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SHOE DESIGN AND PATTERN CUTTING ,

RP/SOM/77/002

SOMALIA .

Terminal report .

Prepared for the Government of Somalia  
by the United Nations Industrial Development Organization

Based on the work of K.H. Longman, expert in  
shoe designing and pattern cutting

id.77-8630

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ABSTRACT

The Government of Somalia requested the United Nations Industrial Development Organization to provide technical assistance to the staff of the Hides, Skins and Leather Development Centre (HSLDC) in solving the problems relating to the improvement of leather footwear technology and to achieve flexibility of products for the domestic and export markets. The project "Shoe Design and Pattern Cutting" (RP/SOM/77/002) was approved in March 1977.

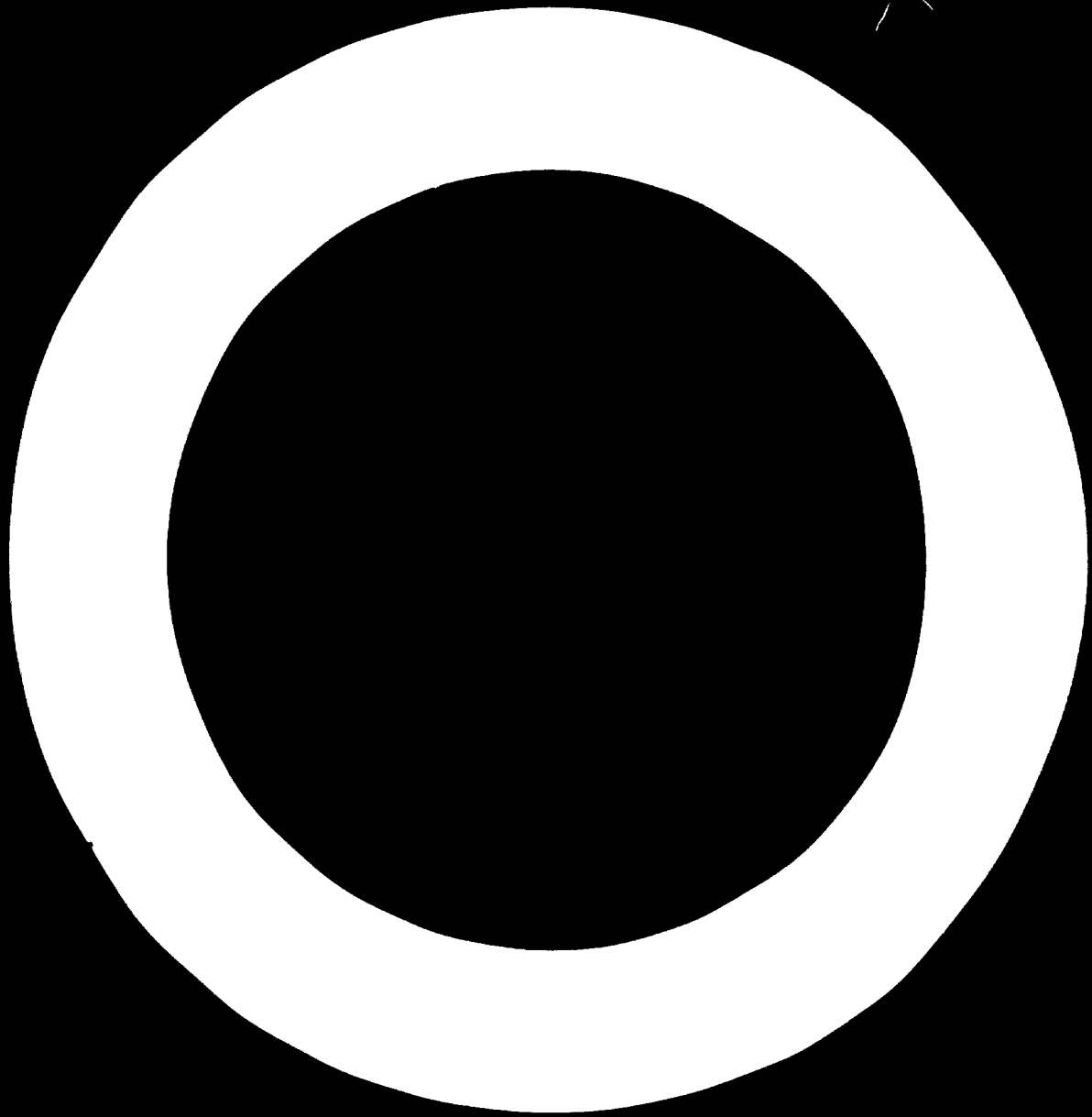
An expert in shoe design and pattern cutting was assigned to HSLDC for a period of three months and was to work under the supervision of the project manager of project DP/SOM/72/007 "Strengthening the Ministry of Industry".

The expert arrived in mid September 1977 and learned that his duties would differ considerably from his job description. The important task was now to increase the production for the local market only, with less emphasis on product quality.

