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REGIONAL AFRICA

HIDES & SKINS, LEATHER AND LEATHER PRODUCTS IMPROVEMENT SCHEME

US/RAF/88/100/11-07

US/RT/91/110

MISSION REPORT (\*)

Morogoro Leather Goods Company, Twins leather Goods  
Shah Industries Limited

15 October to 20 November 1992

Based on the work of

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## INTRODUCTION

This second part of the split mission in Tanzania took place between the dates 12/10/92 - 23/11/92. The first mission was carried out between dates 28/7/92 - 8/9/92 and the report produced as a result of that mission is referred to within this report as a working paper.

During the first mission Shah Industries and Twins Leather Goods Company received technical assistance whereas Morogoro Leather Goods Company was visited for one day only to assess the assistance needs for the second mission. As a result of the first mission a workplan for the expert and preparations to be made by each company were agreed with the companies and the backstopping officer. The workplan is annexed to this report (Annex 1) and the activities of the expert during the mission were very similar to the anticipated duties, although there were some minor changes due to preparations not being carried out in some circumstances. The details of changes made are contained in the individual company reports.

MOROGORO LEATHER GOODS COMPANY

15/10/92 - 30/10/92

1 BACKGROUND

Morogoro Leather Goods Company has been the beneficiary of substantial training inputs during recent years, carried out within the factory and through overseas training for selected personnel.

The results and effects of this training on production skills, supervision skills and efficiency are negligible as far as can be determined by this expert. There may be many complex reasons for this situation, but one overriding reason for the shortcomings in production is a lack of experience in production techniques from those personnel who have received previous training. Historically leathergoods production has been erratic with little or no focus on the needs of the market, and the basis for past production has been at the whim of the customer which has caused broken production with a wide range of product types and specifications. Production has not been allowed to settle into a routine to reinforce and consolidate the skills training.

During a previous mission by this expert in 1991 similar observations were made and it was recommended in the subsequent report that market research should be carried out and production samples be prepared in response to the market needs. No action was taken to carry out this recommendation and then during the first part of the mission when the training needs were being assessed for this mission, the same recommendation was reiterated as part of the preparations to be made. (See Annex 1 for details of these preparations). Once again no market research had been done and no samples produced. The effect of this on the activities of the expert during this mission has been double edged. On the negative side it has restricted the amount and content of training given to production processes and related supervisory skills. Also the relevant personnel have not experienced contact with retail outlets and the valuable feedback that could supply. On the positive side, the expert had the opportunity to design a co-ordinated range of bags, presenting an image for Morogoro

Leather Goods Company under the "Bushman" logo. The pattern cutters were also able to learn a great deal about pattern cutting and the preparation of a prototype in readiness for production. The aim of the Bushman series of bags is to establish a standard for production and hopefully continuity of production assuming marketing is sufficiently aggressive within the tourist areas.

The programme of activities during this mission was recorded by Mr Msella (Production Manager) for presentation to Mrs Nagu (General Manager) and is attached to this report as Annex 2. The range of Bushman bags is illustrated in Annex 3.

## 2. THE BUSHMAN RANGE

The ultimate aim of this mission was to develop the opportunity for production to be continuous by having a desirable product targetted at a specific market. Continuous production with pre-determined quality standards would encourage improvements in skills through repetition of relatively simple production processes (the learning curve).

The concept of the Bushman range of utility bags was brought about by three contributing situations:

- a) The time factor did not allow for consumable materials to be brought in, therefore locally available materials were the only option.
- b) The product range must be simple to make with emphasis on transferable skills between individual designs.
- c) The product design is intended for the tourist market.

The materials used are cotton canvas from the Morogoro Canvas Mill, leather from Morogoro Tannery, sisal and mwinga wood which are incorporated within the entire range. It is total supposition at this point whether or not this combination will be of interest to the potential market and local market research would have been of assistance. The Bushman logo and promotional information has been printed locally onto tie tags to accompany

each bag. Seven designs and prototypes have been produced during the mission.

### 2.1 Preparation of the Range

All the materials are in plentiful supply and the only possibly doubtful supplier could be the tannery, but after several trials on unfinished leather the technical personnel at the tannery achieved an acceptable sample with a natural look finish which they are confident can be reproduced. 1,000 square feet was later finished in this way exactly as the sample piece, which was reassuring.

The designs and specifications were prepared by the expert but pattern cutting and prototype making were the responsibility of production workers within the factory. Ongoing supervision and instruction from the expert was supplied where required. The emphasis at this point was to standardise design features and production methods to encourage consistent acceptable quality standards.

A simple information storage and retrieval system was set up around the range to assist the transfer of information from pattern cutter to supervisors to production. The intention is to maintain consistency within production through well-documented specifications.

Following several training sessions given to all the relevant staff, the following records were completed immediately after each sample was approved:-

Production Operations Sequence: Each item produced is broken down into a logical sequence of production processes with consideration to the movement of workpieces to minimise delays and bottlenecks. The line supervisor has been using this information during pre-production trials to confirm the accuracy of the sequence and as a basis for labour timings at each stage.

Specification Book: Patterns (quantity and types), sizes, details of materials used, sundries and estimated materials consumption are recorded. The information will be essential to maintain a



consistent product during future production and will form the basis for costings and the issuing of materials to the cutting section.

## 2.2 Pre-Production Trials

Based on the estimated materials consumption which has been entered in the specification book, leather and canvas were issued for five bags of each model number. During cutting the estimated figures are confirmed or corrected. The basis of the estimation is to add 40% waste for leather and 20% waste for canvas. Following cutting of the five bags it was discovered that leather waste could be as low as 17% when small patterns were used but 25% - 30% was the norm. The canvas waste estimate proved to be correct.

Each group of five bags will be put through production according to the operations sequence with timings taken at each point during the transformation process. It was not possible to have pre-production trials on the whole Bushman range during the mission, but they will continue during the following weeks. The line supervisor should always be assisted at this time by the pattern cutter who produced the original pattern and prototype, but this has been a difficult concept to operate and constant supervision of the pattern cutters has been necessary to encourage their presence in the production area.

The timings taken can only be approximate but they will provide a guideline for planning and labour costings. In any event, normal conditions do not exist for implementing exacting controls on production and the proportion of labour inactivity throughout the section can absorb any anomalies in the timings and flexibility of the operations sequence.

The main aim of these trials apart from confirming the materials consumption has been to familiarise the line supervisor with the product and to establish a quality standard.

