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RECOMMENDED ISSUES TO BE DISCUSSED
DURING THE SUB-REGIONAL CONSULTATION*

Prepared by
the UNIDO Secretariat

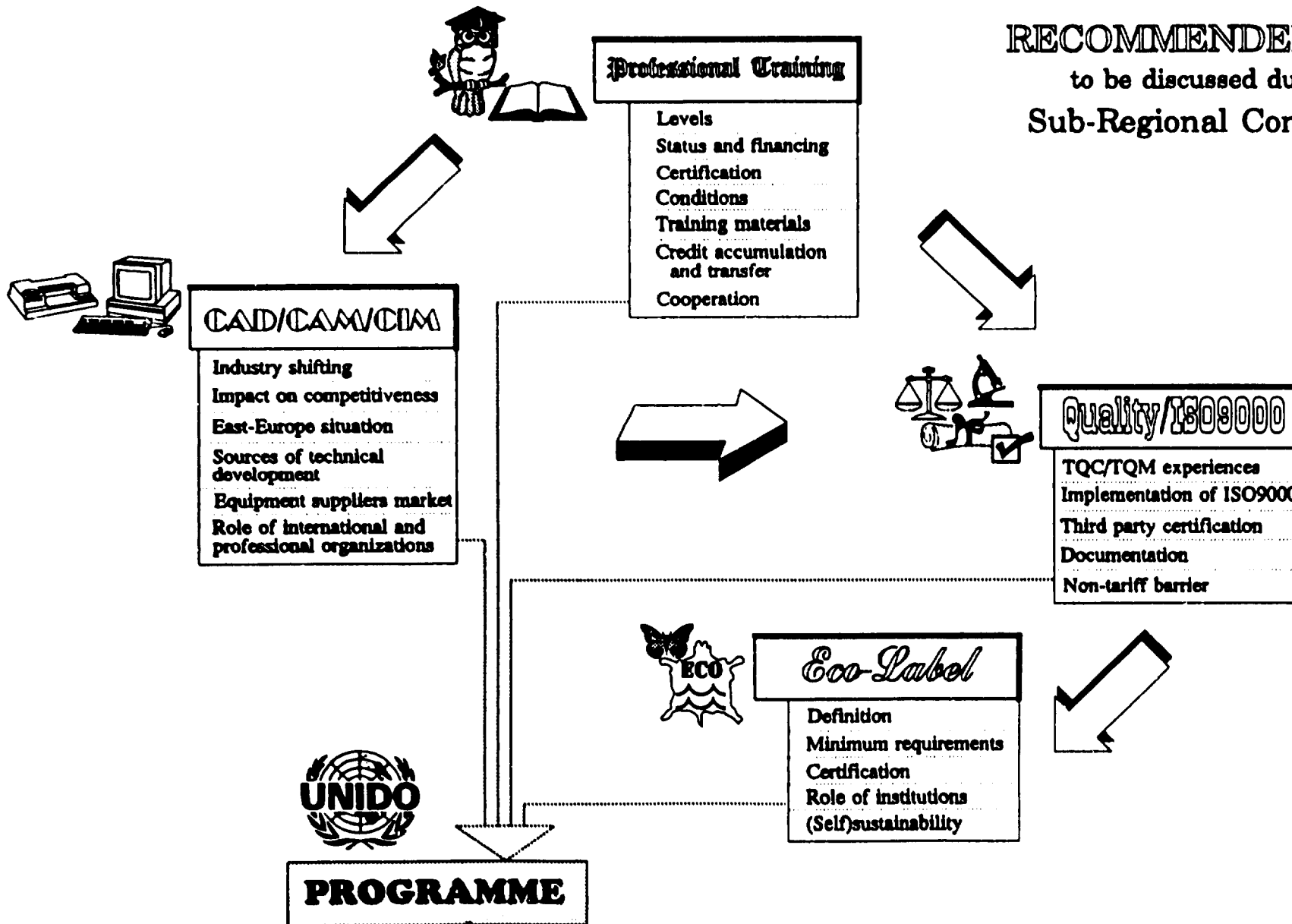
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RECOMMENDED ISSUES
to be discussed during the
Sub-Regional Consultation



