quality and other technical problems at the time entry into foreign was not successful. After promoting the new product range in 1996 at GDS again, it appears that a Japanese company was interested in starting business with the firm.

#### *2.3 Impact*

Training and consultancy improved knowledge on both operative and managerial level. The whole factory configuration was altered (workflow, layouts, work methods). It made it possible for the firm to convert from simple moccasin production to the present diversity of higher value added products. Productivity, quality and production volume consistency improved. The firm is now adequately developed to be able to accept fairly large export orders.

### **3. Need of further assistance**

In order to become a world class company, further integrated assistance is needed for product development, export promotion, productivity and product quality. Refresher training is needed in the UNIDO/CUOA seminar management subjects.

#### **4. Recommendations**

As the firm has shown ability for systematic development, the assistance should be continued. However, a fair fee should be paid for the services. Income from such fees should be used for assistance expenses for emerging companies. The Programme personnel should encourage the management to apply the management systems learned by the participants of the UNIDO/CUOA seminar. The company should be discouraged to build a new tannery. Instead, it should establish closer business linkage with the Awash Tannery to improve the quality of leather soles.

*B. NOT SUPPORTED BY THE PROGRAMME*

*T A N Z A N I A*

**J.A.E. (T) Ltd., Mwanza**

**1. Background information**

Products: Bags, brief cases, belts, chrome washers, tents, uniforms, etc.  
 Production: Max. 50 pieces/day  
 Employees: 12 operatives + some part time  
 Markets: Local

Technically competent management in the firm. The technical manager has earlier studied leather production at Reutlingen in Germany, and Design in Pirmasens, Germany, and leather goods in Bombay, India.

The firm was started by having a SIDA loan. It was not supported by the Programme.

**2. Need of further assistance**

The firm is fairly well-equipped but it needs machinery for special purposes: Post bed, cylinder bed for binding, and cylinder bed heavy sewing machine, cementing machine, name and emblem embossing machine, and strap cutting machine. Implant training and short consultancy is needed to further improve product quality and productivity. For export, attendance at foreign trade fairs for exposure and promotion is needed, e.g. in S. Africa, Hong Kong, Italy. The firm could let TPCSI make cutting dies which are not locally available.

**3. Recommendations**

As this firm makes a variety of well-designed products and is systematically developing, the Programme should provide assistance to it in equipment and production methods for productivity and quality, in fashion information and product design, and in export promotion. Success of this enterprise could set an example for other firms to locate into the town having not yet much manufacturing. In Tanzania, there is not a prominent supplier for leather goods fittings. The Programme could take a look into the possible plans and possibilities to enhance the availability of leather goods fittings.

**TANZANIA INSTITUTE OF LEATHER TECHNOLOGY (TILT), Mwanza**

TILT had been established with the assistance of a UNDP/UNIDO project (UF/URT/84/062) long before the Regional Leather of UNIDO started. Due to reasons which are difficult to satisfactorily determine, the institute has never started actual operations.

Seven persons are still paid by the Government as employees of the institute (a project coordinator, an administrator, a leather and footwear technologist, a stock keeper and 3 security agents). However, except for the security agents and stock keeper the staff could not be located in the premises of the institute.

Some buildings are rented for commercial purposes (hotel and dispensary). Some equipment can be reconditioned and used, particularly in the shoe manufacturing workshop. The tannery workshop is installed with the following equipment :

- a paddle, 1.5m<sup>3</sup> capacity,
- a stainless steel drum 0.5m in diameter,
- 2 wooden drum, i 1.5 m with door missing,
- 2 wooden drums i 0.8 m,

- 1 dryer with 3 frames for toggling and 3 frames for glass drying, but glasses are missing,
- 1 staking machine,
- 2 cabins for finishing but without spray guns nor air compressor.

The buffing machine was taken by the Mwanza tannery. Having been idle for many years the equipment is very dirty. Laboratory equipment is stored in a closed room, but in very adverse conditions in terms of cleanliness of the room.

As it is highly improbable that the institute would be revived, it is strongly recommended that:

- some equipment from the shoe manufacturing workshop be used for a small training centre;
- the remaining equipment be sold out to tanneries and shoe and leather goods manufacturers.

The decision should be taken as soon as possible in order to stop the continuous deterioration and loss of value of the equipment. The Programme management should contact the Government to address the problem.