### 2.3 Conclusions

Although it was not the intention at the outset to develop a theme range, the responsibility to develop new products was left to the expert once it was clear there were no prototypes prepared. The range of Bushman bags has been developed hurriedly without any market research and is therefore an unknown quantity, but apart from the unusual features of sisal and wood which may or may not be acceptable, the styling and proportions are balanced for western tastes. The Morogoro Leather Goods Company now has a product for the tourist market and the opportunity to develop further if company marketing is vigorous and aware of the market response.

The experience of being in daily contact with those responsible for production leaves an impression that the concept of good quality has not been developed within these individuals. It can only be hoped that the quality guidelines left by the expert and further production experience will encourage an appreciation of good quality.

The introduction of a record system will allow for control over the use and mis-use of materials issued and make individuals accountable for their actions, in particular the pattern cutters who are mainly responsible for keeping these records and who have in the past shown a careless attitude towards exactness and detail. The new materials estimating system will now supply the basis for accurate costings which has not been practised previously.

A valuable contribution towards the success of pre-production trials and timings was made by the line supervisor, Mr Masaki, and if allowed to continue with the system used during the mission he will play an important role in maintaining quality.

The success of the Bushman range and the leathersgoods line in general depends on the actions taken by the other specialised departments, primarily marketing and purchasing. If full support is given and the administrative departments work together with production then it will be possible to achieve positive results, but if the adverse situation applies, then leathersgoods production

will not be given the opportunity to develop.

### 3 PRODUCTION TRAINING (ART: DIPLOMATIC BAG)

At the time the Bushman range was being developed an order for 120 "Diplomatic" bags was about to be put into production. An opportunity was presented to demonstrate ways in which quality can be monitored and improved while introducing a system of handling and controlling work pieces during the assembly sequence.

With guidance from the expert a new working sample was made by one of the pattern cutters with improvements to the pattern fit. The new patterns were set onto cardboard and zinc in preparation for cutting directly to the pattern shape. An operations sequence was prepared by the expert and pattern cutter together with contributions from the line supervisor responsible for leathergoods production. Good communications between design and production at this pre-production stage was emphasised repeatedly and this situation illustrated the point very well.

Five complete sets were cut and put through production with training given to the supervisor and production workers at each point of assembly. During this exercise it was apparent that the quality would be poor, due mainly to a lack of care from the workers. The observations made were:-

Cutting: Cutting tables very untidy with no attempt to tidy before/after cutting. Patterns become misplaced and cut pieces have no storage area. The cutting knife was made from wood glued to a hacksaw blade and although cutting was possible, the awkward handle was not helpful. Blade shapes were unconventional and sharpening poor. Cut pieces were not accurate to the pattern.

Skiving: Too many individuals were allowed to use the skiving machines without sufficient training. Damage to machine parts and bad adjustments at the point of skiving had not been detected. Correct settings for specific uses did not seem to be understood by any of the operators.

Glueing and Folding: A mis-matched collection of tables littered with odd pieces of worn nylon cutting pad was the only surface in use. A large group of women were crowded round this area and displayed no interest in trying to achieve a presentable quality. All operations were carried out from a sitting position and generally too much adhesive was evident on and off the component pieces.

Sewing: A good selection of machines are available for leathergoods production but they were positioned in a haphazard, illogical layout. Nobody had responsibility for these machines and consequently they were not cleaned or given preventative maintenance, resulting in careless and superficial damage (ie, broken bobbin winding mechanism, knee lifts, thread stands, damaged bobbins and cases, lack of oil). The operator skills were however generally good.

### 3.1 Action Taken and Results

The entire section was cleaned and reorganised with the sewing machines lined up alongside the glueing and folding tables. The previous tables were replaced by newer tables at a level height and a second table area created as a distribution and quality check point for cut and partially assembled units. The line supervisor is now responsible for all the machines within his section with instructions to organise the cleaning of machines every day.

Cutting: Tables were cleared of debris and repositioned to give more space for working. Side tables were cleared for cut pieces to be stacked in tens. Training was given on knife sharpening, and verbal emphasis put on accuracy.

Results: Very few unfortunately. Cutting accuracy did not significantly improve and without regular supervision the tables were again littered. The problem is attitude rather than lack of skills.

Skiving: Both machines were adjusted and sharpened and are in good working order. Samples of skiving for specific uses were prepared by the expert and fixed to the machines as a reference. The line supervisor now has control over who uses these machines.

Results: The article in production was made from PVC and therefore did not need skiving. The only skiving carried out was on pre-production quantities of the Bushman range, and after several failed attempts the adjustments were learned by at least one individual. There was no other opportunity to test the depth of comprehension from the remaining operators in a production environment. Hopefully the supervisor will use his authority to control production skiving.

Glueing and Folding: New tables were collected from several points within the factory area and the old ones completely removed. These tables increased the working area, and a second group of tables could now be used for organising the component pieces in readiness for glueing and folding. Glueing was now carried out from a standing position and training given on clean glueing and neat folding.

Results: Glueing out from a standing position increased the distribution area for drying and the use of a specific glueing area has vastly improved quality and had an effect on attitude towards cleanliness. New folding methods have been introduced with noticeable improvements, but supervision is essential to maintain momentum.

Sewing: Apart from re-organising the layout and having the machines cleaned, the only contribution necessary was to demonstrate one particular sewing operation which was creating difficulties for the operator. The remaining sewing operations witnessed by the expert were skilfully executed.

### 3.2 Conclusions

The principles of manufacturing and the skills required to manufacture do not appear to be the problem because when employees were asked specific questions on procedure or technique the answer was always there, even if it required a certain amount of coercion. Even on the subject of quality there was recognition of what determines good quality by Mr Msella and Mr Kasege (the Production Manager and his assistant).

A general lack of care and interest in the work presumably brought about by poor motivation would seem to be the reason for the majority of problems. Much tighter supervision is required at all levels with Mr Msella and Mr Kasege taking a more active part in production. This would necessitate Mr Msella being released from much of his administrative work.

Payment by results was discussed with Mrs Nagu and in theory the idea was received positively. Text has been left with Mrs Nagu and Mr Msella on this subject as a basis for discussion.

With the resources available, the expert is confident that a good quality product can be produced when all the resources are applied and if a conducive working environment is encouraged.

## RECOMMENDATIONS

### To Morogoro Leather Goods Company

1. The range of Bushman bags could offer an opening to the tourist market but support and action must be forthcoming from all the departments which have an influence over the smooth running of operations.
  - a) The maximum number of retail outlets must be located and encouraged to take the whole range.
  - b) Feedback from retailers on adjustments/improvements to designs and/or new product lines need to be acted on if considered reliable.
  - c) Quality products and reliable delivery must be given priority.
  - d) Marketing (sales) must consult with production before promising deliveries.
  - e) Purchasing must respond quickly to the needs of production.
  - f) Continuous production and repetition will eventually bring about improvements in quality, but without sales there is no production.
2. The line supervisor (Mr Masaki) does not have the depth of experience to operate in isolation. He must receive help from Mr Msella and Mr Kasege until an acceptable quality is achieved, but the duties of Mr Msella would need to be redefined.
3. All the points discussed relating to production should be continued or introduced:-
  - a) The working areas must be cleaned daily.
  - b) Work should progress in groups of 10 units with quality inspection at each stage of the transformation process.

