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ENGLISH

ASSISTANCE TO THE CEYLON LEATHER
PRODUCTS CORPORATION :

DP/SRL/81/007

SRI LANKA

Terminal report

Prepared for the Government of Sri Lanka
by the United Nations Industrial Development Organization
acting as executing agency for the United Nations Development Programme

Based on the work of Mohammad Bashir, chief technical adviser

United Nations Industrial Development Organization
Vienna

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Explanatory notes

The monetary unit in Sri Lanka is the rupee (SL Rs).

Besides the common abbreviations, symbols and terms, the following have been used in this report:

CLPC	Ceylon Leather Products Corporation
DMS	Direct-moulded soles
IMS	Injection-moulded soles
LS	Leather soles
PVC	Polyvinyl chloride
SO	Stuck-on
S/S	Slippers/sandals
VS	Veldtschoen (flexible shoes)

ABSTRACT

The Ceylon Leather Products Corporation (CLPC), which operates three factories, a tannery, a leather-goods factory and a footwear factory, had previously received technical assistance from UNDP/UNIDO through various projects which helped to increase the quality and output of its different products and to introduce some new technologies.

The shoe factory had a capacity of 360,000 pairs per year. Since its equipment and machinery was to a large extent old and the technologies used outdated, the shoes produced lost their attraction for customers. When CLPC, in 1980, began to face difficulties in selling its products, it requested UNDP/UNIDO for assistance in the preparation of a feasibility study for the modernization and expansion of the shoe factory.

The project "Assistance to the Ceylon Leather Products Corporation" (DP/SRL/81/007) was approved in January 1982 and the chief technical adviser (CTA) elaborated a feasibility study in which he recommended the modernization and expansion of the factory, linked to some premisses, such as the introduction of effective control systems in various areas.

To achieve the immediate objective of the project, i.e. to render the products of CLPC fully competitive, four international and one national expert were fielded in addition to the CTA and assisted the Company in the areas of design development, training, moccasin technology and marketing.

The modernization and expansion programme is now almost completed, the outputs foreseen in the project document have been achieved and the factory has at present a production capacity of 672,000 pairs per year, covering a full range of styles and sizes.

Besides a number of recommendations to CLPC on how to further improve quality and output, the CTA suggests that additional UNDP/UNIDO assistance should be sought in order to streamline the production of IMS and rubber unit soles, to expand the training section and to fully establish moccasin technology.

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INTRODUCTION

With the Government liberation policy for public as well as private industrial sectors, the Ceylon Leather Products Corporation (CLPC) experienced a tough competition in the marketing of their products, which were being produced in a most outdated plant.

While the chief technical adviser (CTA) was assigned to CLPC in late 1980 to introduce direct-moulded sole (DMS) technology, CLPC requested UNDP for further assistance in carrying out a study of the present operations of CLPC's shoe factory and in recommending ways to modernize and expand the operations of that factory.

At the end of his mission, in early 1981, the CTA studied the operations of the shoe factory, made a sample survey of the Sri Lankan market, reviewed the performance of other boot and shoe manufacturers, watched fashion trends, kept under view the market supply/demand situation, and finally submitted a report on the modernization and expansion of the shoe factory in April 1981. The report was accepted by the Ministry of Industries and Scientific Affairs and by the Board of Directors of CLPC.

At the same time the CTA stressed the point that, before CLPC would implement a modernization and expansion programme, it should be ensured that the shoe factory will be capable of handling such a programme. To this end production planning and control systems, a pattern grading system, training programmes for operators, a design development programme, quality control, cost estimating and cost control would have to be introduced.

In order to establish these prerequisites for the implementation of a modernization and expansion programme, the Government again requested assistance from UNDP/UNIDO and under the project "Assistance to the Ceylon Leather Products Corporation" (DP/SRL/81/007) the following experts have already been fielded:

International experts

- (a) M. Bashir, chief technical adviser.

Achievements: Production planning and control system introduced;

Pattern grading system introduced;

Quality control system introduced and section for physical testing established (equipment provided by UNDP/UNIDO);

Cost-estimating and cost-control system introduced;

Modernization and expansion programme implemented;

- (b) W. Cogger, expert in training.

Achievements: Training Section for operators of the Cutting and Closing Sections established (equipment provided by UNDP/UNIDO);

Training courses held;

(c) Don Russel, expert in design development.

Achievements: Design development training and assistance provided;
Pattern-Cutting Section established (equipment provided by UNDP/UNIDO);

(d) B. C. Chatterjee, expert in design development.

Achievements: Assistance and training given in design development;

(e) S. Kagotani, expert in moccasin technology.

Achievements: Assistance given in the establishment of a moccasin production line (preparatory mission).

National experts

G. A. Weerasinghe, expert in marketing.

Achievements: Carried out analysis of domestic shoe market, organized Marketing Department, suggested sales channels and promotion strategies.

The modernization and expansion programme was scheduled to be implemented in 1983, but it was delayed due to the late arrival of machines and equipment. The major portion of equipment arrived at Colombo in July/August 1985; its installation was completed and production started in late 1985. The plant for injection-molded soles (IMS) arrived in late December 1985 and was installed in early 1986.

Rubber unit-sole production started only partly, for the reason that moulds of all categories have not yet arrived. Delivery of the vulcanizing press is also still outstanding.

The possibility of manufacturing rubber unit soles locally has been explored and one prototype mould has been manufactured. As the results are satisfactory, CLPC is making arrangements to order a complete range.

The production capacity of the shoe factory, which was 360,000 pairs per year, has now increased to 672,000 pairs per year, the shoe constructions are up-to-date, and production covers a full range of styles and all sizes.

At present the product mix is the following:

	<u>Pairs per year</u>
DMS	120 000
VS	144 000
IMS	120 000
SO	120 000
Slippers/Sandals	144 000
Leather-sole shoes	<u>24 000</u>
Total	672 000

The objectives of the project have been achieved and the outputs can be summarized as follows:

- (a) VS production technology updated and new production line established;
- (b) DMS technology further improved. Two new machines are expected in April 1986 which will give an additional capacity of 60,000 pairs;
- (c) New technologies and systems introduced for:
 - IMS production
 - Rubber unit-sole production
 - Production planning and control
 - Costing and cost control
 - Quality control
 - Pattern grading;
- (e) Assistance given to the Marketing Department to streamline sales;
- (f) Training Section established for operators of the Cutting and Closing Sections;
- (g) Assistance in design development provided;
- (h) Moccasin technology recommended to be introduced.

Furthermore, one official received overseas training in footwear technology for one year, another in shoe design for three months. One official will be sent for training in shoe construction for two to three months.

RECOMMENDATIONS

1. Since the one vulcanizing press on order will not be sufficient to produce the required number of unit soles, one additional press (size 24" x 24" with 4 day light) should be ordered.
2. The moulds for unit soles for boys, children's and ladies' styles are not yet finalized. Immediate action is needed.
3. The locally manufactured prototype moulds for VS production are of good quality. An order for the remaining sizes should therefore be placed immediately. The same moulds could be used for the production of sandals and slippers.
4. A design development conference should be introduced on a six-month basis.
5. A monthly conference of Department Heads should be introduced to review the performance and to plan for the following month.
6. The size of stocks of raw materials and finished goods, as well as ceilings for work-in-progress should be established.
7. The top management should monitor the performance of the Production and Quality Control Departments through daily reports.
8. Training Section's facilities for cutting and closing operations should be fully utilized for skill improvement.
9. Foremen for the Production Department should be trained.
10. Work discipline should be enforced in all sections and departments.
11. CLPC should seek further technical assistance in the following areas:
 - (a) In the selection and manufacture of rubber unit soles;
 - (b) In streamlining the production in the IMS plant as soon as its installation will be completed;
 - (c) For the introduction of new styles in the Production Department;
 - (d) In the selection and finalization of moulds and lasts as well as in production techniques for IMS shoes with leather uppers;
 - (e) For a follow-up programme for DMS, IMS and unit-sole production.