Application of Modern Technology such as CAD/CAM/CIM in Footwear and Leather Products Industries in Developing Countries

History

The era of *industrialized shoemaking* commenced by implementing mechanized technology, i.e. by breaking down the shoemaking process into operations carried out by workers specialized in that particular task and by introducing mechanical devices, such as toe-part lasting machines, sole presses, trimming and scouring machines. Not much later production lines based on the conveyer system were organized, leather substitutes (textile, rubber, plastics etc.) were used and component (heels, soles etc.) manufacturing was separated. All this happened at the beginning of this century and led to intensive development of the footwear and leather goods industry in North America and Europe. At the same time in most developing countries, leather products were made by craftsmen only for local use: these assets remained as handicraft commodities in the South and East.

The increasing population and living standards, as well as the emergence of the consumer society in the (semi)industrialized countries, generated an ever-growing demand for apparel and accessories. Very soon raw material supplies became scarce and leading leather and derived products manufacturers had to find additional sources. It was at this point that developing countries made their first attempt, and in fact had their only chance, to penetrate the world market by trading their natural resources, namely raw hides and skins (e.g. Argentina, Brazil, Ethiopia, India). They have remained as suppliers of (cheap) raw materials for quite some time.

With gaining independence and trying to establish economic self-sufficiency, in most developing countries the main objective of development policies was the *increase of value added* on the locally accessible natural resources. The logical decision was to establish appropriate industrial capacities for processing the available raw hides and skins into semi-finished (pickled, wet-blue, crust) and finished leather, then later into shoe upper, complete footwear, gloves, leather goods and garments. In some special cases (e.g. Hong Kong, South Korea, Taiwan) the availability of very cheap labour was sufficient incentive to enter into leather products manufacturing on a large scale, although they had no local material basis what so ever. At that time leather products manufacturing was not a capital-intensive sector, returns on investments were fast and fairly attractive. The industrialized world took advantage not only of the genuine material supply and low production costs, but also of escaping from the drastically increasing pressure applied with regard to pollution control in their own countries and selling equipment for the new plants erected in many developing countries.

However, the above developments had some *negative effects* on the economy of industrialized countries. Some developing countries (e.g. Argentina, India) introduced a ban on exporting raw material which - together with very strict pollution controls - subsequently led to closing down several tanneries in North America and Europe. Many well-functioning footwear and leather goods factories - some of them with long traditions - lost their market because of high production (mainly labour) costs. Financially strong and multinational companies managed to shift their production to North Africa, South East Asia, South and Central America. The consequence is a drastic drop in leather processing, footwear, leather goods and garment production in industrialized countries resulting in well-equipped plants standing idle and increased unemployment.

The trade also experienced certain drawbacks: due to large distances, transportation costs increased considerably. It is very difficult ensure on-time delivery (delays may cause loss of customers and/or lower prices achieved) and consistency of shipments, inspectors have to be kept in the manufacturing plants.

Present situation

By introducing sophisticated auxiliary materials (e.g. halogenizers, solvent-free adhesives), electronics, computer technology in management and processing (CAM/CIM), telecommunications, total quality control systems etc., leather products manufacture is turning into a more capital-intensive, rather complicated technology. It needs more attention from the management, more assistance from, and direct involvement of, the support industries. The heavy competition and consumer expectations require very quick response, leaving no time for lengthy transportation and not tolerating quality faults. Apparently developing countries are handicapped in this respect as they lack qualified staff, financial assets and well-functioning maintenance systems needed for investing in and running high-tech equipment. Geographically they are far away from the main markets. In that context entrepreneurs in industrialized countries placed high hopes on process automation and regarded it as the (only) opportunity to gain back the market share lost to developing countries over the past two to three decades.