- c) The new information recording systems must be kept up to date and used to assist production.
  - d) The pattern cutter responsible for the 'operations sequence' must work closely with the line supervisor.
  - e) All new techniques demonstrated should become standard procedure by production workers.
  - f) Packaging and presentation of finished goods will have a direct influence on sales to tourists. Bags must be clean, properly stuffed with shredded paper and tagged with the Bushman label.
  - g) To remain competitive, prices should not exceed those recommended during the mission.
4. Lack of motivation is destructive to quality and output. Until this problem is tackled the task of producing a quality product will remain difficult. Some form of incentive, either financial or non-financial, should be considered as a possible solution.



TWINS LEATHER GOODS COMPANY

4/11/92 - 9/11/92

1 BACKGROUND

The duties of the expert and the preparations to be made by Mr Paul Tito's of Twins are given in the document attached to this report as Annex 1. From the three preparation requests, the first one had been carried out by Mr Tito's (clear the third workroom) but the electrical work had not been done. Tanzania was experiencing power rationing at the time of this mission, and TANESCO (the national power company) have told Mr Tito's that connection of three phase power to his workshop will be delayed, but Mr Tito's is hoping the delay will not be too long. The fact that the electrical work had not been carried out did not affect the workplan for the expert.

1.1 Results from the First Mission

Belts: The new style of men's belt has been very successful. Orders for substantial quantities are being accepted and the quality achieved is good. There is potential for regional export.

Zip Holdall: There has been considerable interest from buyers and several have been sold, however the design theme has not been developed with new designs as hoped. This is most probably due to a lack of pattern knowledge and confidence.

Benchwork: A large order had just been completed of the same briefcase used for training during the first mission. The execution of the benchwork was already completed and could not be observed, but the completed briefcase was neatly finished. Therefore, whether the training system was used or not could not be determined.

Pattern Cutting: There had been no attempt to re-cut patterns for existing styles as was agreed and all previous training had been forgotten. The explanation given was that the workshop was too busy on the briefcase production, although it was discovered there was considerable confusion on what was required and this is most

probably the reason.

Leather Cutting: The practice of cutting by knife around a pattern had not been continued. Cutting with scissors on pre-marked lines was the method still being used even though the cutting table was available and the knife made during the first mission was within the workshop and being used for trimming.

Leather Estimating: No further estimates had been done and it soon became clear that the concept had not been understood.

A general observation on why some of the training and recommendations had not been carried out is partly explained by language difficulties and partly because Mr Tito's had not received a copy of the report from the first mission containing the recommendations and he was therefore unsure of what he should do.

## 2 ACTION TAKEN

There were no leathergoods items in production during the mission and power rationing restricted machine sewing to two days only, during which a jacket order was taking precedence. These circumstances did not allow for further training on benchwork skills, and the training time was used to concentrate on pattern cutting, cutting and leather estimating.

### 2.1 Pattern Cutting

To encourage confidence, skills and a greater depth of understanding, two senior employees were made responsible for reproducing patterns based on training from the expert. Two best selling styles were analysed and their patterns checked for accuracy and information content. The shortcomings of the existing patterns could be easily identified once new patterns were cut using the demonstrated system. A total of five pattern sets were cut; three as a demonstration and two by the employees.

The system being used is a repetition of the technology introduced during the first mission, and with more time available for training during this mission the possibilities for

comprehension were far greater. It has been emphasised to Mr Tito's that he must continue with the system and he has decided to re-work two pattern sets each week which will help to reinforce the technology.

The new patterns which have been cut now have detailed information on assembly allowances, sewing reference points and specific production information.

## 2.2 Leather Estimating

A new book was started to record pattern measurements and waste percentages using the same five new pattern sets produced during the mission. Mr Tito's was given detailed instructions on the method of calculation and was personally responsible for entering the measurements into the book. A substantial proportion of the mission time was spent with Mr Tito's on leather estimating, and the advantages of using this system have been understood and accepted by Mr Tito's. All new designs and re-worked patterns are to be recorded and used as a basis for costings. This is essential to maintain control over costs when the company grows beyond job production.

## 2.3 Cutting

The training given centred on three new designs which were made up as prototype samples. Knife sharpening and knife technique were the main skills to be practised and from observations made the cutting skills demonstrated by Twins employees were adequate for the production quantities normally produced (small quantities). The continuation of cutting by knife will depend on an appreciation by Mr Tito's of the advantages of this method over the scissor method. The impression given by the operators during this mission is that cutting by knife is not necessarily considered to be a better method than scissors and may not therefore be adopted.

### 3 NEW PRODUCTS DEVELOPED

A lack of confidence with pattern cutting necessitated further training on patterns and the pattern cutting system was demonstrated on three new bag designs. The theme of the new designs relied on simplified production processes and introduced several new ideas which can be re-used in subsequent designs.

Ladies' Belt: A wide fashion belt is a popular item locally, and Twins did not have anything to satisfy this market. The new belt in its basic form can be the basis for several designs and five alternatives were decided on with Mr Tito's.

Shoulder Bag: A small handbag with similar styling to the majority of the existing range of bags was produced to demonstrate the pattern system which will be used to re-work old patterns and for demonstrating sewing without prior glueing.

Fashion Back Pack: Targetted directly at the fashion conscious sector of the national market, this bag reflects current European fashion and introduced some new production techniques which will improve quality and simplify production.

Double Flap Bag: This small handbag used new ideas for production and can form the basis for many other designs using the same pattern and production procedures.

All the patterns were cut by the expert but cutting, benchwork and sewing were carried out by Twins employees as part of the training programme.

### 4 REVISED WORKSHOP LAYOUT

Electrical preparations had not been started and there were no new machines delivered before or during the mission. The new machines to be delivered are known to be five Consew sewing machines, one skiving machine and one strap (strip) cutter, all of which should be supplied with three phase motors. Because at present three phase power is not connected anywhere within the workshop there are no restrictions on machine placement and the

optimum use of available space could be planned with minimal costs and disruption.

The new floorplan annexed to this report (Annex 4) has brought into use the second workroom and a large hall area. The second workroom will become a sewing room with one three phase overhead line supplying a minimum of six power outlets. The hall area will become the cutting room, and the existing workroom will be a general purpose workroom where the majority of assembly processes will be carried out.

