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ASSISTANCE TO KURASINI WOMEN TAILORING SOCIETY

IW/URT/84/001

TANZANIA

Terminal report*

Prepared for the Government of the United Republic of Tanzania
by the United Nations Industrial Development Organization,
acting as executing agency for the United Nations Development Programme

Based on the work of Edward Albert Triggs
Consultant in Garment Industry

United Nations Industrial Development Organization
Vienna

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1. INTRODUCTION

The purpose of the project was to improve the efficiency and product quality of the Kurasini Women's Tailoring Society. Fielden House Productivity Centre Limited was required to carry out the assignment, with Mr E A Triggs, their appointed Garment Industry consultant, undertaking the installation of the new machinery and equipment and the training of both instructors and management in the appropriate techniques to achieve the desired improvement in productivity.

This report summarises the findings of the mission and gives recommendations on further action which might be taken. An Interim Progress Report and Final Progress Report describing in some detail the progress towards achieving the desired objectives and the problems encountered in the implementation of the project, are reproduced as Annex I and II.

2. OBJECTIVES

The immediate objective was to develop an appropriate factory layout, to assemble the equipment, to ensure correct operation and then to train operators in the use and servicing of the equipment.

The intermediate objective was then to increase the rate of output and the quality of finished garments by continuing operator training and by training selected operators in instruction techiques.

The final objective of the proposal was to ensure that Management were introduced to the modern management techniques to enable them to develop systems of quality and cost control to ensure that the Cooperative continues as a prosperous and sound business.

3. FINDINGS AND RECOMMENDATIONS

By the end of the assignment, productivity of the Cooperative had improved considerably with output being 25% above the original level and the working hours had been reduced by 12% to 37 hours/week. This increase was achieved by correct utilisation of the machinery and equipment assisted by analysis of garment construction with subsequent improvements to reduce work content whilst giving better quality standards.

Further increases can be expected provided that Management take heed of the advice detailed in the Progress Reports and summarised below.

3.1 LAYOUT

The layout shown in Annex I, Progress Report No. 1, Appendix 1, has proved satisfactory for the current style of dress, however problems will be encountered when future changes are planned for new styles or quality and output improvements.

The original single phase power supply was useless for the new machines which required 3 phase, 380/400 volt supply. A suitable power supply was installed but, because plugs and sockets were not available, each machine was connected directly to the supply. Therefore any re-arrangement of machines must only be accomplished by a qualified electrician.

Lighting, both artificial and natural, is below satisfactory standard and will need to be improved if quality is to be increased further.

3.2 EQUIPMENT AND MATERIALS

Difficulties were encountered both at the installation and running-in stage of all machinery and equipment. These problems have been adequately documented in the Progress Reports; from these experiences, the lessons to be learned are as follows:

a) Management must ensure detailed product and material specifications are noted when additional equipment is considered

b) Suppliers must ensure that equipment is properly identified and that all standard fixtures and attachments are included along with operational manuals.

c) Adequate supplies of consumable materials such as quality thread, needles and components are readily available.

Additional equipment and items that are needed to supplement the standard machinery to ensure optimum utilisation have been listed in Annex I, Appendix 4. Before any future requests for special machinery, requiring accurate setting and non-standard components, are made, Management should consider other more traditional methods of achieving the results using existing standard equipment and manual techniques.

Reporting systems were introduced to identify and predict the problems associated with machine breakdowns and needle and thread breakages. These will only be minimised if Management agree to purchase sufficient large quantities of materials and suitable thread.

3.3 OPERATOR TRAINING

Six operators were selected to familiarise themselves with the new machines, threading-up, tensions, adjustments etc. They were given instruction on the theoretical aspects of training reinforced with practical exercises and issued with the appropriate printed notes.

Despite the problems of language and absenteeism, the sessions were completed to a satisfactory standard and participants were able to develop a system for the training of other members of the Cooperative. Consequently they will be able to extend this exercise to the training of others in the future.

However, Management must remember that useful training can only be satisfactorily carried out when basic and job related exercises are created utilising the same materials that the trainees will use in practise.