In the last years manufacturers' attention shifted from capital-intensity to high-tech. Firms in developed countries believe that *success in competition* can be achieved by adapting modern techniques based on automation featuring computer aided design (CAD), computer aided and/or integrated manufacturing (CAM/CIM) and flexible manufacturing systems.

(Expected) benefits of automation

Modern techniques are expected to reduce production costs. Four saving sources are envisaged, namely:

- a) new computer-intensive processes would replace labour;
- b) minimizing raw material stocks, parts/components and finished goods (production starts after the clients order and delivery follows almost immediately);
- c) providing higher and constant quality;
- d) minimizing material used as a result of more precise design and product engineering, less wastes due to optimizing the cutting processes.

Also a new flexible technology allows the production of *differentiated products*. These systems can be reprogrammed quickly and automatically adjust the production lines in response to changes in the design to be executed.

In addition to CAD/CAM/CIM, there are a number of systems, technologies and technical improvements that are expected to be useful to all countries. For sample making, (*computerized*) *numerically controlled* equipment (NC/CNC) is very widely used in industrialized countries. Apart from the productivity advantage, these machines usually produce a tidier and more consistent appearance than an ordinary stitcher. Other areas of numerically controlled cutting systems are continuous cutting systems, mainly using water or laser jets, and CNC cutting presses using knives.

Other modern technologies, which can be used in developing countries, are:

- a) material measurement and usage control: the personal computer (PC) based applications together with a training package provide a system to accurately asses how much material is needed for each model;

- b) work measurement and dexterity improvement: these computer systems, based on method time measurement (MTM), allow work values to be calculated prior to a shoe coming into production.

For many companies there is a faster pay-off in installing modern, but conventionally constructed machines in the stitching department rather than investing in NC/CNC machines. Much of the machinery is microprocessor controlled and has a learn and repeat facility.

The so called "rink" systems may result in doubling productivity in lasting and bottoming.

UNIDO activities

UNIDO took the initiative to assist developing countries in catching up with high-tech development in the leather products industries by preparing some simple, easy to use programs for PCs in the field of shoe and leather goods costing, production management, pattern grading and maintenance management. Using this and leading CAD software, an international seminar was held in Budapest on the application of CAD systems in footwear pattern making and grading in November 1988.

The desire to shift leather products manufacturing back to industrialized countries was perceived and indicated during the 9TH LEATHER PANEL MEETING in Pécs (Hungary) in 1988. The proposal was made to prepare a study on the expected impact of automation on the competitiveness of the leather sector in developing countries. Unfortunately no funds could be secured for the survey. At the same time UNIDO received support from the Government of Finland to assess the trends in industrial automation, its priorities and recommend appropriate guidelines for the governments of developing countries. Quite naturally these papers are of a rather general nature and do not address the specific problems of the leather processing and leather manufacturing subsectors.

Problems to be addresses

The main objective of the proposed survey and the discussion to be held at the forthcoming subregional CONSULTATION MEETING is to determine the trends in leather industry automation and provide developing countries with reliable information which should be taken into consideration when development programmes are prepared and approved for this sector.

The study, and subsequently the CONSULTATION MEETING, inevitably has to deal with the following issues:

1. Do statistics and trade reports prove any shift of leather and derived products manufacture from developing to industrialized countries? What are the real (social, economic, technical, managerial, marketing) reasons affecting changes in the magnitude and structure of production in various countries?
2. What is the impact of CAD/CAM/CIM and applications of modern technology on the competitiveness of the leather based sectors in industrialized and developing countries?
3. Which direction is leather processing and product manufacturing technology going? Who is doing the real technical development and what are the main objectives of on-going research and development activities?

4. What can be expected in East European countries where a considerable number of production capacities are idle, and at the same time fairly well-educated technical staff is available?
5. Who is expected to keep up the development of new machinery for the sector when traditional suppliers disappear from the market or turn into distributors of equipment produced in South and/or East Europe?
6. What should be the role of (international, professional) associations and specialized agencies - with special reference to UNIDO - in transferring technology? What is *appropriate technology*?