The majority of clearance work has already been done but there are some existing machines remaining in the second workroom which need to be removed. The existing cupboard space could be cleared and brought into useful service as a storeroom without too much reorganisation.

## 5 CONCLUSIONS

As a direct result of the first mission the most obvious improvement is in men's belts and these can improve further with the aid of a strap cutter. It was disappointing to discover pattern cutting, cutting and the leather measurement system had not been adopted following training during the first mission, but the short duration of that mission did not allow for thorough training and it is now apparent that everything was not understood. Proportionally, more time was spent on training in these three areas during this mission and the procedures will have to be maintained if there are to be improvements in production management, efficiency and quality.

The current machines and tools are minimal or non-existent, and those pieces of equipment that are in use are poorly suited to their jobs. New machines and tools are urgently needed and the list of tools recommended in the working paper after the first mission remains unchanged.

The leather supplied by Moshi Tannery is not particularly suitable for jacket production and plays a major part in the

development of Twins as a competitive company. If any assistance can be offered by UNIDO on sources of leather and its importation, there is potential for considerable quality improvements with jacket production.

## RECOMMENDATIONS

The type of production being carried out for the most part is job or small batch production to local special orders which allows for a great deal of flexibility. However, Mr Tito's has expectations for the growth of the company which will necessitate a move to larger scale batch production and more emphasis on planning and efficiency. With the future development of the company in mind the recommendations to Mr Tito's are as follows:-

1. All the recommendations which have been made in the working paper produced during the first mission must be applied. The key points made in those recommendations are:-
  - Continue to develop the new skills demonstrated during training, ie pattern cutting, leather cutting, benchwork, leather estimating.
  - Preparation of the third room for the installation of new machinery according to the layout prepared by the expert during this mission.
  - Reorganise the existing site to make better use of available space according to the prepared layout.
  - Install new strip lighting according to the prepared layout.
  - Make enquiries to ARPTEL magazine about a subscription, or if the cost is prohibitive one issue must be the minimum purchase.
2. Explore the possibility of importing better quality leather from Kenya (for jackets). The cost of locally supplied leather is TShilling 500 per square foot (approximately US\$ 1.30) which is very similar in price to Kenyan leather but greatly inferior in quality. The cutting yield of Kenyan leather and the quality of finish will benefit the

cost and saleability of Twins jackets.

3. The local market is an exhaustible market and must be expanded. New regional markets may be possible areas for development assuming quality and price remain competitive, but positive action must be taken very soon to research these markets before the local market is exhausted.

To UNIDO

The recommendations made during the first mission remain unchanged except for recommendation 2 which requested certain machinery in place of the original requisition. The original requisition has already been processed and therefore it is no longer possible to recommend the two Juki sewing machines. However, the remaining machines recommended are still required and should be supplied to Twins together with the original requisition of five Consew sewing machines.

From the remaining recommendations made at that time the priorities are:-

- New hand tools (recommendation 3)
  - Study visit to Universal (recommendation 1)
  - Spare parts (recommendation 4).
1. Further technical assistance should be provided following the delivery of the new machinery and tools but there must be guarantees that Mr Tito's has completed all the points in recommendation 1.
  2. Any assistance which can be given by UNIDO to make contact with leather suppliers and/or possible markets for finished jackets may be very useful for the development of Twins jacket production. Mr Tito's is uncertain on how UNIDO can help him and a formal letter from regional headquarters will be of assistance. Mr Felsner has offered assistance to Mr Tito's should he visit Nairobi but Mr Tito's is still unclear on the procedure and may not take up the offer of assistance without a formal invitation.



SHAH INDUSTRIES LIMITED

10/11/92 - 20/11/92

1 BACKGROUND

The planned duties of the expert and the preparations to be made by Shah Industries which are outlined in Annex 1 were not carried out.

The main purpose of the mission was to develop a quality control system based on better quality leather imported from Alfarama Tannery (Kenya). The leather had not been ordered and there is no possibility of standardising quality with the usual leather supplied by Himo Tannery. The quality of leather from Himo is very irregular and normal working methods cannot be used during manufacture.

Mr Felsner (CTA) brought a sizeable quantity of leather from Nairobi on 19th November but unfortunately there was only one day remaining of the mission and nothing could be done apart from leaving instructions on how the leather can affect production and quality.

Another factor influencing the reason why preparations had not been made by Shah Industries was that the list of preparations to be done and a copy of the expert's report had arrived only a few days before the second part of the mission. From the date of posting in Dar es Salaam and delivery to Shah Industries took 4 weeks.

The final consideration in determining the workplan was the effect of power rationing on possible training. At the time of this mission TANESCO was cutting power to Shah Industries for 2 or 3 days per week, which left the factory in darkness and without machinery. Any form of planned training to a schedule was impossible under these circumstances.

1.1 The New Workplan

In addition to the difficulties caused by power rationing, the two individuals given training during the first part of the mission

were not present for the whole of this mission which made it difficult to arrange a training programme. It was decided the greatest benefit would be from producing new designs together with new production technology. The beneficiaries of this information and training would be the Production Manager (Mr V Shah) and Edmusa Mushi, who has already received training during the first mission.

Products made from finished leather are lower in quality than the vegetable tanned goods and production technology is limited, therefore the emphasis was placed on this section of the product range. Patterns and sample prototypes would be produced using standardised features and similar production methods which should encourage quality through familiarity by repetition.

#### 1.2 Observations Made Resulting from the First Mission

From the training given during the first mission the outcome was observed as follows:-

- i) Sewing: The new Juki machines are regularly used although the majority of sewing still takes place on the older machines using the larger (180) needle. There is no noticeable improvement in sewing quality.
- ii) Wallets: Quality is generally good and the new technology is being maintained.
- iii) Pattern Cutting: There are no new designs, therefore the pattern cutting system has not been practised.
- iv) Subdivision of patterns: A few patterns have been adapted but more attention must be given to this subject especially when the cutting yield is so poor.
- v) Leather Estimating: The system has been continued but the resulting figures cannot be considered accurate with the variable leather quality. The control of leather issuing is however very successful.

vi) Cutting: The pre-marked hand cutting method is still being operated and cannot be changed until the leather quality is better. Machine cutting and corrected cutting dies will be given priority once the die making equipment is available.

## 2 REAPPRAISAL OF MACHINERY RECOMMENDATIONS

The recommendations made to UNIDO in the working paper after the first mission have been reconsidered by Mr Shah in light of the current worldwide recession and diminishing retail sales.

Ref: Recommendation 1 - Die making equipment is still the priority and following the visit by Mr Felsner on 19th November there has been action taken on purchasing this equipment.