FINDINGS

A. Background

The Ceylon Leather Products Corporation (CLPC) commenced activities in 1956 being the successor to the Government Leather Factory which was established in 1941. The CLPC operates three factories, a shoe factory, a tannery and a leather goods factory. In addition, it renders assistance to small-scale industrialists and has set up several small-scale leather goods manufacturing units in the Kandy District.

The shoe factory is located at Mattakkuliya. The major part of this plant was installed in 1962. It was reorganized in 1966, following the addition of a production line for cemented footwear. In 1980, a new plant to produce boots and shoes with direct-moulded soles (DMS) was installed to replace the McKay construction. The leather used in the shoe factory, both chrome-tanned and vegetable-tanned, is supplied by CLPC's tannery.

The shoe factory had a capacity of 360,000 pairs per year. With the exception of DMS shoes, all footwear was produced on old and outdated machines using construction methods which no longer appealed to customers. Secondly, all shoes, except DMS, had either leather soles or microcellular rubber soles and heels. With these materials the sole style is unattractive, and neither durable nor fashionable.

In 1980 the management of CLPC realized that the existing product mix and the technology applied does not satisfy customers, and the Corporation started to face difficulties in selling their products. Profitability and overall performance suffered to a great extent.

Consequently CLPC requested UNDP for assistance in the preparation of a feasibility study for the modernization and expansion of the shoe factory. The CTA was assigned to that project for two months and submitted his findings in a report recommending a modernization and expansion programme, which was accepted by the Government. He also suggested that prior to the implementation of the new programme, important changes in the system should be introduced, to ensure a successful execution of the modernization and expansion programme. From 1981 to 1986 several technical assistance experts were fielded to assist the Corporation in the implementation of the programme, which was originally scheduled to start in 1983, but was delayed due to the late arrival of certain machines. In fact, the major portion of the plant arrived as late as the second half of 1985.

B. Production capacity

With the expansion and modernization programme for the shoe factory, the yearly production capacity increased from 360,000 pairs to 672,000 pairs. Injection moulding, a technology to produce shoes with polyvinyl chloride (PVC) soles and rubber unit sole techniques were introduced, while the Veldtschoen (VS) production methods were updated. DMS technology has been very successful since its introduction in late 1980. The production lines for stuck-on (SO) as well as for slippers/sandals were also modernized.

In addition, a new line for the production of 50 pairs per day (12,000 pairs per year) of moccasins is being introduced. The shoes of that line should be of high quality, as upper leather of goat skins and real bottom leather for soles and heels will be used.

The breakdown of the production capacity of the shoe factory is indicated in table 1.

Table 1. Production capacity of the shoe factory

Type of construction	Capacity in pairs	
	Daily	Yearly
DMS	500	120 000
VS	600	144 000
IMS	500	120 000
SO	500	120 000
Slippers/sandals	600	144 000
Leather sole shoes	<u>100</u>	<u>24 000</u>
Total	2 800	672 000

C. Product mix

At present six basic shoe constructions are manufactured:

Shoes with direct-moulded soles (DMS)

Shoes with injection-moulded soles (IMS)

Velitschoen (VS)

Shoes with stuck-on soles (SO)

Slippers/sandals (S/S)

Shoes with leather soles (LS)

DMS

This construction which is very sturdy and durable, is mainly used for boots for service, workers and farmers. Six styles are being made for the local market, mostly in men's sizes 5 to 12 (English).

IMS

With this technology which was introduced during the present mission of the CTA, the ready uppers are mounted on steel lasts and tied to it with strings already stitched with the upper on a special string-stitching machine. The mounted upper is clamped in the mould and a molten PVC compound is injected into the cavity of the mould. Once the cavity is filled, further injection of PVC is automatically stopped and the cooling process started to solidify the PVC. When the cooling cycle is completed, the upper with the injected sole and heel is removed from the mould and the shoe is ready for insertion of the sock before it is packed and dispatched.

CLPC will continue to produce sports shoes (jogging shoes etc.) until new sets of moulds will be available. The ones used at present are only suitable for synthetic uppers.

Sports shoes manufactured by this method are very durable and comfortable and at the same time quite attractive. It is a new line of production in CLPC which will boost that type of sole and create a good market for it.

VS

CLPC has been producing this type of shoes in very limited quantities because only few and outdated machines were available. There was a great demand for VS shoes and therefore this line has been modernized and expanded. Under the new arrangement, one independent production line has been established to produce 600 pairs per day. The installed capacity is 800 pairs per day, considering a shift of eight hours.

The unit-sole technique has also been introduced, replacing soles and heels of microcellular material, which are less durable and have also lost their attraction.

The shoes made on this line are very popular among school children. But new models for men and ladies are being developed and these should become even more popular. Due to the nature of their construction, these shoes are flexible and comfortable.

Stuck-on

In this construction, the shoe sole and the heel are attached to the upper with a special adhesive. CLPC's SO production line has been modernized and expanded by adding a new sole-attaching machine. Modern styles are now made out of rubber, instead of microcellular sheet.

CLPC is producing shoes with SO soles for men, ladies, boys, girls and children.

Slippers/sandals

Previously this line was combined with the VS production. In the course of the implementation of the modernization and expansion programme, the line was extended and established independently. With the new arrangement, the production has been streamlined and the capacity increased to 600 pairs per day (eight-hour shift). This capacity can be further raised to 1,000 pairs per day with only minor modification.

In this line, too, rubber unit soles will be introduced, which will further improve the quality of the products.

Shoes with leather soles

This type of shoes with leather uppers and leather soles and heels with Mackay stitched construction, have been produced in CLPC's shoe factory for many years.

There are certain styles which are regularly required by services departments, while the production of other styles is rather limited. By their nature, all-leather shoes made of expensive leather components are of better quality but are also higher priced. The planned production in this line is 100 pairs per day.

D. New machines and equipment

The machines and equipment given in table 2 have been acquired by CLPC to modernize, expand and balance the product mix in the shoe factory. All those new items have been installed and put into operation in the respective sections. The operators on these machines have also been trained.