The expert concluded that some basic problems needed to be resolved to improve the quantity and quality of footwear produced by HSLDC. Among them were the lack of regular supplies of good quality sole and upper leather; dependence on the supply of components from the local market and from overseas; the fact that machines unsuitable for the present construction (McKay) were being used; erratic production output due to the absence of any form of production planning; a low level of technology; a certain lack of discipline among workers and management; and the obsolescence of the factory building.

The expert's recommendations include the following: improve the production of the tannery and investigate the possibility of tanning more goat and sheep skin for shoe linings; investigate the possibility of setting up a leatherboard manufacturing plant; in the shoe factory, start production of a different construction (the machinery and equipment needed for two alternatives is indicated); send selected staff for specialized training abroad; introduce production planning based on a 12-pair ticket system; and introduce some form of incentive payment for all employees.

It is further recommended to request the assistance of the United Nations Development Programme (UNDP)/United Nations Industrial Development Organization (UNIDO) for a larger project, involving five experts; the recommendations include a short description of their respective tasks.



Explanatory notes

References to "pounds" (£) are to pounds sterling. During the period covered by the report, the mean value of the pound in relation to the United States dollar was \$US 1 = £0.55.

HSLDC is the Hides, Skins and Leather Development Centre.

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## INTRODUCTION

The Somali footwear industry, which had in 1975 an estimated production of 30,000 pairs of shoes and 300,000 pairs of sandals, satisfies market requirements only to a limited extent. It is understood that after 1974 there were no more footwear imports. The demand for footwear, however, is increasing and consumption is expected to reach 734,000 pairs by 1981.<sup>1/</sup>

The production of the Hides, Skins and Leather Development Centre (HSLDC) in July, September and October 1977 was 8,839 pairs of shoes and 182 pairs of sandals, 7,779 pairs of shoes and 109 pairs of sandals and 6,774 pairs of shoes and 390 pairs of sandals, respectively.

Somalia has an agricultural economy in which livestock plays an important part. Raw leather is being exported to several overseas countries. It is therefore desirable for Somalia to improve its footwear industry up to a point where it can export footwear as well as satisfy the local demand.

It was with this goal in mind that a request was made to UNIDO for assistance. The main objective of the project was to provide technical assistance to the staff of HSLDC in improving leather footwear technology and to achieve flexibility of products for the domestic and export markets. An expert in shoe design and pattern cutting was to be based at the HSLDC footwear factory for a period of three months.

This report covers a three-month mission (September to November 1977) carried out by the expert in shoe design and pattern cutting. The duties of the expert as laid down in the job description (see the annex) were the following: assist directly the design and pattern cutting sections of the Centre; advise on modern methods of manufacture and on the styling, construction and design of products suitable for domestic and export markets; assist in the selection and introduction of suitable designs and in the proper utilization of materials to permit the expansion of the Somali shoe industry on the local market as well as on export markets; advise on machinery, equipment and materials to achieve and maintain quality standards in leather footwear

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<sup>1/</sup> See S.S. Ali, "Prefeasibility study of shoe manufacturing plant" (DP/SOM/72/007), February 1976.

production; and train national counterparts in the above areas.

On the expert's arrival at HSLDC he was informed that his duties would differ considerably from the job description: assistance would be required only in the Centre's effort to increase the volume of production; an improvement of quality was no longer requested.

After a few days at HSLDC the expert decided that in order to achieve this new objective he would proceed as follows: advise on stock controls, production planning and ordering of new components, including machinery; assist in solving production problems; and, if necessary, help to reorganize the production lines and the factory layout.

It was envisaged that the counterpart of the expert would be the factory manager, a non-English-speaking Somali. To overcome the language problem the expert would also have an interpreter at his disposal. As both of these persons still had to carry out their own duties, this was not an ideal situation. In fact, the expert saw very little of his counterpart during his stay at the factory. The counterpart also appeared to be the factory mechanic (it is understood that he is going abroad for two months to be trained as a mechanic). Under these circumstances it was extremely difficult for the expert to gather correct information and to make suggestions for improvements to be implemented.

This report analyses and evaluates the existing situation in the footwear factory of HSLDC and deals with such related problems as materials used, components, tools, machinery, methods of production and production planning. It also deals, to a lesser extent, with the tannery of HSLDC which is closely allied to the footwear factory.

The expert visited only one other unit, the Somali Hides and Skins Agency, which acts as the buying and selling organization for all raw leather in Somalia. He was not able to visit any other footwear manufacturing unit or tannery and therefore does not have an overall view of the problems of the Somali footwear industry.

The success of this project has been limited largely owing to inadequate counterpart support. It is hoped that any future project will be given much better support by HSLDC.



## I. FINDINGS

HSLDC was established in 1967 at km 7 on the road from Mogadiscio to Afgoi. The United Nations Development Programme (UNDP) financed the establishment of this Centre. At that time it consisted of a demonstration tannery, a shoe factory and a section for the production of leather handicrafts goods, such as handbags, cushion covers, belts etc.

Until 1974 it was under the management of the Livestock Development Agency and was then transferred to the Ministry of Industry. The Ministry decided to expand both the tannery and the shoe factory for commercial production.