The development of small leathersgoods production is not now a priority for Mr Shah and it is therefore unnecessary to purchase a glueing machine. The glueing machine recommendation should now be CANCELLED.

Ref: Recommendation 2 - The edge binding conversion package for Juki DSC 245 is still recommended and would be a valuable addition to quality improvements on finished leather products.

Ref: Recommendation 3 - Mr Shah has economised by building an extractor system from locally available materials which he has already installed, therefore there is no need for UNIDO to follow up the request from Mr Shah.

Ref: Recommendations 4 and 5 - The itemised spare parts and lamps are still required.

## 3 REASONS FOR ACTION TAKEN

Quality improvements in the vegetable tanned leather range of goods are totally dependent on revised production methods resulting from improved leather quality and cutting accuracy, both of which are due to be acted on based on recommendations from

earlier missions. The technology to make these improvements in quality is already in place and no further additional action could be taken during this mission.

Finished leather products are generally poorly designed and finished, although wallets have improved considerably following training during the first part of the mission. Handbags and travel bags remain as the only part of the leathergoods range which require upgrading.

Power rationing precluded a structured training programme and the emphasis was centred on preparing new designs and prototypes together with training on associated technology when power was available.

#### 4 ACTION TAKEN

Bags made from finished leather play a small part in the overall range and are usually produced individually and to order. Pattern cutting is by trial and error and production technology is limited. New designs have not been produced on a regular basis and the technology required for this type of product is not developed sufficiently to achieve a good quality.

Using finished leather four new bag designs were produced during this mission using related technology and standardised design features. An additional three vegetable tanned leather bag designs were produced to demonstrate pattern sub-division and to extend the variety of this type of product within the range. The new designs produced are illustrated at Annex 5.

##### 4.1 New Products and Production Technology

A. Holdall: A medium sized zip fastened bag with three exterior zip pockets. Standardised features include a new handle design and seam piping without using adhesive. Training was given on pattern cutting and practical participation in using new sewing skills.

B. Back Pack: A large utility bag aimed at the passing tourist market which can be developed into a group of similar products using the same basic pattern. Standardised features include french binding which is already in use and the same new handle design. Training was given on pattern cutting and sewing skills.

C. Briefcase: A slim line soft sided zip fastened case with interior pocket layout. Standardised features include the new handle design and seam piping without using adhesive. Training was given on pattern cutting, practical participation in the new sewing skills and a new method of lining fitting.

D. Handbag: A soft gathered bag as a modern alternative to the dated styling of some of the bags on display. Standardised features include the new handle design and seam piping without using adhesive. Training was given on pattern cutting and the new sewing skills.

#### 4.1.1 Results

The disruption to training caused by power rationing and absenteeism meant continuity of training was very difficult. Training was given wherever and whenever the opportunity was available. Edmusa Mushi very quickly picked up new sewing skills and Mr V Shah demonstrated a clear understanding of the pattern technology.

Four new designs added a different dimension to the product range and the technology used would be simple to develop into a wider range of designs.

#### 4.2 New vegetable tanned leather products

The reasons for producing three bags from veg leather were to put some different shapes in the showroom display and to show how subdivision of patterns can increase cutting yield and add interest to a design.

Power rationing prevented the two handbags from being completed, but the briefcase was finished and provides a useful

example of pattern subdivision and the advantages to be gained.

## 5 CONCLUSIONS

The recession has had an adverse effect on retail sales and consequently a downward trend in production output. The entire production unit has been reduced in size and is in need of a boost to regenerate itself. A better quality and cheaper vegetable tanned leather is essential for efficiency and quality improvements, and with a better quality and competitively priced product there may be an opportunity to find new markets. The leather brought from Nairobi by Mr Felsner will be useful in demonstrating the potential improvements and advantages for production. Until Shah Industries is using better quality leather there is little to be gained from further technical assistance in this specific area.

An alternative boost to production/sales could come from goods made from finished leather. Finished leather is available locally and the machinery to produce these products is already on site. Goods presently made from finished leather range from good but expensive small items to very poor and expensive large items. At the time of this mission these goods were produced with very little management control/supervision and a great deal of work will need to be done to bring about improvements. The range of bags produced during this mission should hopefully provide a stimulus, but in the long term a training course for selected personnel would be the desirable solution.

## RECOMMENDATIONS

### To Mr Shah

Recommendations made following the first part of the mission which are itemised in the working paper are still relevant. Recommendations 1 and 2 concerning the use of imported vegetable tanned leather and leather point needles must be treated with urgency.

Recommendations 5, 6, and 7 can be acted on immediately and with the imminent arrival of die making equipment the emphasis must be on making the correct preparations.

New recommendations relating to finished leather products;

1. Those products presently on display should be re-assessed. The majority are outdated in their design, poorly made and overpriced. Where possible all those products found to be unsuitable for display should be removed as they are detrimental to the presentation as a whole.

The pricing structure of these particular products should be given attention with consideration to their competitiveness in the local and regional market.

2. With few exceptions the responsibility for producing these products rests with Edmusa Mushi. Additional personnel must be involved to increase the size of this section and checks on patterns and progress should be regularly carried out by Mr V Shah.

### To UNIDO

A reappraisal of the machinery recommendations made in the earlier working paper has been itemised in section 2 of this report.

Recommendations to UNIDO continued...

If Mr Shah has serious intentions about developing products made from finished leather he will require assistance. Training of selected personnel could be considered by UNIDO as a possible future mission.



UNITED NATIONS



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Morogoro Leather Goods Factory

Duties: To give training in production methods. Based on designs produced by M.L.G.F. personnel, trial pilot production of approximately 100 pieces of each design will give training to production workers and supervisors in production methods.

During discussions between Mr. Msella, Mr. Massay and Mr. Tracy, it was agreed that the following preparations should be carried out before the next mission:

- 1) purchase 1,000 sq.ft. natural cowhide
- 2) purchase 2 aluminum or zinc sheets (for patterns)
- 3) cut the patterns and produce four canvas and leather bag prototypes. The designs should be based on local market research.
- 4) ensure there are sufficient materials, fittings, etc. to product 100 pieces of each prototype
- 5) the binding machine must be in good working order.

Twins Leather Goods Company

Duties: Make a new layout in preparation for delivery of seven new machines. Give training in product development and production technology.

Twins should prepare the following before the next mission:

- 1) clear the third workroom in readiness for the new machines
- 2) connect 3 phase electrical supply to the workshop
- 3) place strip lighting in all workshop areas.

Shah Industries Ltd.

Duties: Introduce a quality control system. Give further training in production technology with specific priority to small leather goods.