3.4 MANAGEMENT DEVELOPMENT

Due to the constraint imposed by the need to keep the machinery running in order to provide adequate output, Management training could only be carried out as far as senior people would allow and attend. An annex to the Final Progress Report details the unpredictable events which affected progress on the project, some of which were within the control of Management and could have been avoided.

The original programme had to be revised and training development was achieved by concentrating on the practical aspects, such as case studies and exercises, and minimising the theoretical lectures. A complete set of reference notes was issued to participants who were then given the opportunity to study them before discussing any aspects of which they were unsure.

The course module covering training in design, styles and patterns was delayed due to the late arrival of the Cutting Room equipment and accessories and also the lack of a cutting table. Eventually these problems were overcome and some demonstrations and training was given.

To augment the sessions on this complex subject, comprehensive reference texts and illustrations were brought from UK. These give clear and concise instructions for creating graded block patterns for all the garments it is proposed to make at the Cooperative. The titles of these books, together with the names of the authors and publishers, are contained in Annex I, Appendix 9.

4. CONCLUSION

Although unforeseen difficulties arose during the assignment, the objectives were achieved and the purpose of the project was satisfied. The Cooperative now has the foundation to become an effective and expanding production operation. Consolidation of this new knowledge must now occur.

It has been suggested that a follow-up visit would help to reinforce management's knowledge and also ensure that any additional machine attachments have been properly installed and working satisfactorily. Further equipment and associated training will be required as the range of products increases.

However, further assistance should only be given on the proviso that the senior people of the Cooperative give their undivided co-operation and attention to derive the full benefit intended.

ANNEX I

PROGRESS REPORT NO. 1, DATED MARCH 1986

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1. INTRODUCTION

This project has the purpose of improving the productivity and the quality standards achieved by this Co-operative by the introduction of a range of new industrial cutting, sewing and pressing equipment. To assist in the attainment of the desired results, Management are to be trained in the techniques required to maintain effective control over both output and costs.

This report describes the objectives to be achieved during this assignment and gives details of the progress towards them under various headings. Further, some recommendations are made which should assist in ensuring the project is a success.

2. OBJECTIVES

The immediate objective was to develop an appropriate factory layout, to assemble all the equipment, to install it in the chosen locations, to check each item to ensure correct operation and then to train operators in the use and servicing of this equipment. Concurrently six instructors were to be selected and trained in the best methods of instruction and were to be allowed to familiarise themselves with the equipment. This has been achieved except with respect to the Cutting Room.

The intermediate objective is to continue to train the operators in order to increase the rate of output and to raise the level of the quality of garments produced. At the same time four of the management team are to be introduced to modern management techniques to allow them to analyse the design and construction of the range of products to ensure optimum use of the equipment available. They will also be taught the method of application of control systems to both production and costs. It will also be necessary to create a Cutting Room. The assignment is currently progressing towards this objective.

The final objective will be for Management to implement some of this new knowledge to improve the design of the garments to raise the quality standards and reduce costs, to start to develop some simple systems to ensure quality and costs are controlled and to plan for the future development of the Co-operative.

3. GENERAL

The Kurasini Women Tailors Coop Society, P O Box 70381 (Telephone No 50617) is located on Port Access Road, Dar es Salaam; 7 km south of the city centre on the far side of the harbour - 2 km past a new "Total" petrol storage depot.

The Cooperative occupies a small "U" shaped building of 1625 sq ft approximately : comprising an office (170 sq ft), a store (170 sq ft) and a manufacturing area of 1275 sq ft as shown in Appendix 1.

The ventilation is natural : there are neither fans nor air conditioning.

The organisation of the Cooperative is given in Appendix 2.

The original production : approximately 60 shirts or 120 dresses per day, was achieved by the use of 18 Chinese "Butterfly" foot treadle operated machines.

There are only six, four foot fluorescent light fittings - five with tubes - over the main floor area and natural light from the open doors and small windows is normally used. This gives a relatively low level of illumination; particularly on cloudy days in the rainy seasons, which needs to be improved if quality standards are to be raised to a satisfactory level. Again, the windows are not glazed and curtains are often drawn to keep out the rain. This matter will be investigated further.

The original power supply installation consisted of twenty three 13 amp single phase sockets distributed from a 60 amp three phase supply in the main area with one such socket in each of the smaller rooms.