### **ALHAMED HIDES AND SKINS EXPORTING CENTRE Ltd, Kampala**

The tannery is located in an industrialized area, but it is situated close to a coffee factory. Thirty-five persons are working in the leather production. The tannery produces wet-blue leather from skins or from hides. The quantity processed is either 2,000 skins per day or 300 hides coming in green state from the Kampala slaughterhouse. Skins are mainly goat skins and are coming from various regions of Uganda. The production is exported to Italy or to Pakistan. Some contracts were concluded with LIU to produce finished leather.

Quality of wet-blue produced is poor, although it has, however, improved in the last years. Prices are between 70 and 85 cents per sq.ft of hides and US\$24 to US\$26 per dozen of skins.

The main workshop has a surface of area 400m<sup>2</sup>, covered with metallic plates which are highly corroded and perforated. The equipment in the tannery is also in bad condition. Soaking is performed for hides in 8 pits and in paddles for skins. 4 paddle vats are used, but one has no paddling equipment. Four drums of a local production are running in the workshop. They are loaded with 3 tons of soaked hides, or with limed hides or with limed skins for the tanning operations. Fleshing is performed either on an old 3m Turner machine (bought second-hand in India), or on a smaller Svit machine (2.3m) which is more efficient for hides and used also for skins. Two second-hand setting out machines are used for the tanned hides and skins. A second-hand measuring machine was recently installed in the workshop, but has not been put in operation. The equipment is badly maintained and the place does not appear all clean.

Effluent is collected and passes through 3 small tanks and another one equipped with stones, before going to the municipal sewer. The tannery is located at a short distance (about 500m) from the municipal effluent treatment plant. Environmental authorities came to visit the factory and take samples from the 50 to 60m<sup>3</sup>/day of effluent.

The tannery has not been supported by the Programme. It seems, however, something might be done to improve the situation, in particular to prevent bad odours coming from H<sub>2</sub>S. Some screening equipment and some sulphide oxidation system could be set up in order to reduce the odour. The Programme should consider to providing advice and other support to this company in order to improve the effluent situation and equipment maintenance. However, the most important and immediate task for the tannery is to improve the cleanliness and the quality of their production. If they do not follow this objective, it will be very difficult to change the bad impression that authorities get when inspecting the tannery.

### **UGANDA BATA SHOE Co. Ltd., Kampala**

#### **1. Background information**

Products: Men's and ladies' leather type cemented shoes, synthetic boots and sandals.  
 Production: 6000 - 7000 pairs/day, including 250 pairs per day of leather type shoes.  
 Markets: Mainly home market. Own retail outlets.

The Uganda Bata Shoe Company is assisting other shoe manufacturers which still are in their infancy. The firm is taking active part in the Uganda Leather and Allied Industries Association and the Programme activities, and is providing valuable assistance to other shoe manufacturers by providing services not otherwise locally available, such as pattern grading and cutting die making.

## **AGLEO FASHIONS, Kyengera near Kampala**

### **1. Background information**

Products:	Men's, Ladies' shoes
Production:	12 pairs/day
Employees:	5 persons
Markets:	Local

The entrepreneur earlier worked with his brothers (Uganda Shoe Company). He formed this company recently and is developing it. He studied footwear technology at Wellingborough College, in the UK.

The workshop, although small, is well laid out and the products are made with great care and knowledge and are well designed. However, finance is the bottleneck for growth. The planned footwear training/facility centre for Kampala would make it possible for the firm to do some production operation there.

There is an image problem for the firm in marketing because the same kind of unit soles are used by the shoe makers of inferior shoes. Imported soles are an alternative, but are out of reach because of the financing problem, as relatively large quantities must be imported in each consignment. No assistance was provided as the firm was only recently established.

### **2. Recommendations**

The planned small scale training/facility centre could serve small shoe making firms in introducing them to machine operations, and provide production facility services. The Programme should involve small companies like this one in designing the Centre and selecting the type of equipment to be installed.

## **PRODUCTIVITY IMPROVEMENT CENTER, Addis Abbeba**

### **1. Background information**

The leather manufacturing section trains 100 to 120 trainees per year; 80 trainees are coming for raw hides and skins quality improvement training (1.5 month). At the time of the mission's visit 36 persons were trained on this subject.