Shah should make the following preparations before the next mission:

- 1) check and correct patterns/cutting dies where possible
- 2) produce good working patterns and make a record of each one
- 3) purchase leather from Alpharama to be used during training
- 4) select suitable personnel for training in quality control methods

UNITED NATIONS



NATIONS UNIES

- 5) consider establishing a specialized section for small leather goods production which would involve 3-5 workers and a separate area of the factory prepared for this use.

We have requested Mr. Massay to follow up these matters with the companies concerned.

Yours sincerely,

Juhani Berg  
Senior Industrial Development Officer  
Agro-based Industries Branch/Leather Unit  
Industrial Operations Technology Division

NOTE FOR MR. MASSAY:

PLEASE FOLLOW-UP THESE MATTERS SO THAT ALL IS PREPARED FOR THE NEXT MISSION.

jdraf.tracy.urt

Duration:

- Two weeks 15.10.1992 - 2.11.1992

Aim:

- Follow up mission from the previous training.

Objectives:

- To put into practice the organisational knowledge of production processes involved in the leather goods productions.
- To maintain a continuous production of selected range of items under the series of utility bags.
- To impose ways and means of promoting quality in process.
- Identification of various control forms for use in the production.

Implementations:

The implementation of this project will be done as follows:

- Preparations of patterns and counter samples of seven different bags.
- The patterns will be prepared by the cutters and then corrected and checked by the Leather Expert.
- The sequence of operations will be prepared by the pattern cutters/Supervisor.
- The counter sample will be done by the pattern cutters.
- Five trial samples will be cut and prepared in the production line with a view to establish the correctness of the patterns and time per operation which is needed for production planning and costing.
- The production line is arranged according to the laid out sequence.

Proposed Samples:

The first three samples will be:-

- (a) A diplomatic bag made up of PVC material with sponge foam and reinforced carton.
- (b) Sample two will be a Back pack made up of heavy green canvas and leather with natural fittings.
- (c) Sample three will be a travelling bag made up of green canvas with leather patches and natural fittings.

Another sample will be a series of four (4) different types of bags made up of leather and canvas materials.

DASHMAN SERIES

The Dashman series will be a series of bags which will be ideal for tourist market and with a Natural Tannanian look. These will be made with mostly local materials and easily available materials.

MANAGING PRODUCTION

The production process will be supervised by the section supervisor (MASAKI). The Supervisor will be responsible for the process quality control and monitoring of the production.

The Senior Supervisor will be an overall incharge.

TECHNICAL STAFF

The following workers will be involved in the whole project:

- (i) Pattern cutting
  - Lucas Kapinga
  - Desgratinus Mwanda
  - Benedicto Eziulaya
- (ii) Hand cutting
  - Timothy Chambi
  - Yuste Yuste
  - Josephat Miliya
- (iii) W/Mark Operation & Stitching Operation
  - Esale Fekile
  - Dorothea Nguire
  - Teddy Kasubiri
  - Agatha Maliseli
  - Rahema Mlyaka

- Beatrice Selli
- Hajina Omay
- Mihara Salwa.

(iv) Finishing &  
Inspection

- Shuren Masaki
- Indevick Kasege

Requirements

- The following items will be required during the training:-
  - o 6 pairs of scissors
  - Printing "HUSHMAN SERIES" tags.
  - Boxes for transportation.
  - Plastic buckles.

ASSESSMENT

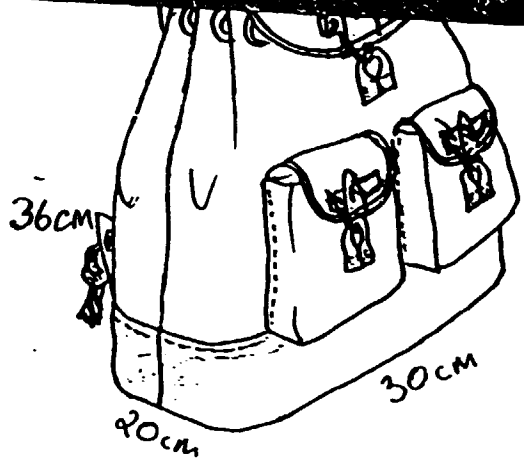
- Overall report of the activities will be given by the Expert.

PRODUCTION MANAGER

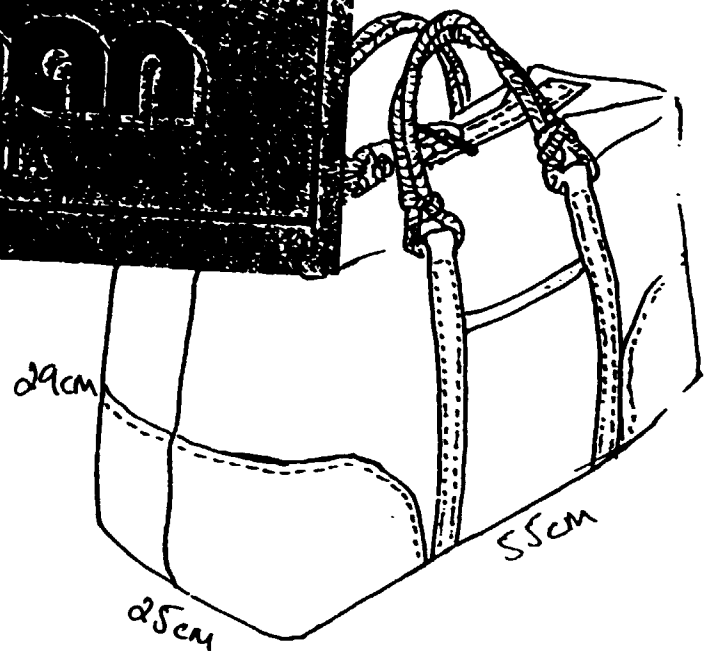
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# Bushman