When the consignment of equipment was inspected, it was found that there were two problems. One was that the "Naomoto" Finishing Tables required a 20 amp single phase supply and, therefore, could not be used on the 13 amp system and secondly the "Juki" (Hitachi) motors for all the machines required a 3 phase, 380/400 volt supply! Since it would have been almost impossible to change the motors, it was imperative that an appropriate electricity supply should be installed in the factory. Consequently two contractors were contacted immediately and then it was found that four pin plugs and sockets were not available in Tanzania thus it would be necessary to accept direct connection of the motors to the supply. In view of this situation, the layout of the machinery was revised to accommodate this constraint and the new arrangement also ensured that the new installation would require the minimum work. The lowest cost and minimum time was quoted by a British managed company with a good local reputation and this was accepted.

Work started on Thursday February 13 (Week 3) and was completed eight days later on Saturday 22 February (Week 4) when all the machines were connected and checked for correct rotation.

4. LAYOUT

The final layout of equipment is as shown in Appendix 1.

It should be noted that if any machine has to be moved, a qualified electrician will be needed to accomplish any disconnection and reconnection.

It can be seen that although space is limited, it has been possible to locate all the original 18 treadle machines within the manufacturing area. This provision has been made in order that production can continue during power cuts. These have been logged since the start of the project and on average last for 7% of the working hours, though not on a regulat basis. In the past three portable machines have been moved out of the building and used on the covered concrete path and this practice could be continued if considered convenient.

5. EQUIPMENT

5.1 CUTTING

Although the "KM" cloth cutting machine and the "Hitaka" cloth drill were delivered to the Co-operative before the project started, the other accessories were delayed in the docks since they were a "part-container" shipment. However, they were delivered Thursday 27 February (Week 5). When opened and the contents checked on Saturday, 1 March it was found that two items - White Tailors Chalk (2 boxes of 50 pieces) and Gummed Tape (6 rolls) were missing from the cases which had previously been intact. The U.N. Freight Office was advised and they are pursuing the matter with the supplier. The full list of auxiliary equipment is listed in Appendix 3.

A close record will be kept of the rate of use of the consumable items so that future requirements can be forecast and re-ordered as necessary.

As can be seen from the layout (Appendix 1), the area allocated to the Cutting Room is also somewhat limited. However, it will accommodate a cutting table 15 feet long and 6 feet wide which should be large enough for the requirements of the foreseeable future. A table has been designed and ordered with delivery promised during the week ending March 22.

5.2 SEWING

All the sewing machines were delivered before the assignment started but they had not been unpacked. When the shipment was examined, it was found that the component parts, eg. machine head, table and motor, were boxed separately but had not been marked to indicate matching parts.

Consequently it was necessary to select a machine head then open the boxed tables until a suitable one could be discovered. Fortunately there were few different types of motor thus it was not too difficult to find the correct one for any machine and table and complete the assembly of the whole unit. The types are listed in Appendix 3.

The motor pullies and "V" belts were packed, with the tables and when all the units had been built up, the belt for the blindstitch machine was too long to allow it to be tensioned. Fortunately it was possible to purchase one of the correct size.

Assembly of the table and frame was complicated by the fact that not all the necessary holes had been drilled in the table tops. Since were was not a dirll of any sort available, they had to be made with a hammer and drift; a rather slow job! The male staff of the Co-operative were very helpful during this very hot and onerous task.

All machines were assembled by the end of Week 2 but during this time it was discovered that the needle in the embroidery machine was broken at the shank and that in the buttonsew machine was badly bent. This made it necessary to recheck the timing on both to ensure it was correct.

Because there was no appropriate electricity supply available, it was only possible to check the operation of the machines by rotating them by hand. This was particularly difficult on the automatic types.

It was at this stage that it was appreciated that there was a very low stock of threads; few colours and only one size - 40's in cops of only 400 yards. The brand was "Flying Wheel" made in Shanghai, China and the quality is very poor. It is a soft cotton thread with surface hairs, slubs and knots but it was stated that any alternatives are both scarce and expensive. With this quality it was difficult to get a properly balanced stitch due to inconsistent tensions; particularly on the two overlock machines, even turning them slowly by hand. The other consequence was a very high incidence of thread breaks.