The other training sessions include:

- Leather manufacture technology (6 months, 15-20 persons per year);
- Beamhouse operations (1 month);
- Tanning, retanning and fat liquoring operations (1 month);
- Dyeing and finishing (1 month);
- Commercial grading of hides and skins, from raw material to finished leather (1.5 month) PIC issues certificates for grading of hides and skins.

Seventy-five percent of trainees come from the sector of MOA and 25% from industry (mainly tanneries) and trade. The fees of the training sessions depend on the material used during training. (For the leather manufacture it is 6,000Br, for raw hides and skins quality improvement 800Br). Salaries and services are not covered by fees, only the material is included. Income from training covers 25% of the budget of the leather sector of PIC.

The equipment for tannery training is rather outdated as it was provided 30 years ago by ILO. It is composed of :

- 2 soaking pits (1,000 litres)
- 1 wooden paddle vat (1,000 litres)
- 1 fleshing machine 1,800mm Turner

- 1 lime splitting machine 1,800mm Turner
- 1 wooden drum for 300kg hides
- 1 wooden drum for 10kg hides
- 1 stainless steel drum Dose for 100 kg hides (bought 15 years ago)
- 1 sam-setting machine Drees 1,200mm
- 2 shaving machines 400 and 600mm
- 2 buffing machines 600mm (1 of which is 15 years old)
- 1 slocombe staking machine
- 1 weel staking machine
- 5 toggling plates
- 1 manual spraying cabinet with spray gun and compressor
- 1 Altera plating machine with 3 plates

The whole tannery workshop, including storage rooms and laboratory covers an area of 250m<sup>2</sup>. The laboratory has only one pH meter, some glassware, main chemicals, and a laboratory oven of 40 litres.

PIC has not been supported by the Programme. Its premises and facilities were used by LLPI and UNIDO to organize training courses funded by IDDA resources. The UNIDO Leather Programme was involved in selecting trainers and recommending trainees from Programme countries.

## **2. Recommendations**

Some cleaning of the facility should be done in order to get rid of all unused chemicals, old documents and waste.

The UNIDO project and the RFO, once established, should provide support to the Centre. The tannery equipment should be replaced and some laboratory equipment should be purchased to improve the testing possibilities. Further requirements might be specified in the forthcoming study on the leather sector-related training facilities in the Programme countries.

## E T H I O P I A

**ANBESSA SHOE FACTORY, Addis Ababa****1. Background information**

Products:

Main factory: - Men's, ladies', children's shoes and sandals of cemented construction and moccasins

Manbo factory: - Men's direct stitched casuals, shoe uppers, and shoes of cemented construction; shoe lasts

Production: 1400 - 2500 pairs/day of shoes

Employees: 796 persons

Markets: Local market

The firm (earlier part of the National Leather and Shoe Corporation) was supported in the first phase of the Programme but not in this second phase.

Presently, the firm is in the process of privatisation. There is much skill for the firm to develop further in the hands of the future owners.

**UNIVERSAL LEATHER ARTICLES FACTORY, Addis Ababa****1. Background information**

Products: Leather jackets, ladies' handbags, document and school bags, executive cases, small leather articles.

Production: - 60 leather jackets per day  
 - Production of bags at time of the visit appeared to be rather low.  
 By 60% bag capacity utilisation the firm can (in addition of jackets):  
 - Ladies' bags - 50 /day  
 - Document and school bags - 50 /day  
 - Executive cases - 10 /day  
 - Small leather articles - 130 /day

Employees: - Leather jackets section: 125 operatives  
 - Bags section: 93 operatives

Markets: - Home market and export.

The firm was part of the National Leather and Shoe Corporation and was supported in the first phase of the Programme, not in the second phase. Now, the firm is about to be privatised. There is much skill for the firm to develop further in the hands of the future owners.



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**Kenya**

## UNIDO FIELD OFFICE

Mr. G. Tabah, UNIDO Country Director  
 Mr. F. van Rompaey, Junior Professional Officer

## MINISTRY OF COMMERCE AND INDUSTRY

Mr. J.M. Masila, Director of Industries

## LEATHER DEVELOPMENT CENTRE (LDC)

Mr. F.K. Wainaina, Plant Manager  
 Mr. J.B. Kitonyi, Deputy Plant Manager

SAGANA TANNERIES LTD.