A new building for the footwear factory, adjacent to the tannery, was completed in 1976. Completely new machinery was installed and the footwear factory started production in October 1976. Little improvement seems to have been made in the tannery.

The production output of the footwear factory is quite irregular; it averages about 300 pairs of shoes per day plus a very small quantity of sandals. In July, September and October 1977 the monthly production of sandals was 182, 109 and 390 pairs respectively. The factory employs about 70 persons.

The quality of the shoes is very poor. The reasons for this will be dealt with in this report. The sandals are of fairly good quality. All production is destined for the local market.

### Tannery

Although the tannery does not officially come into the scope of the expert's assignment, it was felt that it should be included as the problems experienced there affect the footwear factory.

The tannery uses only cow and goat skins. It produces both vegetable- and chrome-tanned leather, all of which is used by the footwear factory and the handicrafts department.

Insoles and heel lifts are cut from vegetable-tanned leather. Very little is used for soles as the hides are mostly on the light side (about 5 mm thick). There are few heavier hides, but these are usually used for heel lifts as it is difficult to split them for insoles.

The chrome-tanned leather is used for uppers. It largely consists of a suede-type material with a small amount of corrected grain side leather. At the moment the suede-type leather is used for the production of an ankle boot and sandals are produced from the side leather.

This suede-type leather is of low quality which directly reflects in the quality of the finished shoe. It varies in substance from under 2 mm to over 3 mm. The flesh side is roughly split and becomes the finished side. The texture of the leather is bad and it has often loose patches which can be pulled off by hand. The cutting value, that is the amount of a skin that can be economically used, is low by Western European standards, i.e. not more than 50-60%, with some as low as 10%.

As the footwear factory has to use as much as possible of this material, it can only produce low-quality footwear.

The production output of upper leather is very erratic; it can vary from 500 sq ft to 1,200 sq ft per day. On some occasions no upper leather was produced at all owing to breakdown of machinery or shortage of chemicals.

As the footwear factory is not allowed to purchase upper leather from the outside market, this situation directly affects the footwear production. The footwear factory should be able to rely on a steady and constant source of supply of leather.

The style being made at present in the footwear factory consumes about 3 sq ft of leather, including linings, which are cut from the upper material. With some of the existing equipment and new machinery recommended, the footwear factory should be able to produce about 750 pairs a day. The tannery should therefore be able to supply about 2,500 sq ft of leather a day (2,250 sq ft plus about 10% unavoidable waste) and the necessary amount of vegetable-tanned leather for insoles and heel lifts.

#### Footwear factory

The footwear factory is facing many and varied problems. It is understood that, with the exception of leather, every other item and material used is imported.

The factory is housed in a new building which was completed in 1976, but already shows signs of lack of maintenance: the concrete floor is broken and needs repairing; during recent rains the roof leaked in a number of places; a number of lights are out of order and need repairing; and, last but not least, the factory is not very clean.

### Machinery

The machinery and equipment of the factory, purchased in 1976, is modern and is in good condition. For some machines, however, there are no spare parts on stock. Besides, it is felt that the McKay construction for which this machinery was designed is not suitable for the sole materials used in the factory, i.e. either micro or resin rubber.

The principle of the McKay construction is that a channel is cut into the surface of the sole which enables the stitching, by which the sole is attached, to be below the surface of the sole and covered by the top layer of the channel, thus preventing the stitching from coming into contact with the ground. With the sole materials used, the cutting of the right type of channel is not possible. Therefore the stitching is left exposed to the ground and is quickly worn through.

The McKay is also a labour-intensive construction. It is understood that it takes a long time to recruit labour in Somalia and that it is difficult to obtain. There are other types of constructions which, if produced with the existing labour force, would increase the output considerably.

Although the factory is generally well equipped with machines, it is short of machinery in particular places, and if production is to be increased certain additional machines will have to be purchased. This applies particularly to the bottom stock department, the cutting room and the sewing or closing room.

Since all machinery and grindery is imported, particular care must be taken that spare parts and grindery are always on stock.

A list of additional machines is included in the recommendations.

The expert feels that the factory should be able to produce a minimum quantity of 750 pairs of shoes per eight-hour shift.

### Technology

The production technology needs to be improved. For example, only one type of adhesive is used in the factory. This adhesive is used, amongst other,

to stick in toe puffs and attach micro rubber soles, the latter being only stuck and not stitched. The expert could easily pull these soles off by hand.

#### Factory discipline

The discipline in the factory is very lax and needs improving. This applies both to the factory management and the workers. Too many of the operators abandon their work for maybe half an hour without anything being said to them.

The workers smoke at the machines and work benches, even where inflammable materials are being used.

The expert further noticed that lasting margins are not always properly done and that the back heights are not being checked before passing the work on to the next operation. Finished shoes, after last slipping, are simply thrown on the floor and, after the socks have been put in, they are again piled on the floor in a big heap which is later sorted out into smaller piles of different sizes.

The expert was informed that the hours of work are from 700 to 1400 hours with a half-hour break for breakfast, between 900 and 930. It is felt that the second working period of  $4\frac{1}{2}$  hours without official break is too long. As the workers are paid by a flat wage rate system they have no incentive to work harder.