Measures to Upgrade Footwear and other Leather Products with Special Emphasis on Quality Control, Marketing Problems and Firm Strategy

The modern interpretation of quality

Quality control, as it is understood today, was introduced to the industry in industrialized countries when supplier markets gradually turned into consumer markets. The increasing competition in local and international trade put more and more emphasis on quality of commodities. Subsequently manufacturers had to introduce a special activity in their production processes: to check the quality of products before shipping them to other companies, trading organizations or directly to the customers.

In the middle of this century it was realized that checking the quality of the end product alone can only prevent releasing substandard goods. Due the *post facto* character of such checks, it is too late to register the faults. Even if prompt action is taken, during the process some products may have gone through the operation which caused the reject. Manufacturers started to take certain precautions by checking the quality of incoming materials, the tools and equipment used in manufacturing processes and introducing special quality inspection operations after the critical phases of production. In technical literature this strategy was referred to as the *quality assurance system*.

The industrialized world witnessed the fairly rapid, but silent penetration into the world market of goods made in Japan. Strong American and European companies dominated the market for quite some time and believed themselves to be models of top quality manufacture, had to share their market with Japanese competitors, previously known as suppliers of cheap or copied products, but gradually growing into reliable producers of reasonably priced goods. Observers visiting the country of the "Rising Sun" assumed that the success was due to the exceptionally well-organized *quality circles* and they recommended introducing similar systems in North America and West Europe. Since that time *quality management* is regarded as a pattern elaborated and/or implemented in Japan, which can and should be followed elsewhere in the world.

Quality has become an important criteria in combating tough competition on international markets. It consists not only of a set of (physical, hygienic, aesthetic) properties of materials and leather products, but also of services rendered by all suppliers (including manufacturers) to the customers. Among the numerous factors affecting customer-satisfaction time: i.e. *quick response* is one of the prime concerns in the fashion trade. In order to be in a position to offer the expected delivery in terms of quality, the traditional approach of *quality control systems* is no longer sufficient. Tanners, footwear and other leather manufacturers have to establish comprehensive production management systems which guarantee the required output *just in time*. Such a guarantee can only be achieved if all (pre)conditions of the modern manufacturing processes are thoroughly assured - starting with styling and design, through material procurement and production preparation and ending with appropriate logistics.

There are two relative terms very frequently appearing in technical texts which are claimed to be revolutionary strategies and methods in industrial quality: *TQC = Total Quality Control* and *TQM - Total Quality Management*.¹ According to scientific literature, TQM has the following objectives:

¹ In practice they are used as synonyms, although theoretic writers and speakers try their very best to prove fundamental differences.

- a) to be more competitive on the market place and achieve higher profits;
- b) to increase and hold customer satisfaction;
- c) to motivate and satisfy the company's employees through controlled product quality, services and manufacturing methods;
- d) to reduce losses generated by rejects and not calculated additional work or repairs;
- e) to increase utilization of human, technical and organizational resources.

According to ISO 8402, the key terms and definitions related to quality control are as follows (they have also been taken over by the ISO 9000 family):

1. The *quality policy* is the overall quality intention and direction of an organization with regard to quality, as formally expressed by top management.
2. The *quality management* is the aspect of the overall management function that determines and implements the quality policy.
3. The *quality system* is the organizational structure, responsibilities, procedures and resources for implementing quality management.
4. The *quality control* is the operational techniques and activities that are used to fulfil quality requirements.
5. The *quality assurance* is all the planned and systematic action necessary to provide adequate confidence that a product or service will satisfy the given quality requirements.