As soon as the machines were connected to the electricity supply and run at speed these problems were magnified to a tremendous extent with the automatic machines. In consequence a visit was made to a number of shops in Dar es Salaam: the only local source of supply, in an attempt to find a more acceptable thread. Eventually a few boxes of 50's mercerised cotton, made in India, and two cops of 40's 100% polyester, made in China, were purchased.

When this thread was used most of the problems disappeared with the polyester being very suitable for the automatics.

However, even with the alternative thread, trouble persisted on the buttonhole machine and it was found necessary to readjust the stitching width and reset the thread trimming mechanism before achieving satisfactory operation.

Another problem arose with the blindstitch machine in that it was supplied with size 3½ (14) needles to be used with 60's/70's thread for stitching medium weight fabrics. With that size needle and 50's thread it is impossible to get a proper effect on the thin synthetic fabrics used for dresses since the appropriate specification should be a size 3(11) needle used with 80's/100's thread. However, the effect is quite acceptable at the present level of quality.

Again, when the bartack machine was first operated the speed change mechanism did not work and the machine stopped until re-tripped by hand. Eventually the fault was traced to a small, almost inaccessible spring which had somehow been displaced during transit. When this was rectified the machine cycled correctly.

When making trials on the MB372 button sewing machine, it was assumed that it was a standard model since no class number appeared on the nameplate. However, further investigation revealed that it must be a MB273/16 which is only suitable for sewing extremely small flat buttons since there is only a 4 mm square hole in the feed plate. Although the machine can be adjusted to sew larger buttons, the feed plate imposes a restriction.

Again, the buttonhole machine capacity is 1/4 inch to 3/4 inch for the LBH 781 machine. The LBH 782, 1/4 inch to 1 inch or the LBH 783, 1/4 inch to 1.1/4 inch would have been appropriate.

The last machine to be checked was the Astor-Bernin 244 Belt Heat Sealing Machine and then it was found the instruction book was written in the German language. Nevertheless it was obvious that several components were missing. A letter was written to the supplier to ask for a version in English and for the parts. Subsequently the new instructions were received but then referred to materials other than those provided with the machine. This situation has been queried but there has been no reply to date.

The original order specified an Astor-Bernin 254 stitching machine but that part number, which has been delivered, refers to a stitching guide which appears to be suitable for fitting to a twin needle machine to allow decorative stitching. However, the LH 1152F twin needle machine supplied to the project has a 1/4 inch gauge; with options from 1/8 inch to 5/16 inch only, but there are no conversion parts. Therefore, this machine cannot be utilised for belt manufacture.

A further limitation on belt manufacture is that the accessories and materials provided with the machine are for only one width of belt (4 cm) and that no buckles are included.

5.3 PRESSING

The electric irons, steam irons and the finishing tables were installed and operating as soon as an appropriate electricity supply was available. There have been no problems with this equipment and the quality of pressing has already shown a considerable improvement. The equipment is listed in Appendix 3.

5.4 MAINTENANCE

It is very encouraging to find that three of the male members of the Co-operative have developed a keen interest in the assembly and operation of the new equipment and are already able to carry out basic maintenance tasks; even on the automatics. This alleviates an apprehension that future problems may result in machines being left in an unusable condition.

This could be a very real problem since four machines have already had hooks jambed with broken threads and fluff. However, they have been shown how to rectify the situation and are capable of doing so in the future.

6. RECOMMENDATIONS TO DATE

One aspect of the project which is likely to give problems very soon is that of non-availability of spare parts essential to the continuing operation of the machines. A few items were provided with each one; such as four needles and three spools, which is quite inadequate. For example one DDL555 lockstitch has already broken three needles and three have had to be replaced in the buttonsew machine. All of these outstanding items are listed in Appendix 4. It is imperative that some arrangement should be made to assist The Co-operative to purchase these items.

Further, having reviewed the Co-operative's capability and assessed the capacities of the equipment now available, it has become apparent that some additional items are necessary to supplement the standard machinery to ensure optimum utilisation. These items are listed in Appendix 4.

Finally, there are some items of special equipment which the Co-operative could use to advantage and these are also shown in Appendix 5.