Mr. H.A. Awale, Director  
Mr. M.G. Wanjohi, General Manager  
Mr. Y.H. Awale, Assistant General Manager

NAKURU TANNERS LTD.

Mr. F.A. Bary, Managing Director  
Mr. M. Faraj, Manager  
Mrs. Sarah Ngoki, ETP Technologist

LEATHER INDUSTRIES OF KENYA LTD.

Mr. A.M. Kassam, General Manager, Operations  
Mr. K.S. Peerbhoy, General Manager, Finance and Administration  
Mr. Mahmood, Manager

SANA SHOES LTD.

Mr. C.M. Ng'ethe, Managing Director  
also Chairman of KENYA FOOTWEAR MANUFACTURERS ASSOCIATION

TRAINING AND PRODUCTION CENTRE FOR SHOE INDUSTRY

Ms. P.W. Mbayah, Manager

KENYA ASSOCIATION OF MANUFACTURERS

Mr. M. Chandaria, Chairman

SIMJON SHOES

Mr. Simon Nanga, Director

COUNT SHOES

Mr. Mbugua P. Kiarie, Managing Director

KAY'S ENTERPRISES

Mrs. M.W. Gatu

JOAPET ENTERPRISES LTD.

Mr. Peter M. Ghrwa

**T a n z a n i a**

## UNIDO OFFICE

Mr. J. Hebga, UNIDO Country Director

## LEATHER ASSOCIATION OF TANZANIA

Mr. J.M. Kadu Al-Balouch, Chairman

## TANNERY MOSHI (INDUSTRIAL PROMOTION SERVICES LTD.)

Mr. P. Murugan, Project Promotion Manager

Mr. A.H. Ali, Operations Manager

## SHAH INDUSTRIES

Mr. H. Shah, Manager

Mr. V. Shah, Manager

## G&amp;T SHOE CO. LTD. MOROGORO

Mr. M.A. Nur, General Manager

Mr. B.F. Baran (in charge of the Treatment Plant)

## HIDES AND SKIN IMPROVEMENT, MWANZA

Mr. J. Majola, Regional Extension Officer, Regional Extension Officer for Mwanza

Mr. M.G. Ndiho, District Extension Officer, Sengerema

## AFRICA TANNERIES IN MWANZA (Africa Trade Development Ltd.)

Mr. S. Chandoo, General Manager, Africa Trade Development (Holding Co.)

Mr. S. Kitigwa, Acting General Manager

Mr. H.A. Kweka, Production Manager

Mr. J. Deogratias, Factory Chemist

Mr. H. Gondwe, Acting Administrative Manager

## J.A.E. (T) LTD.

Mr. A.T. Kassoga, Technical Director

**U g a n d a**

## UNDP/UNIDO OFFICE

Mr. A.Ch. Chuma, Deputy Resident Representative

Mr. P.Tremmel, Junior Professional Officer

## LEATHER ASSOCIATION

Mr. J.P. Becheter, Chairman

## MINISTRY OF PLANNING AND ECONOMIC DEVELOPMENT

Mr. S. Mausso, Expenditures Department

## AUSTRIAN DEVELOPMENT COOPERATION

Mr. M. Wong, Senior Economist

## MINISTRY OF AGRICULTURE, ANIMAL INDUSTRY AND FISHERIES

Mr. N.T. Ndyanabangi

Mr. E. Ediau

## UGANDA SHOE FACTORY

Mr. H. Kayondo  
Mr. F. Kayondo  
Mr. J. Kayondo

## UNIVERSAL SPORTS LTD.

Ms. E. Ndyabagye, Director

## DAAS (SHOE FACTORY)

Mr. Alemayehu Tabor

## EQUATOR SPORTS

Mr. John Lugalia  
Mr. Cyprian Dwapa

## PEOPLE'S FOOTWEAR &amp; GENERAL ENTERPRISES

Ms. J.J.B. Rwanguha

## NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

Mr. J.Y.K. Okedi, Executive Director  
Mr. H. Aryamanya-Mugisha, Deputy Executive Director

## SLAUGHTERHOUSE IGANGA

Mr. S. Ojambo, Veterinary Inspection  
and a number of related staff

## UGANDA LEATHER INDUSTRIES

Mr. A.G. Subramanam, Technical Director

## GOMA FISHING INDUSTRIES LTD.

Mr. Y. Karmali, Director

## AGLEO FASHIONS (SHOE FACTORY)

Mr. F.K. Kavondo

## FREBA TANNERY

Mr. C. Rwemera, General Director

## MASAKA SLAUGHTERHOUSE

Mr. Ch. Lwanger  
Ms. Ch. Nalonyo  
Mr. Mayega, Veterinary  
and a number of other related staff