The way to the present situation

Looking at the development of the quality science and its practical implementation in the leather-related trade, four phases can be defined:

1. Free market economy, advocated by politicians and economist as the only fair ground for competition among manufacturers (and countries supplying the international market), recognized the quality of products as such, i.e. the value of goods and their acceptability for the given purpose was determined by their performance in use. In fact the trade appreciated commodities by their properties. Once the buyer formulated the quality requirements, all potential suppliers had (equal) chances to meet them and the delivery could be easily assessed. In other words the game was fair: all the players had their cards on the table and everyone knew the rules.
2. In order to provide an objective assessment, *standards* were adopted for test methods and for the required quality parameters. As the world trade grew it was inevitable that test methods be agreed upon, so the most widely used ones were recognized first by professional associations² internationally.³ These recommendations were then incorporated into the respective national standards (e.g. DIN, BS, TN). The competition became even fairer as the test methods became uniform, tests could be repeated and/or checked. The efforts made by international bodies contributed to the integration of the world leather trade.

² IULCS = INTERNATIONAL UNION OF LEATHER CHEMISTS SOCIETIES took the initiative in the field of genuine leather processing, recommending two series of standards for testing physical (IUP) and chemical properties (IUC).

³ Through the United Nations INTERNATIONAL STANDARD ORGANIZATION (ISO).

3. Required property values, levels of acceptance, evaluations criteria for test results have never been fixed or agreed upon; only UNIDO made an attempt to publish a set of guidelines.⁴ Such databases have been elaborated by and standardized in large companies (ADIDAS, BALLY, BATA, BAYER, CLARKS, STAHL, etc.) or institutes (CTC in France, PFI in Germany, BLMA and SATRA in the UK etc.). They are treated as proprietary and confidential information. Obviously the requirements are far from being identical, so these standards are applicable only within the given subset of (inter)national trade. There is a firm tendency to accept a few or only one of the existing guidelines as a kind of international consensus. At this stage the market experiences a (indirect) distortion as different sets of quality requirements exist, which are communicated only to the members of each "club" organized around particular institutions.⁵
4. The most recent development is the call to introduce ISO 9000 or its equivalent (e.g. EN 29000 in the EUROPEAN ECONOMIC COMMUNITY, BS 5750 in the UK). These standards do not prescribe any specific requirement (test methods, minimum or at least recommended parameter values). Instead, very complex - in reality very complicated - costly and bureaucratic structures and procedures are described, which may not be necessary in many practical cases. The most important limiting tool is the *third party certification* system. Not the products and/or services are the subject of assessment of the quality performance, rather the quality assurance system together with its (administrative) organizations are evaluated. It is thought that the presence of such a system is a stronger guarantee for consistent delivery; if that is available, the product will necessarily feature the required parameters. The key element in this approach is the certifying body and the validity of the certification. In practice national standard bureaus award certificates and rights to certify others to local institutions (laboratories) and/or companies, but buyers or their market associations - especially abroad - may request another certificate issued by a body recognized by them.

The use of *statistical process and quality control* methods, tools or systems has always had its limits in the leather and leather products industry sector. There are hundreds of computer programmes assisting evaluation of data representing quality, but they have never been implemented on the factory-flow level.

Points for discussion

Both the development of the quality appreciation and the present situation prove that the entire issue of quality measurement, assessment, control, management is fairly controversial in the world leather trade. It is recommended to address the following problems during the forthcoming CONSULTATION MEETING:

1. *Real practical experience* (if any) gained in introducing, implementing and using of TQC or TQM systems. An account of (pre)requisites needed, benefits encountered, costs involved, management problems occurred - with special reference to the specialty of the leather processing and leather product manufacturing subsectors.

⁴ "Acceptable Quality Levels in Leathers", UNIDO document ID.179, 1971, presently being revised and updated by the UNIDO Consultant Mr. A. Lesuisse.

⁵ For quite some time these "clubs" have been closed: applications for paid membership received from specific countries were denied on the basis that they were "unfair competitors" and by that contributed to the increasing unemployment in the given institute's country or (sub)region.