Table 2. New machines and equipment installed
in the shoe factory

Type of machine	Quantity	Section installed
Upper clicking press	4	Upper cutting press
Strap cutting machine	1	Upper cutting press
Strap folding machine	1	Upper cutting press
Upper skiving machine	6	Components preparation
Upper splitting machine	1	Components preparation
Heavy-duty skiving machine	1	Bottom components preparation
Rubber units sole roughing machine	2	Bottom components preparation
Edge folding machine	1	Closing
Zig-zag cording machine	1	Closing
Single-needle post bed lock-stitch U/T machines	2	Closing
Single-needle post bed lock-stitch machines	2	Closing
Zig-zag sewing machine	1	Closing
Flat-bed single-needle lock-stitch machine	1	Closing
String stitching machine	1	Closing
Toe forepart lasting machine	1	VS last making
Sole rounding machine	1	VS last making
Sole flanging machine	1	VS last making
Sole attaching press	1	VS last making
Sole attaching press	1	SO last making
Sole attaching press	1	Slipper/sandal making
Spray booth		SO finishing
Sprary booth		VS finishing
Double-roller rubber mixing machine	1	Rubber mixing
Injection moulding machine	1	IMS making
PVC granulator	1	IMS making
Moulds for IMS	6 sets	IMS making
Rubber unit sole mould	6 sets	IMS making
Plastic lasts		VS construction
Plastic lasts		SO construction
Plastic lasts		Slipper/sandal production

Two ordered items, a vulcanizing press for rubber unit soles and moulds for rubber unit soles have not yet arrived.

Vulcanizing presses 24" x 24"

It was a mistake to order only one vulcanizing press, as the output of that press will not be sufficient to cover the requirement of the SO, VS and slipper/sandal sections, which are expected to produce 1,700 pairs per day (500 pairs SO, 600 pairs VS and 600 pairs S/S). The CTA therefore suggested to the management to place immediately an order for a second vulcanizing press with four day lights, size 24" x 24".

Two additional DMS moulding machines

Immediately after the introduction of DMS technology in 1980, this type of shoes became very popular due to their quality and durability. The present

DMS production capacity is 120,000 pairs per year, of which 100,000 pairs are reserved for government departments while only 20,000 pairs are sold to the general public. An assessment by the Sales Department indicates that additional 60,000 pairs of DMS could be sold in the local market and to various factories for their workers.

It was therefore recommended to buy two additional DMS machines which will bring the production capacity up to 180,000 pairs per year. The machines have been ordered and are expected to be delivered in April 1986.

It is worth mentioning in that context that for five years (1981-1985) the shoe factory's main profit-earning line was DMS, i.e. until the factory was expanded and modernized in late 1985 and early 1986.

E. Reorganization of production lines and productivity

All sections of CLPC's shoe factory were reorganized and partly relocated according to the sequence of operations in shoe production. Old as well as new machines were installed and put into operation. Certain old machines, which are either unserviceable and cannot be repaired, or which are out of date or no longer required, were phased out.

For each section production targets and the number of operators required have been calculated. The total direct labour in the shoe factory is 338. With a target of 2,800 pairs per day (672,000 pairs per year) the productivity per worker will be 8.28 pairs a day.

The targets for individual sections given in annex I are practical and achievable under the conditions prevailing in the shoe factory; the rated capacities of the plant are higher than those indicated, except for DMS moulding and IMS moulding. An increase of productivity by 30 per cent could be achieved if a piece-rate system were introduced and the administration of the factory tightened.

Besides the daily targets, annex I contains other details of production sections, such as number of workers and sequence of operations.

F. Shoe technology

During recent years, radical changes have taken place in shoe manufacturing. Various styles for various purposes are in demand, new machines have been developed, and, because of their high price and limited availability, natural raw materials tend to be replaced by man-made materials. The increase in population led to a higher shoe consumption in general, while the improvement of the standard of living entailed changes in the habits of people and their requirements. As far as footwear is concerned, a common person nowadays needs a pair of slippers for the house, a pair of shoes for work, and a pair of shoes for sports or leisure. As a consequence, today a high percentage of footwear is made of synthetic material and new shoe-making technologies are being introduced to meet the requirements of people.

For the said reasons the following shoe production methods (constructions) have been introduced in CLPC's shoe factory:

- (a) Stuck-on (SO) rubber and rubber unit sole;
- (b) (Veldtschoen (VS) flexible shoes;

- (c) Direct-moulded sole (DMS);
- (d) Injection-moulded sole (IMS);
- (e) Slippers/sandals.

They are described in detail in annex II.

G. Training

Under the project "Assistance to the Ceylon Leather Products Corporation" (DP/SRL/81/007) a training section was established in the shoe factory for the training of the operators of the upper cutting and closing sections.

Training was discussed in the tripartite review meeting for the project "Assistance to the leather industry in Sri Lanka" (DP/SRL/83/003), held on 10 December 1985. A concise paper was presented to the meeting for further discussion by all concerned. It is reproduced in annex III.

To receive assistance from UNDP/UNIDO, CLPC has to process its request through the Ministry of Industries and Scientific Affairs and the External Resources Department, Government of Sri Lanka.

Fellowships

A three-months fellowship in shoe design was to commence in the third quarter of 1985 for one official of the Shoe Designing Section, but the person nominated for that training went for training in management/shoe design to Italy, sponsored by the Italian Government and UNIDO, for three months.

The unutilized funds have been transferred to 1986. The papers for the nomination of another official, A.J.M. Mendis, are being processed. His training is scheduled for March 1986 at Ars Sutoria, Italy.

Operators' training

Under the modernization and expansion programme, operators have been given training on the newly installed machines. Most of these operators were transferred from similar work stations and had the skills to operate the new machines.

Vacant positions are being filled with unskilled labour who will be trained on the job.

H. Incentive system

Some time ago, an incentive system, based on groups and on monthly output, was introduced in the shoe factory. The system could not motivate the workers as expected.

After the arrival of the CTA, the matter was thoroughly discussed in order to identify more suitable ways to motivate the operators and to improve the productivity in the shoe factory. After several meetings with the production staff, officials of the Personnel Department and cost accountants, it was decided to try a piece-rate system, i.e. to base incentives on results achieved by an individual.

Norms and targets for all operators in the shoe factory have already been determined, the basis for incentives in relation to the norms have been worked out, and the costing section is preparing the necessary data for the introduction of the system to the whole factory.

In the past, norms or targets were fixed without any proper work study and almost all norms were lower than what could reasonably be achieved. As the norms are now being adjusted, operators will need time to reach what is considered a normal speed in order to attain the targets.

The main reasons for low productivity are irregular working hours, too many breaks for washing, changing, tea and cleaning of machines. Secondly, the production management staff is not yet accountable for achieving the planned or targeted production. Past experience shows that in most sections the production surpassed previously set norms, when the sections planned in advance and when there was strict supervision and the staff instructed accordingly.

There is, however, a socio-cultural element, which has to be overcome in a tactful way: the CTA noticed that nobody wants to displease anybody, in other words, supervisors are reluctant to remind subordinates of the established targets.

I. Production planning and production control system

During his last assignment the CTA also reviewed the performance of the production planning and control system, which had been introduced in the course of one of his previous missions.

The system is working very satisfactorily and the CTA further assisted CLPC in the following areas:

- (a) Provision of up-to-date and accurate data on the day-to-day activities and achievements of the shoe factory;
- (b) Establishment of production plans to ensure that the available capacities of all production sections are utilized;
- (c) Close co-ordination with the Sales Department;
- (d) Close co-ordination with the Raw Material Supplies Department;
- (e) Recording of all production data required by the management;
- (f) Control of the production flow to reduce work-in-progress;
- (g) Control of material issuing and consumption;
- (h) Verification of production output for incentives etc;
- (i) Keeping a chronological record of all production plans.