## EXPERT SHOE &amp; HANDBAG MAKERS

Mr. Godfrey B. Mutebi  
Mrs. Margret Mutebi

## ALHAMED HIDES &amp; SKINS EXPORTING CENTRE LTD.

Mr. Mohamed S. Alhamed, Director  
Mr. Farouk Wabwede, Technical Director

**E t h i o p i a**

## UNIDO OFFICE

Mr. G. Mariki, UNIDO Country Director  
 Ms. B. B. Christensen, Junior Professional Officer

## UNDP OFFICE

Mr. Lambert, Deputy Resident Representative

## ETHIOPIAN TANNERS ASSOCIATION

Mr. H.S. Derso, Chairman  
 Mr. M. Ali, Secretary

## AWASH TANNERY

Mr. K. Chekol, D/General Manager  
 Mr. Kitane

## WALLIA TANNERY

Mr. S. Alemayehu, General Manager  
 Mr. Melaku, Production Manager  
 Mr. Mulatu, Technical Director

## RAS DASHEN SHOE FACTORY

Mr. G. Negash, General Manager

## GENUINE LEATHER CRAFT PVT.LTD.CO.

Mr. T. Kebede, General Manager

## COMESA LEATHER AND LEATHER PRODUCTS INSTITUTE (LLPI)

Mr. R.O. Arunga, Director  
 Mr. Kaleab Negussie, Leather Technologist  
 Mr. Tewodros Yilma, Leather Technologist

## MINISTRY OF TRADE AND INDUSTRY

Mr. J. Mohammed, Head, Industry Development & Promotion Department  
 Mr. Kanea Jaleta Hundessa, Senior Expert

## EMBASSY OF SWITZERLAND

Mr. K. Hagmann, First Secretary

## KANGAROOY SHOE CO.

Mr. Belachev Yirga, General Manager  
 Mr. Teferi Yirga, Manager

## ANBESSA SHOE FACTORY

Mr. Miftar Surur, General Manger  
 Mr. Alemu Mamo, Head, Production Department  
 Mr. Kasa Mengistu, Head, Design Department  
 Mr. Eshetu Getachew, Acting Production Head, Mambo factory

UNIVERSAL LEATHER ARTICLES FACTORY

Mr. Teklemariam G. Hiwot, Production & Technical Manager  
Mr. Dagnatchew Abebe, Production Coordinator, Assistant to Technical Head

CDI (EUROPEAN UNION)

Mr. Ashenafi Mengesha, CDI Representative in Ethiopia

PRODUCTIVITY IMPROVEMENT CENTRE (PIC)

Mr. Andeberhan Berhan, General Manager  
Mr. Negash Horecha, Head, Footwear Workshop  
Mr. Joseph Gelan, Expert, Footwear Workshop

GENERAL LEATHER GOODS MAKER (GTK GROUP)

Mr. Temesgen Zewde, General Manager

HIDES AND SKIN IMPROVEMENT SCHEMES

Mrs. H. Gebru, Head, Department of Animal & Fisheries Resources, Ministry of Agriculture  
Mr. A. Mahmud, National Coordinator, Ministry of Agriculture  
Mr. A. Hailu, Regional Coordinator, Oromiya  
Mr. D. Araya, East Shewa Zonal Coordinator  
Mr. W. Bekele, Gimbichu Wereda Improvement Officer  
Mr. A. Alemu, Arsi Negelle Wereda Improvement Officer  
Mr. A. Kadem, Head, Arsi Negelle Wereda  
Ms. E. Tariku, Arsi Negelle Wereda, Animal & Fisheries Resources, Team Leader  
Mr. B. Geleti, Debre Zeit Wereda Improvement Officer  
Ms. L. Tesso, West Shewa Zonal Coordinator  
Mr. D. Worku, Asgori Wereda Improvement Officer  
Mr. G. Mamo, Regional Coordinator, SEP

Mr. Alemayehu Chuffa, UNIDO Expert in TPCSI

Mr. Getachew Zewde, General Manager of Ephratro Enterprise (Consultancy)