All above-mentioned points can partly be made responsible for poor discipline and low productivity.

#### Bottom stock department

In the bottom stock department all soles, insoles, stiffeners and toe puffs are cut. It has two beam cutting presses, a small splitting machine and a heel press.

There are eight persons employed in this section; two operate the presses and the others stick the heel lifts together to make heels and split insoles.

It appears that this department has already difficulties in meeting targets and certainly would not be able to produce the required amount of cut components for 750 pairs in one shift.

As far as production technology is concerned, there appears to be little regard to economical methods of cutting. The expert has seen whole sides being

cut into heel lifts rather than using the belly or shoulders. The cutters were shown by the expert where to cut the different components, but after a few days were cutting in their old way again.

A lot of leather is wasted in this department owing to creases in the sides and cutting insoles from 5 mm leather which is split down to 3 mm, the 2 mm split-off being thrown away. The expert has calculated that about 200 kg of vegetable- and chrome-tanned leather are wasted every day. If the tannery were able to produce the proper splits, this would save one operation and reduce waste.

#### Upper cutting department

The upper cutting department employs three people, two in the footwear factory and one in the leather goods section. It has two cutting presses, one in the footwear factory and the other in the leather goods section, the latter being shared by that section and the footwear factory. It is estimated that this press is used 75% of the time by the footwear factory.

This arrangement is wasteful in labour and production time as somebody, generally the cutter, has to carry the cut upper pieces over about 100 meters to the footwear factory. The expert has requested on many occasions that the cutting press be moved to the shoe factory, but this has not yet been done.

The cutting department is also suffering from a shortage of cutting knives for the style being manufactured at the moment. There is only one knife for all sizes of counter linings and one for facing linings. Therefore only one cutter each can cut counter linings and face linings which often results in a shortage of linings as more outsides than linings are being cut. In such a case whole sides have then to be cut into linings, and while this is being done the initial operations of the sewing room can be waiting for work. This arrangement is wasteful in both labour and material. The upper cutting department should be able to supply the sewing room with a steady amount of work.

It is understood that the cutters are instructed to cut 200 or 300 pairs of one size and then switch over to cutting the same quantity of another size. This practice is bad planning because it does cause delays in the lasting room. The expert has been trying for several weeks to get 12 pairs completely cut, but up to the time of writing has not been successful.

#### Closing or sewing department

The closing department is equipped with a 36-station direct delivery conveyor which was not being used when the expert arrived at the HSLDC. It has been put into operation and is working well.

The closing department employs 13 people plus the operator of the conveyor.

The main problems detected by the expert are the following: not enough work to keep some of the workers fully employed, while others have too much to do; unsteady flow of work from the cutting department; shortage of boxes for the conveyor (these boxes are much sought after in the factory and the expert collected them from around the factory at least once a day); lack of certain machines and operators.

As there are some empty stations on this conveyor the expert suggested to reorganize the layout and to put the upper cutting press on it. This would be time saving as the leather would not have to be carried so far from the tannery and the uppers could be cut right there, avoiding any further transportation.

#### Lasting and finishing department

In the lasting and finishing department a number of problems was found in the areas indicated below.

##### **Lasts**

There are not enough lasts available. According to information given to the expert, there are 294 pairs of lasts for the style being made at present. These lasts cover four different shapes and five sizes. The number of lasts available for each size is as follows: size 41 - 101 pairs, size 42 - 63 pairs, size 43 - 82 pairs, size 44 - 33 pairs and size 45 - 15 pairs. The most popular sizes are 42 and 43. For these two sizes a total of 106 pairs is on hand, which is not enough, whereas for the smallest size 41, 101 pairs are available. In the United Kingdom, working on a size ratio of 12 pairs, 1 pair of size 40, 2 pairs of size 41, 3 pairs of size 42, 3 pairs of size 43, 2 pairs of size 44, and 1 pair of size 45 would be kept on stock. If the production was 750 pairs per eight-hour shift with one cycle of operations, the pairage of lasts required would be the following: size 40 - 62 pairs,

size 41 - 124 pairs, size 42 - 186 pairs, size 43 - 186 pairs, size 44 - 124 pairs, size 45 - 62 pairs, plus about another 10% of each size for shoe repairs and odds. If the production time was four hours then half the amount of lasts would be required. At present some of the 294 pairs of lasts are not being used at all because there are too many of the smallest size, whereas those of other sizes are constantly in use and often finished uppers are waiting to be lasted.

Some of the lasts are the solid wooden type which are not satisfactory because, when using the last pulling machine, the shoe is bent in the middle.

#### Insoles

As already stated, the factory uses four different last shapes but has only two different insole knives. This means that the insoles have to be cut down by hand to the correct shape, which constitutes a waste of labour and of material.

#### Stiffeners

The stiffeners are cut from imported leatherboard. Prior to inserting them into the upper they are torn in half as they are too big and knives of the right size are not available.