2. The *actual status of implementing* the ISO 9000 family in the world leather and footwear industry.
3. The *practice of third-party certification* in the leather-related trade. Practical examples of implementing the certification scheme. Cooperation among certified institutions and companies.
4. Mechanism of *issuing certificates* by a third-party - qualified and impartial enough to issue certificates.
5. What is the likelihood to *misusing third-party certification (especially under the cover of ISO 9000)* as a new kind of non-tariff barrier against goods and/or unwanted suppliers. What are the developing countries' chances in this respect?

Professional Training Systems Used for the Leather Processing and Leather Products Manufacturing Industries

History of professional training

The overall development observed in both developed and developing countries, including the improved living conditions and standards, is a result - among others - of industrialization. Industrial development has been and is being supported by the enhancement of (professional) training and education systems. At the same time the training systems and methods also underwent revolutionary changes.

In the advent of the industrial revolution, *craftsmen* acquired their skills from older, experienced masters. The learning process normally lasted about half a decade and much had to do with stealing hints from the masters. While manual methods dominated technology, craftsmen were the only specialists employed in each particular profession.

When industrial units grew over a critical size and started to introduce machines to perform specific operations, the division of labour took place in plants.¹ Entrepreneurs realized that simpler tasks could be carried out by *unskilled labour* available for lower wages. (Unfortunately this approach was applied when women and children were also recruited to save production costs.) A further differentiation took place by employing so-called *semi-skilled workers* who normally received on-the-job training. Skilled labour consisted of those completing two to three-year *vocational training* schools.

The above pattern of industrial human resources development satisfied the needs of the leather trade until real, mass production was started. First tanneries employed (chemical) engineers, but the specialty of tanning forced the most advanced industries (especially in the UK, Germany, the Czech Republic) to establish special schools providing college-level training in leather processing. This personnel also found employment in the leather products subsector.

Until the middle of this century, chemical and mechanical *engineers* with a university degree were only occasionally employed in the footwear industry. The leather goods and garment subsectors did not have such staff at all. Diversification of material used, increased sophistication of technology and the introduction of process automation led to the intensified demand for highly qualified personnel specialized in chemistry, mechanical and electronic engineering, system analysis and computer sciences. In industrialized countries these specialists were recruited from among those having the required qualifications, but with no educational background in leather processing and leather products manufacture. Some East-European countries (e.g. Bulgaria, the former Soviet Union) and India introduced, and are still maintaining, professional education systems at MSc and PhD levels specialized in leather and leather products technology.

As the leather-related industry gradually shifted to developing countries in South America and South-East Asia, institutes imparting training at various levels for the subject industrial sector had to close down. Some of the training schools (e.g. SOUTH FIELDS COLLEGE in the UK, TNO in the Netherlands, the SHOE TECHNOLOGY SCHOOL in the Czech Republic) turned entirely toward delivering short and medium-term courses for students coming from various developing

¹ This can be seen today in several developing countries - especially in medium-sized factories.

countries. Analytical and computerized (e.g. SATRA's *VisionStitch*) methods were implemented to train semi-skilled operators, whereby the training was done in factories.

In most new tanneries, footwear, leather goods and garment factories started up in developing countries during the past three decades, training of local personnel was rather neglected. Direct labour received some type of on-the-job training and a few middle-managers participated in study tours or short courses abroad.² Latin America is a unique region in this respect: entire networks of well-organized and equipped leather and footwear training schools offer one to four-year education programmes for the younger generation (e.g. SENAI in Brazil, CETEC in Colombia).

Present situation

Developing countries with substantial raw hides and skins resources and giving high priority to the development of the local leather-related industries, have realized the need for establishing a *local professional training system*. In many cases this objective is supposed to be achieved by setting up a training institute (if possible by using foreign aid and expertise), but no due consideration is paid to the integration of technical training into a comprehensive and systematic scheme of the local education. At the same time new initiatives are being taken in introducing appropriate³ labour training methodology (e.g. the system of so-called self-paced training manuals developed at the FOOTWEAR DESIGN AND DEVELOPMENT INSTITUTE in India).