MADE IN TANZANIA



92800



92801



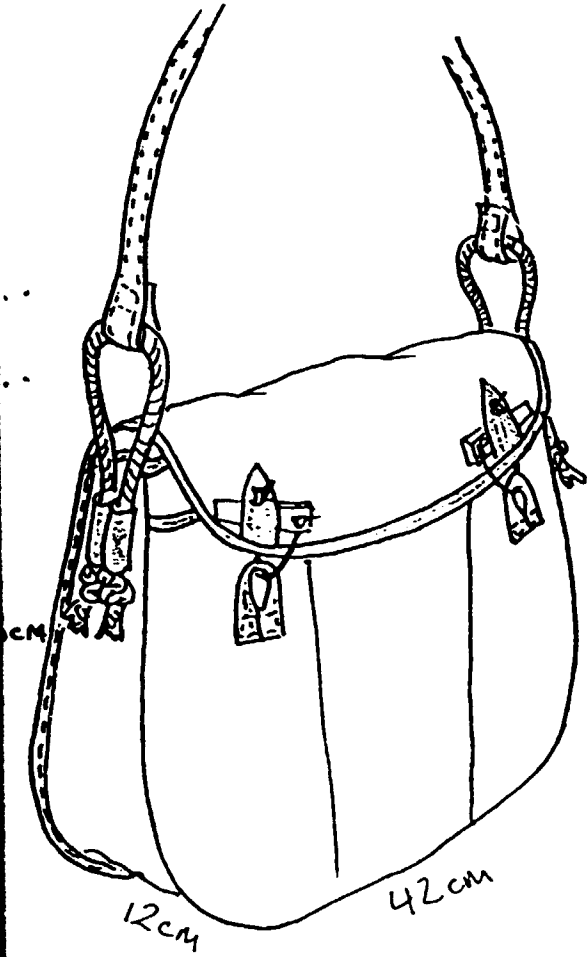
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THE BUSHMAN RANGE OF UTILITY BAGS IS PRODUCED EXCLUSIVELY BY THE MOROGORO LEATHER GOODS COMPANY. ALL BUSHMAN PRODUCTS ARE MADE FROM INDIGENOUS NATURAL MATERIALS: COTTON CANVAS, COW HIDE LEATHER, SISAL AND WINGA WOOD.

17, O'Connell St. MOROGORO, TANZANIA  
 Telephone: 2720, 3790, 4142, Telex: 55081

# Bushman

MADE IN TANZANIA



92803

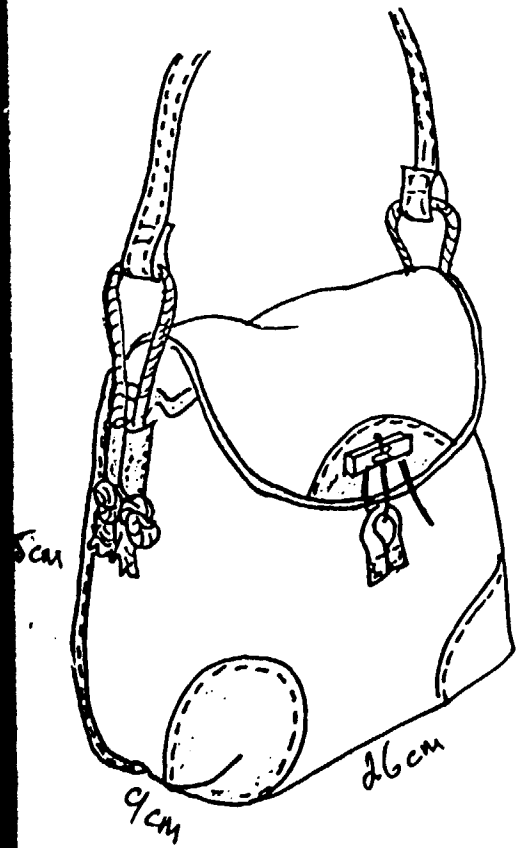
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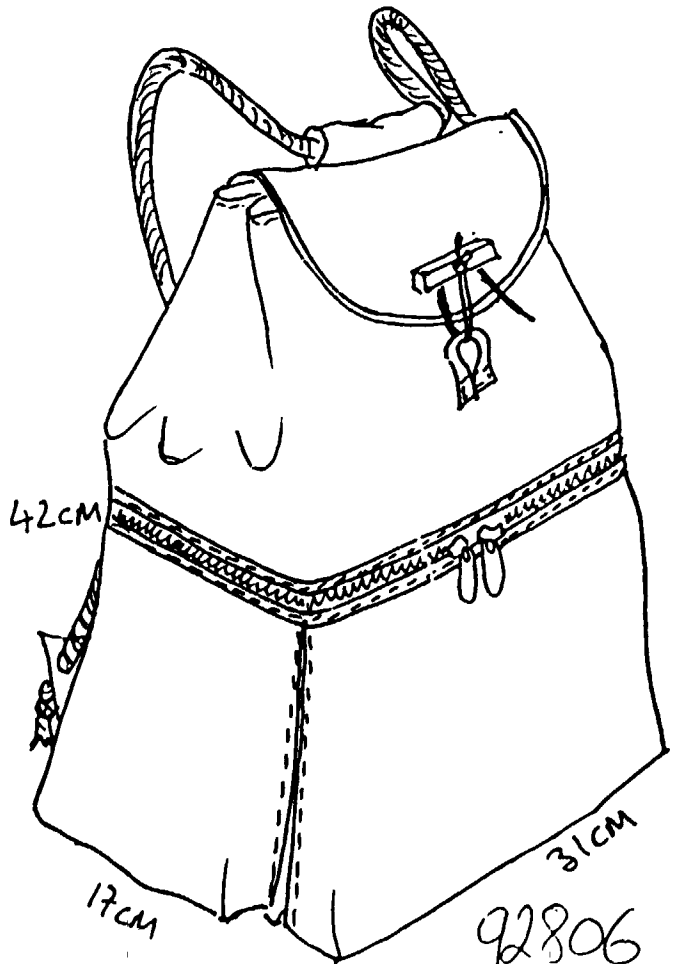
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41cm