It was recommended to the management to review the performance of this section from time to time in order to detect deviations from the system and to take corrective action. Two detailed reports on the production planning and control system, which were submitted on completion of the CTA's previous mission, were made available to CLPC.

J. Cost estimating and cost control

During one of the CTA's missions under the same programme of assistance to the Ceylon Leather Products Corporation, he installed a cost estimating and cost control system. Two staff members were trained to operate the system.

During his present assignment he found that the Cost Estimating Section was working satisfactorily, while, due to the transfer of the personnel trained in cost control, that section was not yet fully in operation. Consequently another staff member was given training in cost control, and the section is now also fulfilling its function.

One proposal made to the Cost Estimating Section was to review and revise every six months all cost estimates which are based on actual prices. It was observed that some of the estimates had been made a long time ago and had never been updated or adjusted.

The main task of the Cost Control Section is to keep the cost within the forecast. This Section should provide a true picture of the actual performance of the Production Department as far as the effective use of materials and the productivity of production operators is concerned.

K. Quality control system

From the point in time when this system was introduced, the quality standards in the shoe factory have improved considerably. The system provides for checks and tests of the raw materials while in receiving stage, for process control in all sections of the Production Department to reduce the reject at the final stage, and for a very thorough final inspection before the goods leave the factory.

It was considered necessary that the Quality Control Department also submits a daily performance report to the management, similar to the reports prepared by the production planning and control section. A suitable form was designed and introduced in the Department.

L. Revised job descriptions for factory staff

The modernization and expansion of the shoe factory entailed some changes in the duties and responsibilities of the staff in the Production Department. The job descriptions for the following senior production staff have therefore been revised:

- Manager of shoe factory
- Assistant factory manager I
- Assistant factory manager II
- Assistant factory manager (rubber)
- Planning manager
- Quality controller

Foreman - Upper Cutting and Bottom Cutting Sections

Foreman - Upper Components Preparation and Bottom Components
Preparation Sections

Foreman - Closing Section

Foreman - Lasting and Finishing Section

The full job descriptions are given in annex IV.

Annex I

PRODUCTION TARGETS, SEQUENCE OF OPERATIONS AND NUMBER OF STAFF
FOR ALL SECTIONS OF THE PRODUCTION DEPARTMENT

Section	Code	Daily target (pairs)	Sequence of operations	Mode of operation		Number of operators
				Manual	Machine	
Upper cutting	220	2 800	Upper clicking		x	12
			Upper clicking	x		3
			Lining/sock clicking		x	5
			Tex lining clicking		x	1
			Size marking		x	1
			Loading/transfer	x		1
Upper components preparation	215	2 800	Edge inking	x		3
			Marking	x		4
			Skiving		x	8
			Socks embossing/marking		x	2
			Perforating		x	1
			Loading/transfer	x		1
Bottom cutting	210	2 800 (based on rubber unit soles)	Insole/sole clicking		x	3
			Stiffener/toe puff clicking		x	3
			Splitting		x	1
			Insole moulding		x	1
			Heel lift clicking		x	1
			Transfer	x		1
			Bottom components preparation	228	2 800 (based on rubber unit soles)	Insole/sole roughing (leather)
			Sole roughing (rubber)		x	2
			Stiffener/toe puff skiving		x	2
			Leather heel building		x	2
			Sole channeling		x	1
			Sole size marking/branding		x	1
			Transfer	x		1

continued

Annex I (continued)

Section	Code	Daily target (pairs)	Sequence of operations	Mode of operation		Number of operators
				Manual	Machine	
Upper closing DMS	230	500	Loading	x		1
			Zig-zag		x	1
			Quarter cement/fold	x		1 + 2
			Counter stitching		x	2
			Toe puff lining post	x		1
			Stitch toe cap-vamp		x	2
			Stitch vamp-tongue		x	1
			Pasting tongue - quarter	x		2
			Stitch (U/T) quarter/tongue		x	3
			Stitch - vamps		x	3
			Eyeletting		x	1
			Lacing	x		1
			Cleaning/bundling	x		1
			Transfer	x		1
Upper closing SO	231	500 (style Derby 402 etc.)	Loading	x		1
			Zig-zag quarter		x	1
			Stitch back strap		x	2
			Quarter cement and fold	x		1 + 3
			Lining joining		x	1
			Quarter under trim		x	2
			Deco stitch		x	3
			Vamp cording		x	1
			Stitch tongue on vamp		x	1
			Vamp lining pasting	x		1
			Vamping		x	3
			Eyeletting		x	1
			Cleaning/bundling	x		2
			Transfer	x		1

continued

Annex I (continued)

Section	Code	Daily target (pairs)	Sequence of operations	Mode of operation		Number of operators
				Manual	Machine	
Closing IMS	232	500 (sports shoes)	Loading	x		1
			Zig-zag quarters		x	1
			Stitch flash/quarter		x	1
			Stitch deco/quarter		x	1
			Stitch quarter strap		x	2
			Stitch collar/lining		x	1
			Paste face and turn lining	x		3
			Stitch lining/quarter		x	1
			Stitch toe wing		x	2
			Join eyelet facing		x	2
			Eyeletting		x	1
			Stitch tongue edge		x	1
			Join tongue		x	1
			Stiffener inserting	x		1
			Thread cutting/cleaning	x		1
			Lacing	x		1
			Bundling/transfer	x		1
Upper closing VS	233	300 (style D 50 and alike)	Loading	x		5
			Stitch quarter		x	1
			Stitch counter		x	1
			Binding quarter		x	1
			Punch instep strap	x		1
			Stitch instep strap/quarter		x	1
			Buckle quarter	x		1
			Stitch tongue/vamp		x	1
			Vamping		x	2
			Cleaning/bundling	x		1
			Transfer	x		5

continued

Annex I (continued)

Section	Code	Daily target (pairs)	Sequence of operations	Mode of operation		Number of operators
				Manual	Machine	
Upper closing VS	234	300 (sport shoes 125 etc.)	Loading	x		5
			Zig-zag		x	1
			Counter stitch		x	1
			Quarter cement and folding	x		1 + 2
			Deco strap stitching		x	2
			Stitch eyelet stay		x	2
			Stitch quarters		x	1
			Eyeletting		x	1
			Stitch tongue/vamp		x	1
			Vamping		x	1
			Cleaning/bundling	x		1
			Transfer	x		5
			Upper closing (sandals/slippers)	235	600	Loading
Cementing and folding	x					1 + 3
Stitching strap		x				2
Binding		x				1
Deco stitch		x				1
Strap pinching	x					2
Buckle fixing	x					2
Vamp stitching		x				2
Cleaning	x					1
Transfer	x					1
Lasting	240	500 DMS	Loading	x		1
			Insole tacking		x	1
			Stiffener/toe puff inserting	x		1
			Back tacking	x		2
			Forepart lasting		x	1

continued

Annex I (continued)