UNIDO has always been assisting developing countries in *institution building* and transferring up-to-date training methodology. National training and/or development institutes dealing with leather-related technology have been set up or strengthened through UNIDO projects in Brazil, China, Costa Rica, India, Indonesia, Kenya, Nigeria, Pakistan, the Philippines, Tunisia, Botswana and Zimbabwe. The first UNIDO CONSULTATION held in Innsbruck in 1977 recommended establishing *regional leather development centres* which would:

- a) coordinate training programmes at different levels to be implemented in the related national institutes;
- b) provide regular (re)training opportunities for instructors and leading specialists of the national institutes;
- c) assist in setting up and running local training facilities by supplying appropriate methodology, programmes, aids etc.

Without success, UNIDO tried all possible ways to secure funds to implement this recommendation.⁴ Nevertheless, when implementing on-going projects UNIDO has always oriented and focused its activities in such a manner that they lay down the fundamentals for future enhancement and upgrading of regional centres (this was the case with KIRDI in Kenya, CNCC in Tunisia).

According to the latest information, new institutes are being set up in several developing countries (e.g. in Brazil, Egypt, Ethiopia, India). The PREFERENTIAL TRADE AREA OF SOUTH AND

² Normally only family members of owners or top managers had access to the appropriate type and level of professional training in one of the recognized European institutes.

³ Methods which take into consideration local conditions such as literacy, working patterns and discipline, social relationships.

⁴ Besides many other attempts, following a special request a Project Document to establish cooperation among existing leather centres in South-East Asia was submitted to UNDP Headquarters in 1991, but to date no response has been received.

EAST-AFRICAN COUNTRIES (PTA) has established its sub-regional leather training centre in Addis Ababa and tried (with the help of UNIDO) to find donors to start-up its operation - again without success. The main objective of the *National Leather Development Programme* financed by UNDP, executed by the GOVERNMENT OF INDIA and (partly) implemented by UNIDO, is human resources development for the local leather-related industries.

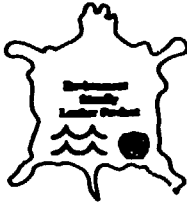
While specialized training institutes are closing down in industrialized countries, at the same time new institutes are emerging in various developing countries. However, no coordination of professional training, education systems exist, nor are appropriate efforts made to this effect. The result is chaos in the structure of schooling systems at skill development, vocational training, technical education and scientific degree levels. That results are a jungle of certificates and diplomas issued by various institutes, whereby entrepreneurs are kept in the dark with regard to their real value. Accessibility of professional training facilities for women is another problematic area in the majority developing countries.

Issues to be discussed

The (possible) standardization - or at least coordination - of training programmes, including entry level requirements, syllabi, hand-outs, audio visual aids, methodology at different levels, examination criteria, certification and continuous updating of the technical training contents, is the main topic offered for discussion. The following problem areas are of particular interest:

1. Definition of levels of professional (re)training and (further) education in view of industry requirements, time and costs involved and feasibility criteria. Integration of professional training into (existing) national education systems.
2. Status and financing of industrial training institutions in developing countries. Role of governments, industrial associations, research and development institutes, companies in financing and/or supporting training institutions.
3. Certification systems and their equivalencies. Possibilities and constraints in international validation of certificates and diplomas.
4. Prerequisites and conditions required for starting up new and running professional training (premises, equipment, staff, material supply, stipends).
5. Conventional (hand-outs, text books, notes) and modern training materials (audio visual facilities, computerized knowledge basis) available for institutions. Requirements for updating the training materials and methodology.
6. Structure, practice and experience gained with credit accumulation and transfer schemes applied in the leather and leather products industries.
7. Possible ways and means of establishing cooperation among training and development institutions operating in the field of leather processing and leather products manufacturing in developing countries.

**Project concept
"ECO-LABEL" for Leather and Leather
Products**



Reduction of environmental impact of the leather industry through defining production technology, effluent treatment processes and waste management for environment-friendly leather and leather goods production and by defining labelling qualifications and labelling procedures for such products.