#### Lasting machines

The lasting section is well equipped with good modern machines and should be able to produce, as it is, at least 750 pairs of shoes a day if it was supplied with the necessary quantity of finished uppers. The machinery in this department consists of an insole tacking machine, a two-station backpart moulding machine, a power toe-laster with automatic adhesive application, a Kamborian-type side-lasting machine also with automatic adhesive supply, and a tack seat-laster.

Only the insole tacking machine seems to be causing some problems. While normally three tacks are sufficient, the operator puts in five tacks, because the right tacks, so the expert was told, are not available. Some other method of attaching insoles should be considered.

#### Finishing equipment

Most of the machinery in the finishing section is unsuitable. As already stated, the McKay construction is time and labour intensive, and the machinery is also not of the correct type for "stuck-on" work.

A list of machinery, including both new and existing machines, that will increase production and reduce the labour content is included in the recommendations.

#### Adhesives

As already stated, only one adhesive is used in the factory. Today, special adhesives are available to do certain jobs: to stick resin rubber to leather one should use a different adhesive than for sticking leather to leather or leather to micro rubber. This is particularly important in such cases where a strong bond is required as e.g. for sole attaching.



## II. RECOMMENDATIONS

1. The tannery should improve the quality and quantity of tanned leather as soon as possible. It should look into the possibility of producing leather suitable for footwear linings, such as goat or sheep. This would lead to an increase of the amount of upper leather available, as at present linings are cut from upper material, and would also reduce the cost, as the linings would no longer have to be split in the closing room of the shoe factory.

2. In order to improve the production technology of the footwear factory, selected staff should be sent abroad for specialized training for at least one or two years. When this training has been completed they should be employed in areas where this training will be put to best use.

3. Further assistance should be sought from UNDP/UNIDO for a bigger project, possibly involving five experts for a total time of three years. The subjects to be covered by these experts could be as follows:

- (a) Management training, production planning, costing, time and motion study;
- (b) Leather technology;
- (c) Design and pattern cutting;
- (d) Upper cutting and closing;
- (e) Bottom stock, lasting and finishing.

Better support would have to be given by the HSLDC and full-time counterparts would have to be assigned to each expert.

4. The factory has no designing and pattern cutting department and does not need one at present, the number of styles being very limited. If it were decided to produce a greater quantity and a larger number of different styles, the need will arise for such a department to be set up. If the project mentioned in recommendation 3 will not be implemented, one person should be very carefully selected and sent to Europe for training. The suggested course would last two years and the trainee should have the following qualifications; English O level, standard in mathematics and art. The fully-trained designer/pattern cutter should then be able to produce at least two designs a day plus model-size patterns. One pattern grader would also be required to grade the size range of patterns.

A 30-hour course was attempted by the expert in the factory but had to be abandoned owing to problems of attendance on the part of the two students, who were selected from the production line, and the interpreter.

5. As it seems that the output of the bottom stock department cannot be increased with the existing plant, it is recommended that the following machines be obtained:

- 1 beam cutting press
- 1 rotary cutting press for cutting heel lifts
- 1 additional splitting machine for splitting insoles (If the tannery were able to supply insole material of 3 mm substance then this splitting machine would not be needed.)
- 1 additional skiving machine for stiffeners and toe puffs.

If leather heels are still going to be used in the future then the expert would also recommend the purchase of a top piece slugging machine and a heel building machine.

6. For the upper cutting department the purchase of three additional clicking presses is recommended. These new presses can be of the same type as the ones used at present. The cutting press located in the leather goods section could then remain there.

7. When a new design is going to be put into production, sufficient press knives should be bought, i.e. at least two sets each for uppers and linings.

8. The closing or sewing department is not adequately equipped even for the present style and production. It is therefore impossible to increase production without additional machinery. In most shoe factories the closing department lacks specialised machines for certain designs. In this case, however, the department is short of basic machinery and the purchase of the following equipment is recommended:

- 2 single-needle post-bed sewing machines with lining trimming attachment
- 2 single-needle post-bed sewing machines without lining trimming attachment
- 3 single-needle flat-bed sewing machines
- 2 skiving machines

For the conveyor at least 100 additional boxes are also required.

These requirements are based on the present style and a production of 750 pairs a day. For more complicated designs additional machines might be required.

9. There are two types of constructions, the so-called stuck-on and the injection moulded type, which HSLDC should consider with a view to replacing the existing one.

For the "stuck-on" construction, the following machinery would be needed:

(a) In the lasting, making and finishing departments

1. Insole attaching machine (new)
2. Backpart moulding machine (existing)
3. Pull toelaster (existing)
4. Side laster (existing)
5. Seat laster (existing)
6. Upper trimmer (new)
7. Scouring machine (new)
8. Roughing machine (new)
9. Bottom cementing machine (new)
10. Sole press (new)
11. Last pulling machine (existing)
12. Polishing machine (existing)

(b) In the bottom stock department

13. Sole pre-finishing machine (new)
14. Sole roughing machine (new)
15. Sole cementing machine (new)
16. Pre-finished edge setting machine (only if coloured edges for soles are required).