Section	Code	Daily target (pairs)	Sequence of operations	Mode of operation		Number of operators
				Manual	Machine	
			Side lasting		x	2
			Seat lasting		x	1
			Tack removing	x		1
			Upper roughing		x	2
			Last removing		x	1
			Heel block/sunk attaching		x	1
			Transfer	x		1
Lasting-making SO	241	500 (civilian SO with rubber unit sole)	Loading	x		1
			Insole tacking		x	1
			Insole upper cementing	x		1
			Stiffener/toe puff inserting	x		2
			Pulling over/forepart lasting		x	2
			Side lasting	x		2
			Seat lasting		x	1
			Tack removing	x		1
			Knocking up		x	1
			Bottom roughing		x	1
			Bottom filling and smacking	x		1
			Bottom cementing	x		1
			Sole cementing	x		1
			Sole assembling/pressing		x	1
			Last removing		x	1
			Cleaning	x		1
			Insocking	x		1
			Upper dressing	x		1
			Touching up	x		1

continued

Annex I (continued)

Section	Code	Daily target (pairs)	Sequence of operations	Mode of operation		Number of operators
				Manual	Machine	
			Spraying		x	1
			Lacing	x		1
			Packing	x		1
IMS	242	500	Loading	x		1
			Injection moulding		x	2 + 2 + 2 (3 shifts)
			Spue trimming		x	1 + 1 + 1 (3 shifts)
			Socketing	x		1
			Lacing	x		1
			Boxing	x		1
			PVC granulating		x	1
Lasting-making VS	243	600	Loading	x		1
			Middle pasting	x		1
			Back moulding		x	1
			Toe puff attaching	x		1
			Upper cementing	x		1
			Middle cementing	x		1
			Insole tacking		x	1
			Pulling over (VS)		x	1
			Rounding up		x	1
			Sole stitching		x	1
			Bottom cementing	x		1
			Sole cementing	x		1
			Sole assembling/pressing		x	1
			Edge trimming		x	1
			Heel trimming		x	1
			Scouring		x	2

continued

Annex I (continued)

Section	Code	Daily target (pairs)	Sequence of operations	Mode of operation		Number of operators
				Manual	Machine	
			Last removing		x	1
			Upper cleaning	x		1
			In socking	x		1
			Touching up	x		1
			Spray dressing		x	1
			Lacing	x		1
			Packing	x		1
Lasting-making, slippers and sandals	245	600 (based on rubber unit soles)	Loading	x		1
			Insole marking	x		1
			Insolte slotting		x	1
			Straps inserting	x		1
			Insole/upper cementing	x		2
			Lasting	x		3
			Roughing		x	1
			Bottom cementing	x		1
			Sole cementing	x		1
			Sole attaching	x		1
			Cleaning	x		1
			Upper dressing	x		2
			Boxing	x		1
Transfer	x		1			

continued

Annex I (continued)

Section	Code	Daily target (pairs)	Sequence of operations	Mode of operation		Number of operators			Single shift
				Manual	Machine	Shift 1	2	3	
Moulding/ finishing DMS	250, 251, 252, 253 (3 shifts)	500 (3 shifts)	Bottom cementing	x		1	1	1	
			Moulding		x	2	2	2	
			Spue trimming	x		2	2	2	
			Pairing	x					1
			In socking	x					1
			Upper cleaning/dressing	x					2
			Touching up	x					1
			Lacing	x					1
			Boxing	x					1
			Dispatching	x					1
Rubber unit sole pressing	265	1 700 (3 shifts)	Sole pressing		x	2	2	2	
			Spue trimming	x		6			
			Inspection transfer	x		1			
Rubber compounding and pressing	260	1 100 <u>kg</u>	Compounding	x		2			
			Mixing		x	2	2	2	
			Blanks cutting		x	1	1	1	

Capacities by section

<u>Product</u>	<u>Section</u>	<u>Number of shifts</u>	<u>Daily capacity (pairs)</u>
DMS	Upper cutting	1	500
	Upper closing	1	500
	Bottom cutting	1	500
	Lasting	1	500
	Moulding	3	500
	Spue trim/finishing	1	500
VS	Upper cutting	1	600
	Upper closing	1	600
	Bottom cutting	1	600
	Lasting-making/finishing	1	600
IMS	Upper cutting	1	500
	Upper closing	1	500
	Moulding	3	500
	Finishing/packing	1	500
SO	Upper cutting	1	500
	Upper closing	1	500
	Bottom cutting	1	500
	Lasting-making/finishing	1	500
Slippers/sandals	Upper cutting	1	600
	Bottom cutting	1	600
	Upper closing	1	600
Leather-sole shoes	Upper cutting	1	100
	Upper closing	1	100
	Bottom cutting	1	100
	Lasting-making/finishing	1	100
Moccasins	Upper cutting	1	100
	Upper closing	1	100
	Making/finishing	1	100
Rubber compounding and sole pressing	Mixing	3	1 680 kg
	Pressing (unit soles)	3	1 000 (one vulcanizing press)

Shoe factory staff

Direct labour and foremen

<u>Section</u>	<u>Code</u>	<u>Foremen</u>	<u>Operators</u>
Upper cutting	220	1	23
Upper component preparation	215	1	19
Bottom cutting	210	1	10
Bottom component preparation	228	1	11
Component bank	229	1	6
Closing DMS	230	1	23
Closing SO and LS	231	1	25
Closing IMS	232	1	22
Closing VS	233	1	20
Closing VS	234	1	24
Closing slippers	235	1	17
Lasting/making DMS	240	1	15
Lasting/making SO	241	1	25
Lasting/making IMS	242	1	14
Lasting/making VS	243	1	24
Lasting/making slipper/sandal	245	1	18
DMS moulding	250	1	5
DMS moulding	251	1	5
DMS moulding	252	1	5
DMS finishing	253	1	8
Rubber compounding/mixing	260	1	11
Unit sole pressing	265	1	13