Having assured that the equipment can be kept in good order, it is equally essential that thread of the correct size and type are made available to the Co-operative to ensure the machines can operate properly to produce stitching of a consistant quality. If there was no shortage of cops it would obviate the present practice of changing threads from machine to machine which often results in change of count or quality giving different tensions and thus an alteration to the balance of the stitch formation. With this situation too much time has to be spent on corrective action and garment quality can deteriorate. The range of items considered necessary to rectify these conditions are listed in Appendix 6.

Since price lists are not available, it is not possible to include any cost figures.

7. COURSES OF INSTRUCTION.

7.1 TRAINING INSTRUCTORS

This course was initiated on the factory floor to enable the six people selected to familiarise themselves with all the new machines, threading-up, tensions, adjustments etc. It then continued with talks on the theoretical aspects of training reinforced with practical exercises and issue of appropriate printed notes (Appendix 7).

There was some problem with respect to language since only two of the six, Mrs Ndasiwa and Mrs Masue, had an adequate knowledge of English. However, they made the necessary verbal translation throughout the sessions.

Due to the chronic shortage of fabric, even faults, marks, manufacturers trademarks, etc are ignored and incorporated into garments. The fabric being used for dresses at present is purchased from shops in Dar es Salaam but made in Korea, Tiwan, India, etc. It is up to 60 inch wide and in 42 yard rolls.

In view of this situation, management had a great reluctance to use material to create basic and job related exercises and suggested that paper be used instead. When it was pointed out that it would be unsatisfactory a minimum of cloth was used after testing machinery on small offcuts.

In spite of this problem they will be able to develop the training of machinists using a satisfactory system.

7.2 MANAGEMENT TRAINING

Due to the time constraint imposed by the need to keep the machinery running in order to provide adequate output, the original programme had to be revised. This was achieved by concentrating on the practical aspects, such as case studies and exercises, and minimising the theoretical lectures. However, this was reinforced by the issue of a complete set of reference notes as listed in Appendix 8.

It is now necessary to assist them in applying this newly acquired knowledge to develop more efficient control of the factory output, quality and costs.

7.3 DESIGN TRAINING

This course has been delayed due to the late arrival of the Cutting Room equipment and accessories and also the lack of a cutting table. Since the latter is about to be delivered it is anticipated that this course can be started in the immediate future.