The principle of the "stuck-on" construction is that the sole, with the heel on, is cut to shape and finished before it is attached to the lasted shoe. This is done in one operation, thus eliminating the finishing operations and therefore saving labour.

The reason for suggesting the purchase of a new insole attaching machine is that such a new machine, as e.g. the British United Unifast attaching machine series II, uses no tacks or any other grindery to hold the insole on the last, thus saving the cost of the tacks (and reducing imports) as well as the time required to take them out. The price of this machine is £5,075, including freight. The original quotation is held by the HSLDC. British United also produces machines No. 6, 7, 8, 9 and 10. Machine no. 13. is produced by the Standard Engineering Co., Evington Valley Road, Leicester, United Kingdom.

For the injection moulded construction the equipment would have to comprise the following items: 1 to 8 are the same machines required for the "stuck-on" type.

9. Last pulling machine (existing)
10. Wood heel block attaching machine (existing)
11. Injection moulding machine (new)
12. Flash trimming machine (new)
13. Polishing machine (new)

The principle of this construction is that the lasted shoe is placed on a special metal last and inserted into the machine where liquid plastic is injected into the mould of the sole and bonded to the bottom of the shoe. As this machinery is quite expensive, it is more suitable for larger production.

The main problem with injection-moulded shoes would be that the manufacturing techniques would have to be far more accurate. The upper substance must not vary more than  $\pm 0.2$  mm in substance. One moulding machine costs £8,835. This machine can produce 20 pairs of men's shoes per hour or 160 pairs in a working day of eight hours. To produce 750 pairs a day, five machines would be required at a cost of £44,175.

In addition, one pair of moulds costs £1,900. If five sizes are required, the cost for an assortment of eight pairs of moulds would be £15,200. The total cost would therefore be £59,375.

This machinery is produced by C.I.C. Ralphs Ltd, Excalibar Works, Bath, United Kingdom. The original quotation is held by HSLDC.

All of the machinery, existing and new, listed in recommendations 6, 7, 8 and 9 should give a production of 750 pairs of the existing style for either of these two types of construction.

For both of the new constructions there are fewer machines required than are being used at the moment which has the advantage that fewer components will be needed, thus reducing imports.

10. In the lasting department, certain operations should be carried out more carefully. For example, the operator should make sure that there is a proper lasting margin before passing the work on to the next operation and he should ensure that the back heights are the same.

11. In the finishing department, instead of piling the finished shoes on the floor, some form of trolley should be obtained where the shoes, at last slipping, could be put on and taken to shelves to be stored in their correct sizes.

12. As the tannery and the shoe factory have a lot of waste leather and the shoe factory uses imported leather board, it is recommended that a feasibility study be undertaken to investigate the possibility of setting up a leatherboard manufacturing plant.

Waste leather is also obtainable from the other footwear units and tanneries in Somalia.

13. The factory has no form of production planning, which results in delays in production and bottlenecks caused by an uneven workflow. Sometimes no uppers are ready for the number of lasts available or no lasts are available for prepared uppers; wrong sizes of insoles are cut etc.

The expert suggested to introduce a method of production planning based on the amount of lasts available, i.e. 294 pairs. The system would work on a 12-pair ticket, as the trollies of lasting room can hold 3 pairs and the boxes for the closing room would also hold 12 pairs.

Each day there would be an input folder listing the numbers of tickets for that day. For instance, the first folder would be prefixed 1, the first ticket on that folder bearing number 101, the next 102, the following 103 and so on. The next day the folder would be prefixed 2, and the tickets of that day would start with 201, 202 etc. Each day the folder would have a different prefix number.

There would have to be 4 copies of the tickets including the original. The original would go to the upper cutting room and would accompany the work through the factory. A copy would go to the sole cutting, the insole cutting and the heel making sections.

The tickets would be issued to the section head each afternoon for the following day. On the tickets the number of the last, the size, the pairage

and the type of upper leather and sole material would be printed.

This system should ensure that sufficient uppers and components are cut each day for the number of lasts available.