Indirect labour

Management

Staff

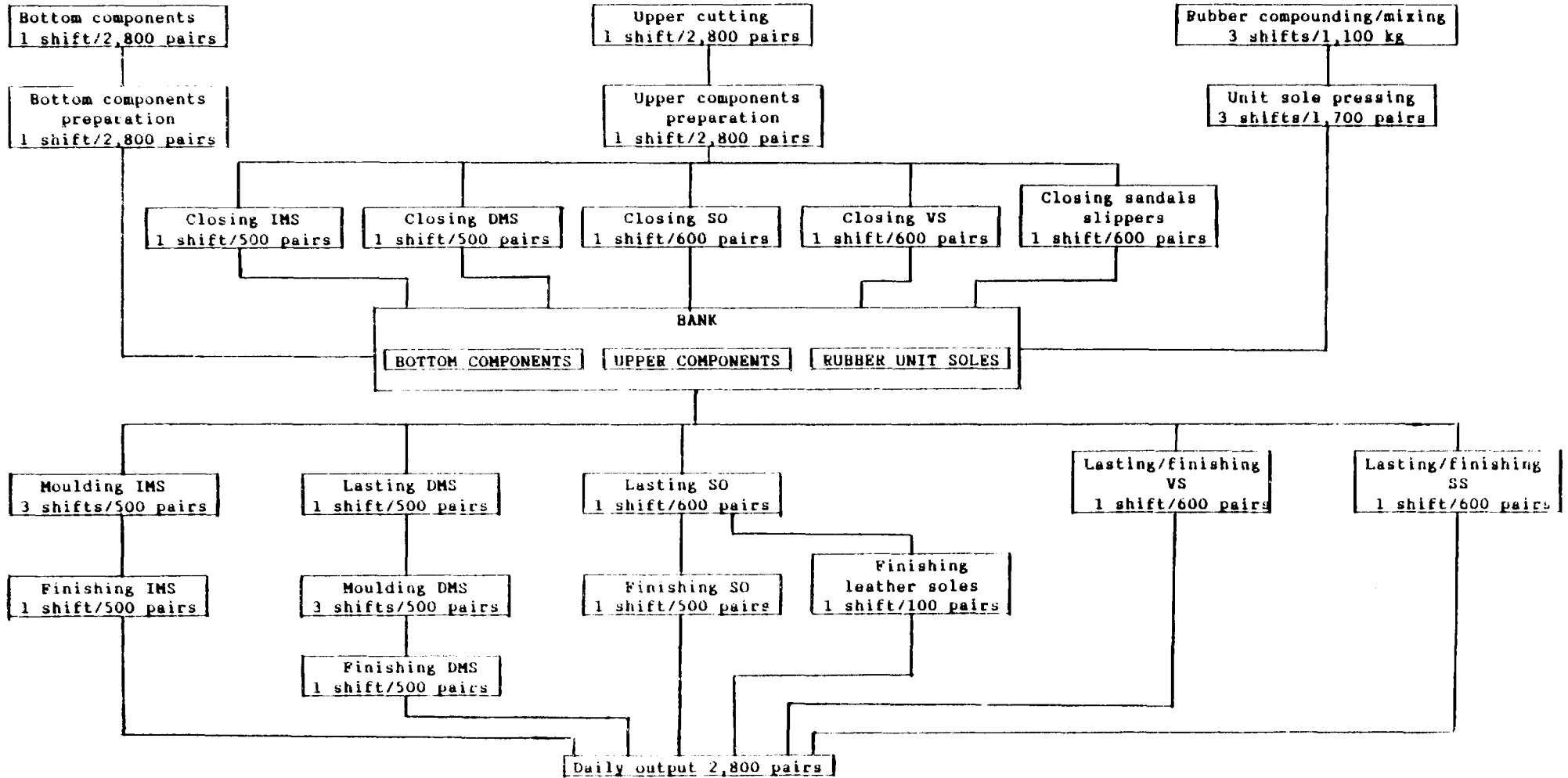
Factory manager	1
Assistant factory manager (Upper, bottom cutting, preparation, bank)	1
Senior Assistant factory manager (Lasting, making, moulding, finishing)	1
Assistant factory manager (All rubber processing sections)	1
Assistant factory manager (Training section and skill improvement)	1
Factory manager's clerk	1

Design Section

Designer/pattern cutter	1
Assistant pattern cutter	1
Pattern grader	1
Sample maker (uppers)	2
Sample maker (bottom)	2

<u>Quality Control Section</u>	<u>Staff</u>
Quality controller	1
Assistant quality controller (in charge of laboratory)	1
Raw material inspector	2
Section process checkers	27
Finished stage examiner	5
<u>Production Planning Section</u>	
Planning officer	1
Assistant planning officer	1
Clerks	3

PRODUCTION FLOW AND SHIFT ARRANGEMENT



Annex II

SHOE TECHNOLOGY

A. Clicking Section (uppers)

The upper leather is sorted into jobs from which the vamps, quarters, toe caps, tongues, back straps and trims are cut. Leather can be cut by machine or by hand. Machine cutting involves the use of clicking knives and clicking presses. Hand cutting requires the use of metal templates and a hand knife. In CLPC's shoe factory most of the cutting is done by machine, but fancy, intricate designs and new styles are cut by hand.

A recommendation, which has already been implemented, was to cut all new styles by hand before these are switched to mass production on the clicking press. Clicking knives are expensive, and difficult to change or modify.

In addition to the shoe uppers, the leather lining, fabric lining and socks are cut in this section. The cut components are transferred to the components preparation sections.

B. Components Preparation Section

In this section the following operations are performed before the cut components are sent to the Closing Section:

Splitting

A leather hide or side varies in substance. In shoe production, existing standards require a uniform thickness of the uppers. Cut components are therefore passing through a splitting machine where the extra thickness is removed by a high-speed band knife.

Perforating

By that operation a pattern of small holes is produced to decorate various parts of the shoe upper.

Skiving

This operation is important for comfort as well as for appearance. Its purpose is to reduce the thickness of edges of upper leather parts, which are to be folded or lapped over another part. The skiving machine cuts a bevel of the edge of the leather as the operator guides the upper part to a rapidly rotating knife. The width and taper of the bevel is determined by its function or purpose.

Batch and size marking

The batch number, the size and the brand are marked on lining components and socks by using transfer foils.

Counting and dispatch

If only one piece were missing, the upper could not be completed. To ensure that all parts and components are available in the required quantities, they are counted before they are dispatched to the Closing Section.

C. Closing Section

To complete a shoe upper, a series of steps have to be performed. The number of operations involved and their sequence vary considerably, depending on the simplicity or complexity of the design. Upper parts may consist of 8 to 12 or even more pieces, which have to be folded, fitted and stitched together. In addition to stitching on various types of sewing machines, other operations performed in the Closing Section include:

(a) Folding - to provide a neat top line or edge; the skived edge is cemented, folded over and pressed on;

(b) Eyeletting - which is done on a machine which punches the holes and simultaneously sets a pair of eyelets.

As the number, kind and sequence of sewing operations which are performed on different types of sewing machines depends on the design of the shoe, the time required to complete a pair of uppers may vary considerably. No standard sequence of operations can be assumed for different styles. However, to obtain an average flow and average times, similar styles should be produced at one time. If production switches to another style, the machines of the Section should be rearranged to ensure a smooth flow of work in stitching the uppers. For that reason five production lines were established in the closing room, one each for different constructions.

D. Bottom Cutting and Preparation Section

In that Section, components for bottoms like insole, sole, stiffeners and toe-puffs are cut and prepared.

The insole which is of leather or leather-board, is cut on the clicking press and moulded in the moulding machine to fit the curvature of the lasts. Usually insoles are roughed and size-marked.

Rubber unit soles are roughed on special roughing machines to achieve a good sole bond.

Stiffeners made of vegetable-tanned leather or thermoplastic material, are cut on the clicking press and the edges are skived on the skiving machine.

Toe-puffs are in most cases of thermoplastic material. After they are cut on the clicking press and the edges skived, the toe-puffs are attached to the upper on a toe-puff fusing press, installed either in the component bank or in the closing section.

E. Lasting Section

The lasting of a shoe, which is one of the most important operations in the shoe-making process, can be done in different ways. The objective is to conform the shoe upper and the lining to the wooden or plastic lasts, which calls for a high degree of skill to ensure that the pull upon the upper will be evenly distributed and hence the upper free from wrinkles, when the last is finally removed. Furthermore, as shoes always are made in pairs and in graded sizes, each shoe should be matched accurately at this stage of manufacture, if subsequent operations are to be carried out with precision. After lasting, the shoe bottom is prepared and attached to the shoe by the following methods (shoe constructions) introduced in CLPC's shoe factory:

Direct-moulded shoes (DMS)
Injection-moulded shoes (IMS)
Veldtschoen (VS)
Stuck-on soles (SO)
Slippers/sandals (S/S)

Injection-moulded shoes (IMS)

Leather uppers

After lasting the upper and securing it to the insole, the lasted bottom (upper lasting allowance) is roughed on a roughing machine with a revolving wire brush.