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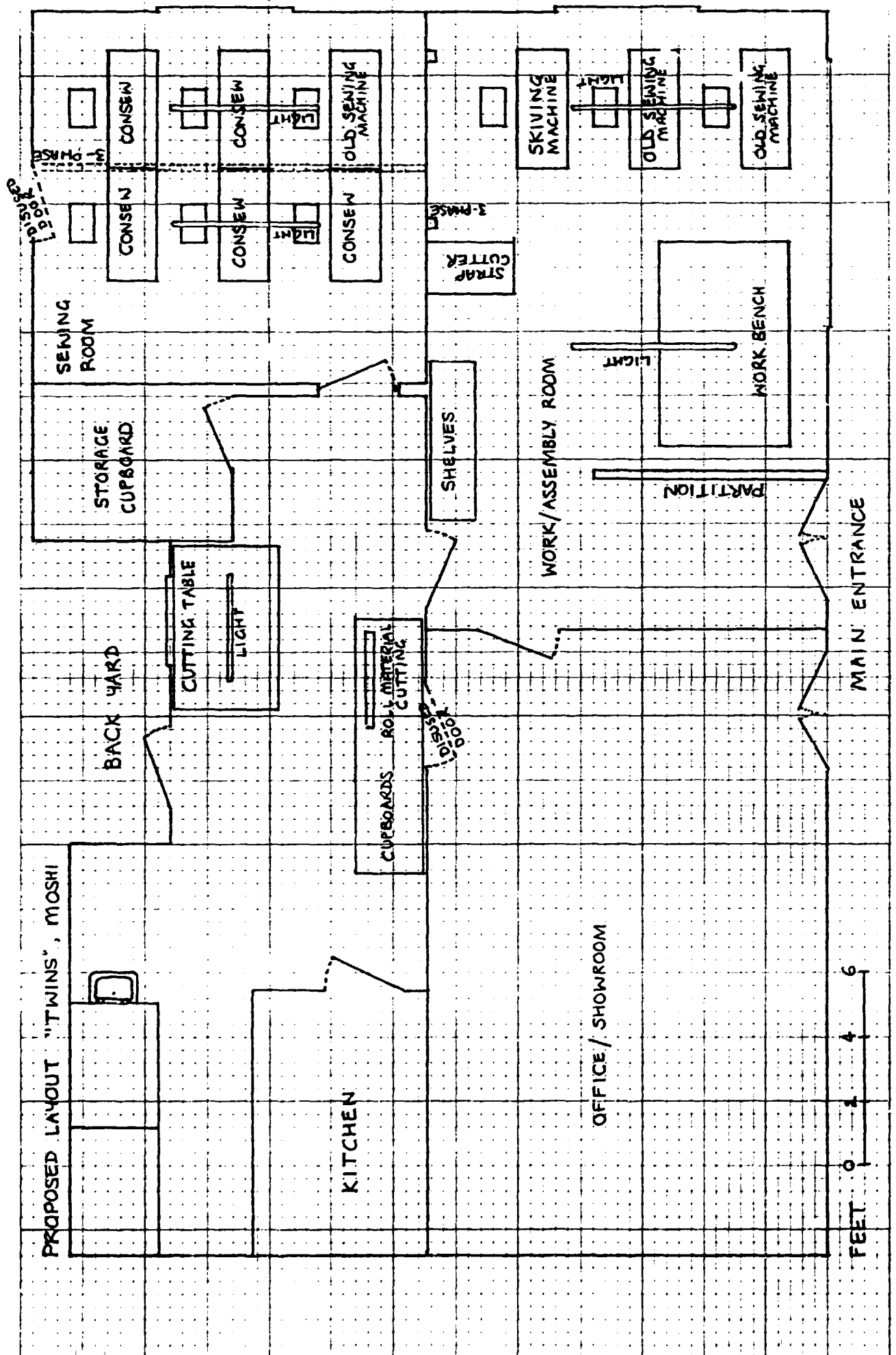


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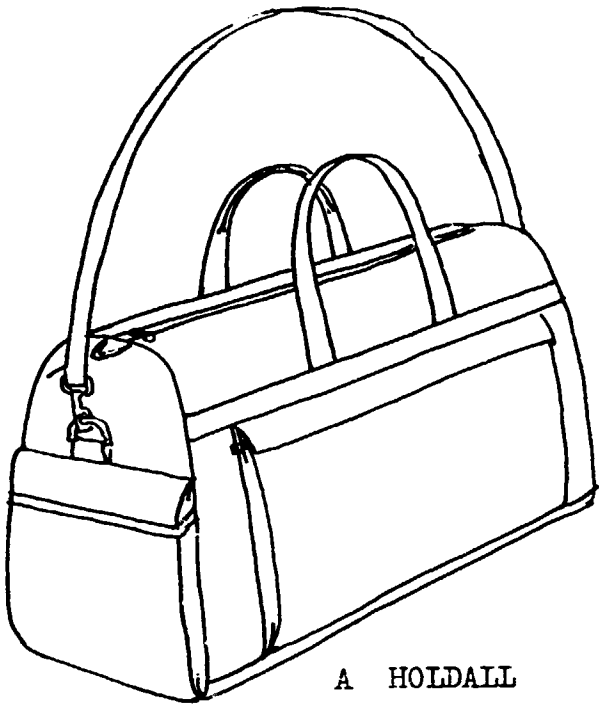
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31cm

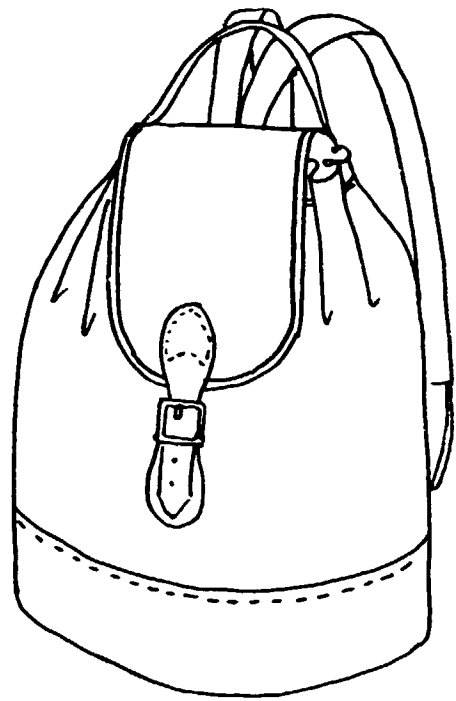
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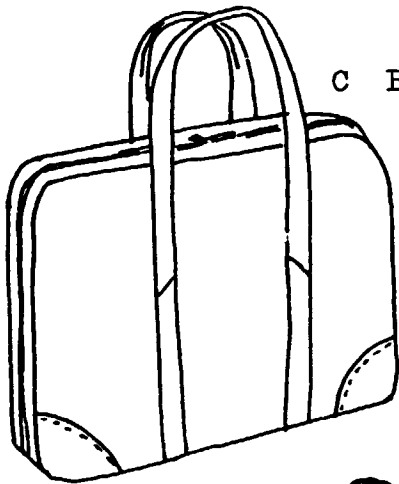




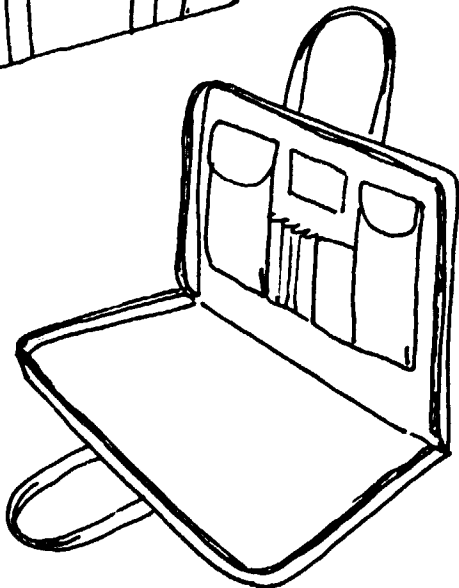
A HOLDALL



B BACK PACK



C BRIEF CASE



D HANDBAG