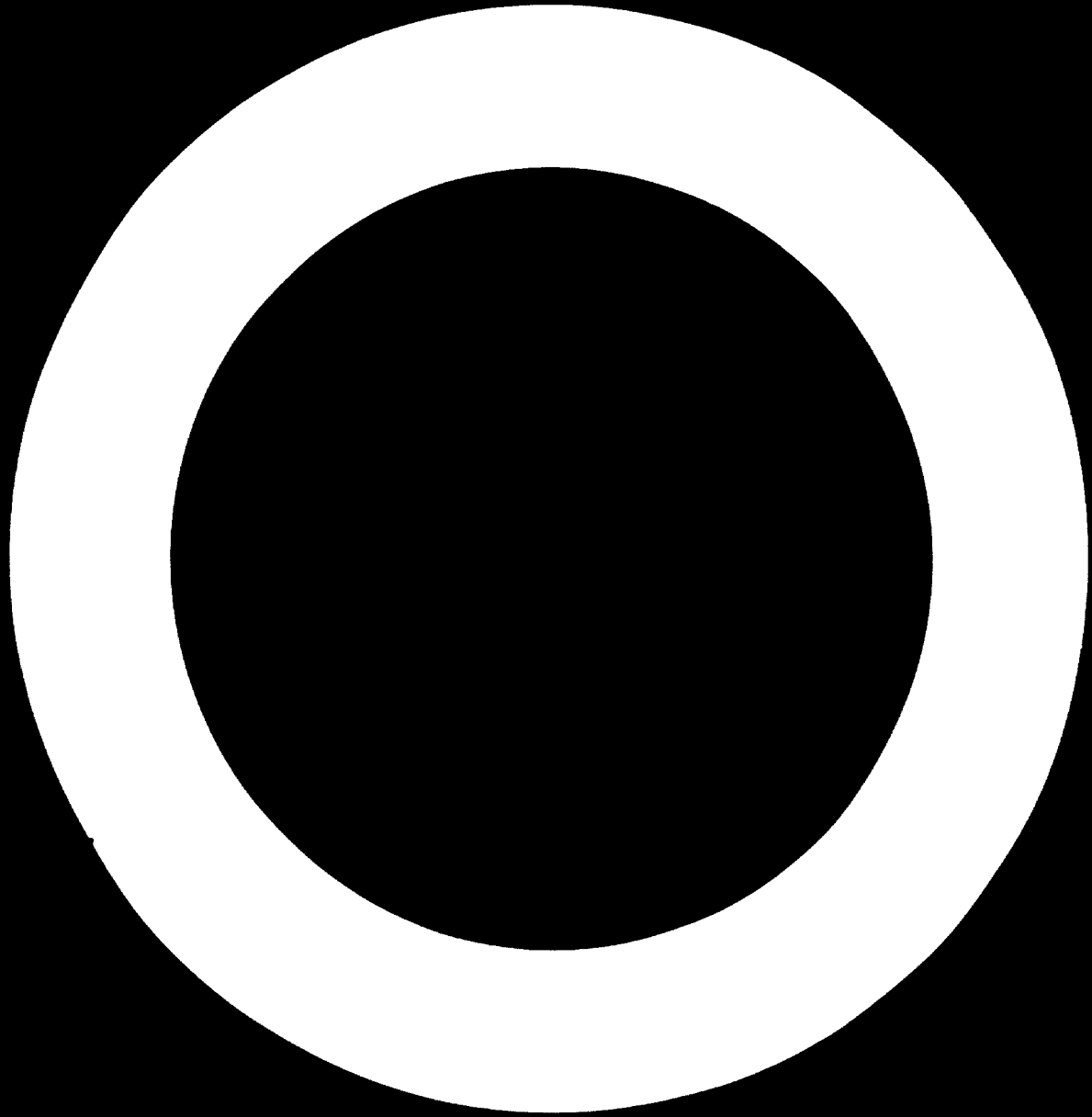
It was hoped by the expert that this system would be working by the time his duties finished at the factory on 10 November. But, although the tickets were ordered on 27 September, they had not arrived by the time the expert had to leave. It is hoped, however, that this system will be tried out as it would certainly help to streamline the production of HSLDC.

14. A certain amount of the low productivity is due to the lack of discipline in the factory. Machine operatives should not be allowed to leave their machines and wander off whenever they feel like it. One of the causes for this abuse is most likely that the length of time between the official breakfast break and the end of the working hours is too long. A 15 minute tea break should be introduced at about 1130 hours and should be strictly enforced.

Smoking at the machines and work benches should be forbidden, particularly where inflammable materials are used. Smoking should be allowed only in the canteen. Skilled operators should not be used to fetch cut uppers from the leather goods factory or leather from the tannery; an unskilled worker should be used to do this. While the cutter is away from his machine production is being lost.

15. An incentive payment system for the staff should be introduced. This could be either by piece work or some form of bonus linked to production.

16. The footwear factory should be kept in a good state of repair; the floors, roof and lights should be repaired and the factory should be kept clean.



Annex

JOB DESCRIPTION

(RP/SOM/77/002/71-01/31.7.D)

Post title: Shoe designer and pattern cutter

Duration: Three months

Date required: As soon as possible

Duty station: Mogadiscio, with possible travel within the country

Purpose of project: To provide technical assistance to the staff of the Hides, Skins and Leather Development Centre (HSLDC) in solving the problems relating to the improvement of leather footwear technology and to achieve flexibility of products for the domestic and export markets

Duties: Under the supervision of the project manager of project DP/SOM/72/007 "Strengthening the Ministry of Industry" and in collaboration with the management of HSLDC, the expert will be expected to:

1. Provide direct assistance to the shoe design and pattern cutting sections of HSLDC;
2. Advise on modern methods of manufacture and on the styling, construction and design of products suitable for the domestic and export markets;
3. Assist in the selection and introduction of suitable designs and proper utilization of appropriate materials to permit the expansion of the Somali shoe industry on the local market as well as on export markets;
4. Advise on machinery, equipment and materials to achieve and maintain quality standards in leather footwear production;
5. Train national counterparts in the above areas.