Adhesive is applied to the roughed bottom. Then the shoe is transferred to the injection moulding machine - after releasing the lasts or, on some machines, with the last. The shoe is placed on the mould and clamped. The mounted mould is then moved in front of the injection nozzle through which molten plastic (PVC) is injected by a screw from a heated cylinder into the cavity of the mould. Injection of the PVC compound will continue until the cavity of the mould is filled, which is monitored by a microswitch, installed at the far end of the mould edge, which in turn switches off the main motor to stop further PVC injection. The same raw material, PVC granules, is used for soles and heels. Once the injection process is completed, the shoe is allowed to cool down. The completed shoe is then removed from the mould and a new upper is mounted.

Synthetic uppers

With synthetic uppers, there is no need to rough and apply adhesive to the lasting margin of the upper, because the PVC material of uppers is activated when molten PVC is injected and creates a bond with sole and heel.

Normally conventional lasting methods are not used for synthetic materials; after closing of the upper, nylon string is stitched along with the bottom line. That string is used to pull the upper to the last mould and to secure it to the mould, which is mounted on the injection moulding machine.

The last mould for synthetic uppers can be heated. The rest of the operations on the injection moulding machine are similar to those for leather uppers.

With single-station or two-station machines, refrigeration is used to speed up the cooling of moulds and to solidify the molten PVC.

The big advantage with PVC material is that it can be re-used after converting it into granules in a granulating machine. Hence, there is no waste of PVC.

Stuck-on (SO) soles

The lasting operations are very similar to those for the IMS construction. After roughing and bottom cementing, the shoe is put in a press with the rubber unit sole and the heel already cemented. The time for which the shoe with the unit sole remains under pressure depends on the material of the unit sole. However, at least 24 hours should be allowed before any test is carried out to check the bond. Once the unit is stuck to the upper, the last is removed and the shoe sent to the Finishing Section for further operations.

Direct-moulded shoe (DMS)

This process involves the use of direct-vulcanizing presses. The non-vulcanized rubber sole compound is moulded, cured and fastened to the leather uppers in one single operation.

Veldtschoen (VS)

This construction is quite different to the earlier-described constructions, starting with the first operation in the Lasting Section.

Since the possible variations within that construction are numerous, it is safe to mention only the main common feature, namely that the upper, instead of being lasted as in DMS and SO constructions, is turned out and stitched through the middle sole or sole with a vertical lock stitch. A welt is stitched around the upper through which the stitches pass.

Slippers/sandals

Lasting operations are simpler than those for IMS and SO constructions, because no stiffeners and no toe-lasting operations are required. Most of the uppers are straps, which are easily lasted to the insoles, attached to the lasts either by hand or by machine. After securing the straps to the insoles, the shoes move to the Lasting Section, like the SO construction. Slippers and sandals are very popular in tropical countries like Sri Lanka.

F. Finishing Section

This stage is separated from the Lasting Section mainly due to the volume of production. In this Section the following operations are carried out:

- Cleaning
- Dressing of uppers
- Inserting of socks
- Lacing
- Final inspection
- Boxing
- Dispatching

G. Rubber unit soles

Natural and synthetic rubber are increasingly used in the manufacture of footwear. Vulcanized rubber unit soles are stuck on to the uppers with adhesives. The rubber is masticated and mixed in a mixing mill with other ingredients like fillers, stearic acid, anti-oxidant, zinc oxide, accelerators and sulphur. The mixed compound leaves the mill in the form of a sheet, which is cut into blocks on a clicking press. These blocks are placed in the cavities of the mould. The filled moulds are pressed in a vulcanizing hydraulic press between heated plates, and the blocks are vulcanized according to the shape of the mould's cavity. Extra material is trimmed from the soles which are then ready to be attached to the shoes.

Annex III

REPORT ON THE TRAINING SECTION

Under direct assistance to CLPC, a training section was established in 1983 in the shoe factory of CLPC to provide training to new workers and to improve the skills of already employed operators of the Cutting and Closing Sections.

Since then, 110 new workers have been trained in this Section and 44 have improved their skills.

In the recent past, due to an increased labour turnover, CLPC felt that training facilities should also be available for other sections, such as the Lasting and the Finishing Section.

The matter was brought up by CLPC during the visit of a representative of UNIDO's Agro Industries Branch. The discussions resulted in a proposal comprising the following inputs and outputs:

Inputs

(a) <u>UNDP/UNIDO</u>	<u>Man- months</u>	<u>\$US</u>
Technical expert/CTA	12	78 300
Fellowship training overseas	12	25 200
Equipment		20 000
Technical books, journals and reports		5 000
Miscellaneous sundries		<u>5 000</u>
	Total	133 500
(b) <u>Government</u>		<u>SL Rs</u>
Land/building (existing buildings to be utilized)		-
Local personnel		648 000
Administrative support		200 000
Contingencies/miscellaneous		<u>50 000</u>
	Total	898 000

Outputs

Extension of Training Section
 Trained instructor for Lasting Section
 Trained instructor for Finishing Section
 Trained shoe technologist - to be in charge
 of Training Section
 30 trained operators (six-month training
 period, 15 workers at one time)

Annex IV

REVISED JOB DESCRIPTIONS FOR FACTORY STAFF

Post title: Factory Manager (shoe factory)

Reports to: General Manager

Supervises: Assistant Factory Manager I
Assistant Factory Manager II
Assistant Factory Manager III (rubber)
Planning Manager
Quality Controller
Management trainees
Technical assistants

Responsibilities:

Implement the production policy for the shoe factory and associated sections, as established by the Board of Directors and transmitted through the General Manager of CLPC;

Organize, manage and supervise the shoe factory's production and ensure the achievement of the targets and budgeted production and expenses;

Liaise with the Personnel Department in matters of recruitment, training and disciplinary action;

Co-ordinate with the Design Department the introduction of new styles;

Co-ordinate with the Sales Department establishment of sales forecasts and the development of new products requested by that Department;

Prepare raw material requests for the shoe factory and co-ordinate with the Purchasing Department to ensure timely delivery of these materials;

Suggest methods to the Board of Directors, through the General Manager, to improve the efficiency, productivity and discipline in the shoe factory.

Post title:

Assistant Factory Manager I

Reports to:

Factory Manager (shoe factory)

Supervises:

Foremen in the following sections:

Upper Cutting
Cut Components Preparation
Bottom Cutting
Bottom Components
Bank (components)

Responsibilities:

Organize, manage and supervise the production of the sections under his control, and ensure that all sections achieve their daily and monthly targets;

Check and maintain the quality standards and suggest methods for their improvement;

Check the performance of the foremen under his supervision;

Supervise the maintenance of the equipment of the department;

Ensure that production, planning, quality and maintenance records are kept up-to-date and that action is taken promptly;

Suggest methods to minimize the wastage of materials, parts and power;

Suggest and implement disciplinary action in cases where targets are not achieved, quality standards not maintained, discipline is not observed or corporation rules are violated;

Liaise with the Production Planning and Control Manager and assist him in the implementation of the system;

Submit periodical reports to the Factory Manager on the operation of the department and suggest methods for improvement;

Assist the foremen in the training of new operators;

Liaise with the Quality Controller to maintain and improve the quality standards;

Implement any other instructions from the Factory Manager or the Management.