Background and present situation

The ecological impact, public health and waste management of leather industry products such as footwear, leather garments and various other leather goods have lately received an unusual amount of public interest. This has partly been caused by some sensationalistic mass-media publications but also by legitimate worries of the general public and the industry and trade itself concerned with sound ecological development of the branch.

Voices have been raised from the industrialized countries' tanners and leather products manufacturers that it is increasingly difficult to meet unfair competition from countries which allow tannery operations without regulations and enforcement of sound environmental legislation. This situation is, rightly or wrongly, claimed to cause economic ruin of the branch in countries where ecological factors in leather production are to be taken strictly into consideration.

Several discussions have taken place lately on different levels to design and define an "ECO-LABEL" which could be issued to products manufactured by producers who follow ecologically sound production methods and waste management practices. Such a label should be developed, with the help of the trade, as a tool to stop cheap imports from countries not applying environment-friendly leather production methods.

The view from the developing countries seems to be that such a label is - or could be - used as a new type of non-tariff barrier in a protection scheme by the industrialized countries by not issuing such labels to producers from developing countries even if they would follow strict environmental protection norms.

There is no doubt that this issue constitutes one of the most important development problems of the leather and leather products branch today and reflects deeply in the relations between the leather industry of the industrialized countries and developing countries and their interactions and harmonious development. This may, therefore, be considered as one of the

Consultations and which could create a totally new role for UNIDO to interact, in a practical way, in the development of a world-wide control and monitoring system for ecologically sound production of a consumer product manufactured from a renewable raw material source of vital importance to the developing countries.

The project concept

The project is expected to look into the very complex matter of ecologically friendly production, effluent treatment, waste management, re-use of disposed finished leather products and legislation, as well as the monitoring and labelling of the products of a large industrial subsector. Therefore, the project is to be divided into several phases.

The first phase

Organize a meeting/seminar to discuss the issue and to design and define further actions to be taken. This meeting should call together an expert group composed of top specialists from industrialized and developing countries.

The experts should include scientists and industry people from research institutes, chemical companies, the tanning and shoe industry, by-products producers etc. Representatives from the trade press should also be invited. The group should consist of about 12-16 people and some suitable people are

Three background papers should be prepared for the meeting by suitable consultants:

1. Guidelines for an ECO-LABEL in leather and leather products industry.
2. Latest development in the hides and skins and leather by-products and waste utilization and conversion to marketable products.
3. UNIDO's role in defining, monitoring and issuing an ECO-LABEL for leather and leather products.

This paper should provide a complete project proposal for the whole project including the following:

- General definition of the ECO-LABEL, its function, standards required, monitoring and issuance of certificates and labels.
- Definition of minimum requirements for the production of leather under the ECO-LABEL.
- Definition of minimum requirements for the production of footwear and other leather products to qualify for the label.
- The role of various research institutes as subcontractors to carry out part of the work.
- The proposal should also suggest how such a scheme can be made self-sustaining and self-financing after the initial injection of funds by suitable donor agency(ies).

It is expected that the first seminar will provide strong recommendations for the continuation and final formulation of the project.

The ultimate idea is that a product which is entitled to be marketed under the UNIDO ECO-LABEL for leather products should be sold at a price which includes a small percentage as contribution to the UNIDO ECO-LABEL fund for continuous research and cleaner production activities within the leather and leather products sector.

The second phase of the project would deal with the project formulation and fund raising activities and in the third phase the project would be implemented.

Timing

The timing for the further development of the project concept should be:

- Presentation of the concept (as Issue 1) at the next Leather Panel Meeting in Nairobi, November/December 1993;
- If supported by the panel meeting, preparation of the document for the first phase and organization of the first meeting/seminar in Vienna, mid-1994;
- Presentation of the results and recommendations of the first meeting at the next Consultation meeting for discussion and recommendations (early 1995).
- If supported by the Consultation meeting, formulation of the final project document for the whole project and presentation for financing.