Qualifications: Well qualified in shoe design and pattern cutting of leather footwear for international markets. Experienced in introducing methods and systems for change and flexibility to cater for the requirements of local and exports markets

Languages: English, knowledge of Arabic or Italian would be an asset

Background information: HSLDC has been engaged in processing hides and skins into vegetable- and chrome-tanned leather. It can



process 75 to 100 hides and skins per day. Leather produced at HSLDC is used in the attached shoe plant which can produce 20 pairs of shoes per day or 50 pairs of sandals. Recently a shoe factory was added to the centre to produce 500 shoes per day. The new shoe factory employs approximately 70 workers in the semiskilled and skilled category.

Besides HSLDC which is in the public sector, there are two other semi-mechanized leather footwear production facilities in the private sector and 14 shoe-making units, based on manual technology, employing five or more workers.

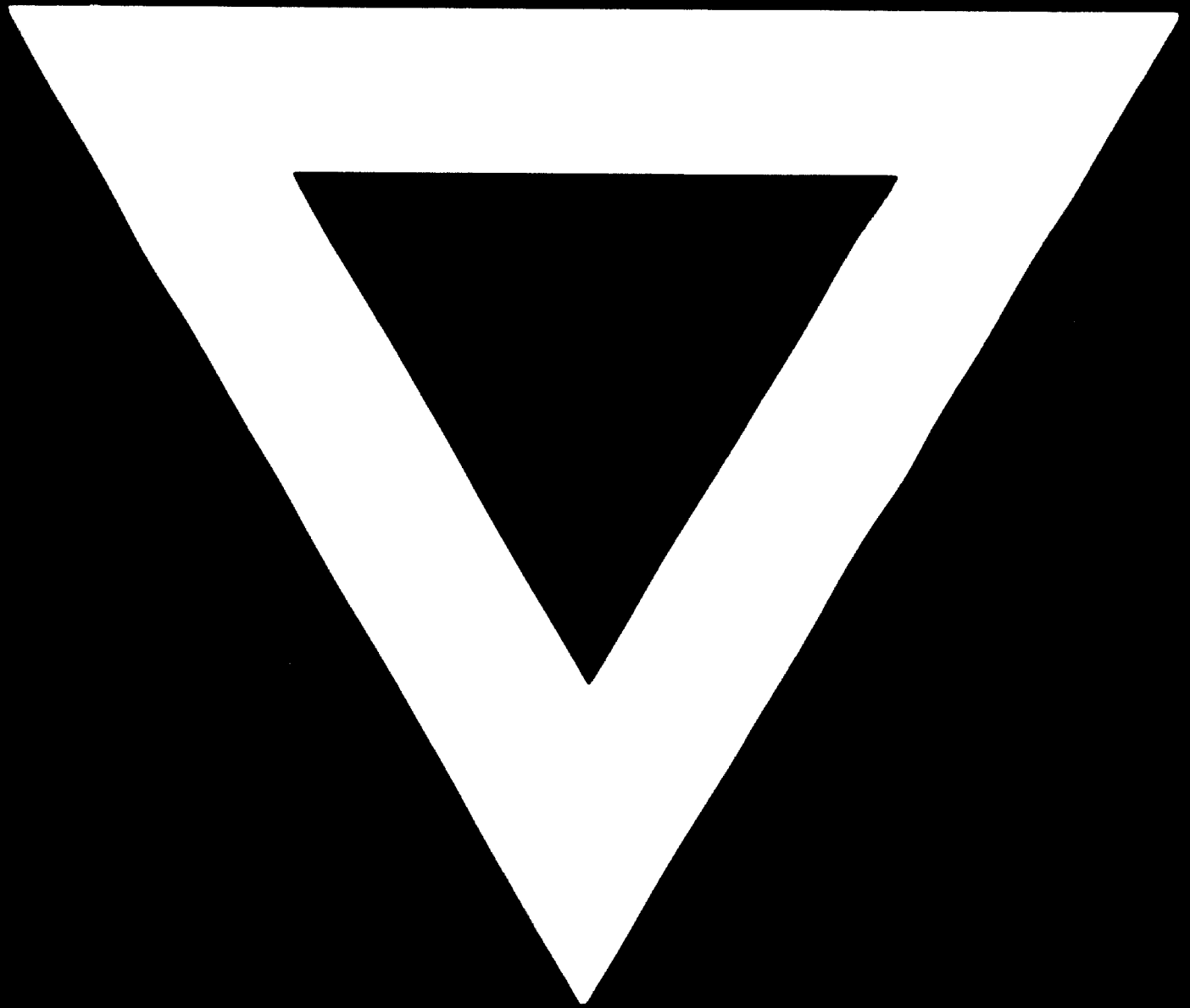
Footwear production in the cottage industry sector includes approximately 865 workers.

The Government is currently organizing these shoemakers into co-operatives.

The quality of the footwear being produced by HSLDC continues to be inadequate mainly due to poor technology, unimaginative styling and other factors. The Government is seeking technical assistance to improve the product quality through introduction of better designs and models to cater for local demand and export markets.



**C-700**



**78.12.13**