Post title: Assistant Factory Manager II

Report to: Factory Manager (shoe factory)

Supervises: Foremen in the following sections:

- Closing DMS
- Closing VS
- Closing IMS
- Closing SO
- Closing slippers/sandals
- Closing leather soles
- Lasting, making, moulding DMS
- Lasting, making, finishing VS
- Lasting, moulding, finishing IMS
- Lasting, making SO
- Lasting, making, finishing slippers/sandals
- Finishing VS
- Finishing SO

Responsibilities:

- Organize, manage and supervise the production of the department and ensure that all the sections achieve their daily as well as monthly targets;
- Check and maintain the quality standards and suggest methods for their improvement;
- Check the performance of the foremen under his supervision;
- Supervise the maintenance of the equipment of the department;
- Ensure that production, planning, quality and maintenance records are kept up-to-date and that action is taken promptly;
- Suggest methods to minimize the wastage of materials, parts and power;
- Suggest and implement disciplinary action in cases where targets are not achieved, quality standards not maintained, discipline is not observed and corporation rules are violated;
- Liaise with Production Manager I to maintain the production flow and quality standards;
- Submit periodical reports to the Factory Manager on the operation of the department and suggest methods for improvement;
- Assist foremen in the training of new operators;
- Liaise with the Training Manager to prepare training programmes for the operators;
- Liaise with the Quality Controller to maintain and improve the quality standards;
- Implement any other instructions from the Factory Manager or the management.

Post title: As stant Factory Manager (rubber)

Reports to: Factory Manager (shoe factory)

Supervises: Foremen in the following sections:

Compounding
Mixing
Pressing
Spue trimming

Responsibilities:

Organize, manage and supervise the sections of the department, and ensure that all sections achieve their daily as well as monthly targets;

Check and maintain the quality standards and suggest methods for their improvement;

Check the performance of the foremen under his supervision;

Supervise the maintenance of the equipment of the department;

Ensure that the production, planning, quality and maintenance records are kept up-to-date and action is taken promptly;

Suggest methods to minimize the wastage of material, parts and power;

Suggest and implement disciplinary action in cases where targets are not achieved, quality standards not maintained, discipline is not observed and corporation rules are violated;

Liaise with the Production Planning and Control Manager and assist him in the implementation of the system;

Submit periodical reports to the Factory Manager of the operation of the department and suggest methods for improvement;

Assist the foremen in the training of new operators;

Liaise with the Quality Controller to maintain and improve the quality standards;

Prepare and test formulations for rubber components to maintain quality, keeping in mind the availability of raw materials;

Implement any other instructions from the Factory Manager or the management.

Post title: Planning Manager

Reports to: Factory Manager (shoe factory)

Supervises: Planning Assistant
Clerks

Responsibilities: Organize and supervise the Production Planning and Production Control Departments;

Establish daily, monthly and yearly product demands/requirements for the Sales Department, in consultation with Factory Manager;

Issue plans to all sections of the shoe factory according to their targets;

Prepare and issue material demands to the Supplies Department through the Factory Manager;

Maintain the following records in his department and keep them up-to-date:

- Daily planning sheets
- Batch cards
- Material specifications for the issuing of material
- Production control register
- Monthly production-flow chart
- Daily production report for the management
- Record of daily production reports for foremen;

Supervise his staff and ensure efficiency;

Ensure that the department is kept tidy and clean;

Maintain discipline in the department;

Closely co-ordinate actions with Production Managers I and II;

Establish and check physically monthly work-in-progress of the section and compare it with the monthly production-flow chart;

Implement any other instructions from the management.

Post title: Quality Controller

Reports to: Factory Manager (shoe factory)

Supervises: Technical assistants
Checkers (final stage)
Process control checkers

Responsibilities: Organize and supervise the Quality Control Department;

Check, test and report all in-coming material, using laboratory equipment;

Maintain a record of specifications and reference of all items under production;

Supervise, on a daily basis, all physical tests carried out in the laboratory;

Assist factory staff in setting up quality standards;

Liaise with the sales staff with a view to eliminate defects and to follow-up on complaints from customers;

Inspect defective shoes returned by customers and arrange redress of the defects;

Supervise all Quality Control Department staff to ensure that quality standards are maintained;

Prepare periodical reports for the management;

Maintain the laboratory equipment in good working condition;

Maintain discipline in the department;

Instruct checking staff on how to improve quality standards;

Suggest and implement disciplinary action against checking staff if established targets are not achieved;

Keep the rejection ratio under control;

Supervise wear tests of shoes and maintain records;

Implement any other instructions from the management.

Post title: Foreman, Upper Closing Section

Reports to: Production Manager II

Supervises: Operators, material supplier, helpers and apprentices

Responsibilities:

- Receive cut components from the bank according to the plan;
- Distribute the work to the operators according to their targets;
- Ensure that all operators achieve their daily targets and that the section's overall target is also met;
- Maintain quality standards;
- Keep all machines and equipment of the section tidy and in good working condition;
- Maintain records on production, attendance, targets, hourly statements, maintenance etc.;
- Ensure that the section is kept neat and clean;
- Maintain discipline in the section;
- Suggest improvements in the working methods;
- Hand over completed plans with the batch cards to the components bank;
- Carry out any other tasks or implement instructions from the management.

Post title: Foreman, Upper Cutting Section/Bottom Cutting Section

Reports to: Assistant Factory Manager I

Supervises: Operators, material supplier, helpers and apprentices

Responsibilities: Order and draw material according to planning sheets;

Distribute work to the operators according to the norms/specifications;

Ensure that all operators achieve their daily target and that the section's overall target is also met;

Check the quality of materials before receiving and maintain standards of cut components according to the standard;

Keep all machines and equipment of the section tidy and in good working condition;

Maintain records on materials, production, attendance, targets, machines etc.;

Ensure that the section is kept neat and clean;

Maintain discipline in the section;

Assist the management in saving material and suggest methods for improvement;

Hand over completed plans to the Components Preparation Section;

Carry out any other tasks or implement instructions from the management.

Post title: Foreman, Upper Cut Components Preparation/Bottom Component Preparation

Reports to: Production Manager I

Supervises: Operators, material supplier, helpers and apprentices

Responsibilities:

- Receive cut components from Upper/Bottom Cutting Section according to the plans;
- Distribute work to the operators according to their targets;
- Ensure that all operators achieve their daily target and that the section's overall target is also met;
- Maintain quality standards;
- Keep all machines and equipment of the section tidy and in good working condition;
- Maintain records on production, attendance, targets, maintenance etc.;
- Ensure that the section is kept neat and clean;
- Maintain discipline in the section;
- Suggest improvements in the working methods;
- Hand over completed plans to the components bank;
- Carry out any other tasks or implement instructions from the management.

Post title: Foreman, Lasting, Making and Finishing Sections

Reports to: Assistant Factory Manager

Supervises: Operators and apprentices

Responsibilities:

- Receive raw materials and grindery from raw material stores and pressed components from pressing section;
- Distribute work to the operators according to their targets;
- Ensure that all operators achieve their daily targets and that the section's overall target is also met;
- Maintain quality standards;
- Maintain records on production, attendance, targets, hourly statements, maintenance etc.;
- Ensure that the section is kept neat and clean;
- Maintain discipline in the section;
- Suggest improvements in working methods;
- Pass the completed plans with the batch card to the next section or to the finished goods store;
- Carry out any other tasks or implement instructions from the management.