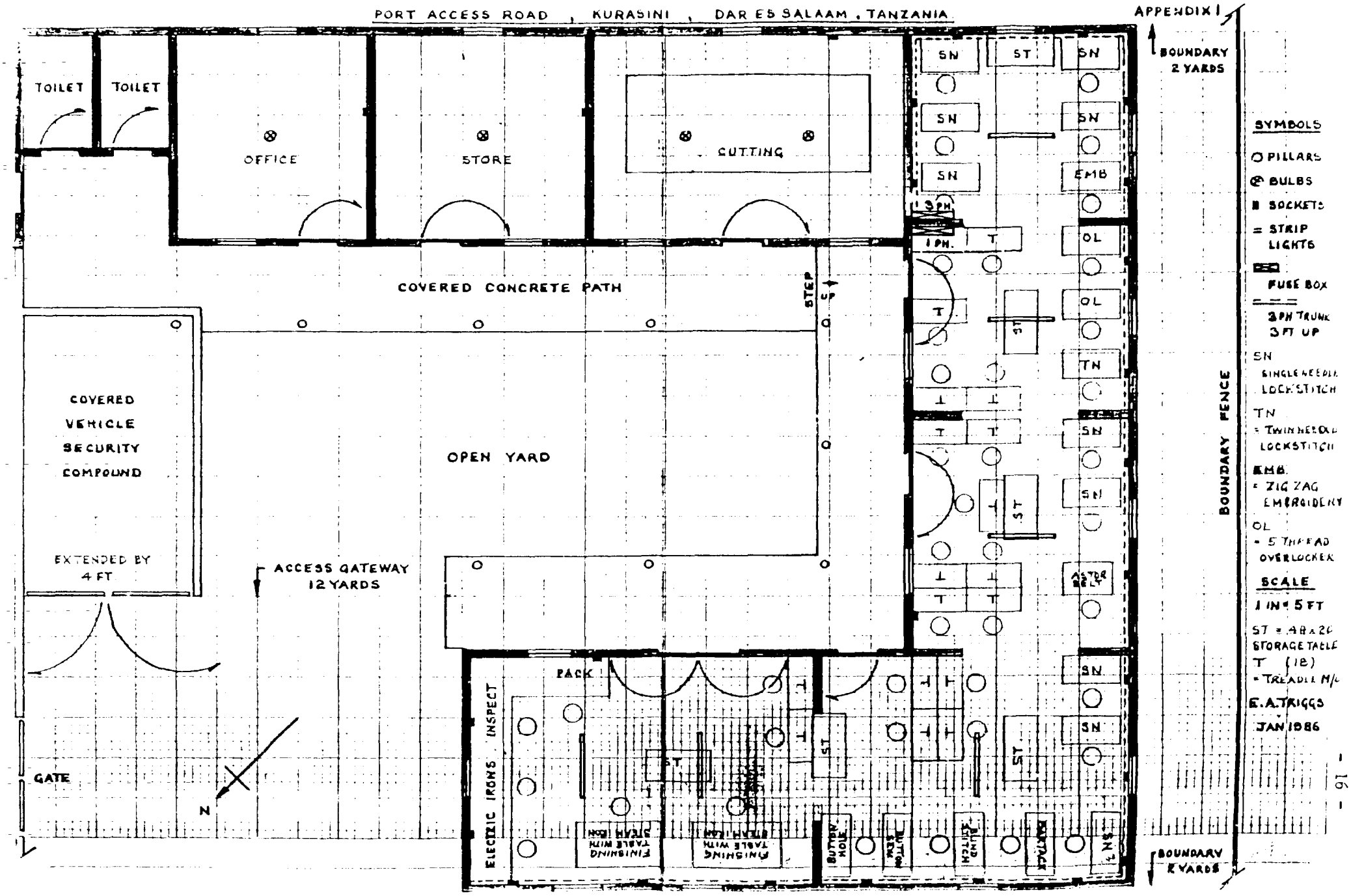
In order to provide comprehensive reference texts and illustrations for this complex subject, a set of text books have been brought from UK. These give clear and concise instructions and drawings for creating block patterns for all the garments it is proposed to make at the Co-operative together with the method of grading a range of sizes. The titles of these books, together with the names of the authors and publishers, are contained in Appendix 9.

8. CONCLUSION

Although some unforeseen difficulties arose during the initial stage of this assignment, good progress is now being made which will ensure that all the objectives are achieved and that the purpose of the project is satisfied.

An appreciable contribution has been made by the members of the Co-operative since their interest and co-operation has been of great assistance in making this progress.

A further report will be submitted at the end of this project.


PORT ACCESS ROAD , KURASINI , DAR ES SALAAM , TANZANIA
APPENDIX I
TOILET
TOILET
OFFICE
STORE
CUTTING
COVERED CONCRETE PATH
STEP UP
COVERED VEHICLE SECURITY COMPOUND
EXTENDED BY 4 FT
OPEN YARD
ACCESS GATEWAY 12 YARDS
GATE
N
PACK
INSPECT
ELECTRIC IRONS
FINISHING TABLE WITH STEAM IRON
FINISHING TABLE WITH STEAM IRON
BUTTON HOLE
BUTTON SEW
BLIND HEMM
BARTACK
BOUNDARY 2 YARDS
BOUNDARY FENCE
BOUNDARY 2 YARDS
SN
ST
EMB
3PH
1PH
T
OL
TN
SYMBOLS
PILLARS
BULBS
SOCKETS
= STRIP LIGHTS
FUSE BOX
3PH TRUNK 3FT UP
SN
SINGLE NEEDLE LOCKSTITCH
TN
= TWIN NEEDLE LOCKSTITCH
EMB.
= ZIG ZAG EMBROIDERY
OL
= 5 THREAD OVERLOCKER
SCALE
1 IN = 5 FT
ST = 4ft x 2ft STORAGE TABLE
T (1ft)
= TREADLE M/c
E.A. TRIGGS
JAN 1986

APPENDIX 2

COOPERATIVE MEMBERS

In this Cooperative the members have the following responsibilities:

Chairperson	:	Mrs J Ndasiwa
Deputy Chairperson	:	Mrs T Msuku
Production Manager	:	Mrs V Masue
Accountant	:	Mr R Moshiwa

Tailors :-

Grade	:	Male	Female	Total
I		2	1	3
II		3	0	3
III		3	22	25
Total		8	23	31
Account Clerks	:	0	4	4
Stenographer	:	0	1	1
Cutter/Mechanic	:	1	0	1
Total Members	:			41

The hours of work are :-

Monday to Friday	:	8.00 - 12.30 hrs 13.30 - 17.00 hrs
Saturday	:	8.00 - 13.00 hrs
Total		45 working hours per week

Absenteeism : 5% due mainly to illness

APPENDIX 3

EQUIPMENT LISTS

Production Machines

Source : Isis Trading Co Ltd. (Sole Agent Juki, KM, Hitaka, Naomoto)
Sakagami Buildings, 4F
No 9, Kanda-Suda-Cho, 1 Chrome
Chiyoda-Ku, Tokyo 101, Japan.

1. Cutting Room

Quantity	Item	Model No
1	KM Cloth Cutter - 8 inch	KS AU V
1	Hitakia Electric Cloth Drill	DX - 3

2. Sewing Room

2	Juki 5 Thread Overlock	MO 2516
1	Juki (T.N.) (N.F.) Lockstitch	LK 1152S (F Gauge)
10	Juki (S.N.) Lockstitch	DDL 555
1	Juki Blindstitch	CB 641
1	Juki Bartack	LK 1850
1	Juki Buttonhole	LBH 781
1	Juki Buttonsew	MB 372/16
1	Juki ZZ Embroidery	LZ 271
1	Astor Bernin	A 244

3. Pressing Room

2	Naomoto Finishing Tables	FB 700 SH
2	Steam Irons (Naomoto)	HYS 6
2	Electric Irons (Naomoto)	85 - 9 DT6A

APPENDIX 3

Source: E Alexander & Co (International) Ltd
Unit 9, Central Park Estate, Trafford Park, Manchester M17 1PG (UK)

AUXILARY EQUIPMENT

1 Roll 300 kl	Pattern cardboard paper
2 Roll 200 kl	Dotted paper 100 kl gummed, 100 kl not gummed
1 Metre 30 cm	Metal ruler
250 cm	Square rulers
1	Curve ruler
3	Scotch tape dispensers
10 rolls	One and a half cm scotch tape heavy duty
2	Cardboard scissors
2	25 cm scissors
50	18 cm scissors
10	Thread nipper scissors
2	Pattern patchers
2	Clear plastic 30 cm rulers
6	Tracing wheels short point
6	Tracing wheels long point
5 kl	Fabric steel pins 3 cm
10 boxes	of 50 pieces each tailoring chalk - red, black, yellow and white
50	Thimbles, different sizes for men and women
50	Tape measures
2	Stapler tackers
1	20 cm stapler
1	Pattern hole puncher (heavy duty)
50 pkts	Sewing needles(normal hand mending) sewing
1	Tailoring dummy for men 38 - 40
1	Tailoring dummy for boys 10 - 15 years size tags 26 - 54 (1 roll or size) size tags boys 18 - 30 (1 roll or size)
1	Gummed tape dispenser and gummed tapes (6 rolls)
2	Tagging guns and plastic stringers
50	Marking pens - red, blue, black
50	Pencils (marking) 5B
50	Felt tipped pens - red, black and blue
1	Electric spray gun cleaner and 2 cans cleaning fluid for oil spots
500	Plastic bags 40 x 60
6 Container 800 cc	Oil for oiling sewing machines

APPENDIX 4

ESSENTIAL SPARE PARTS

1. CUTTING

1.1 'Km' Cloth cutting machine, model KS AU V. (8 inch)
Manufacturer: 'Km' Cloth Cutting Machine Co Ltd
6-3-5 Dai, Kamakura, Kanagawa, Japan.

	ITEM	QUANTITY
M191	Alloy Steel Blades : 8 inch	20
M189	Abrasive Belts : No. 120 Fine	100
	No. 180 Fine	100
M206	Capacitor	2
M080	Rubber Mounted Roller (Complete)	4

1.2 Hitaka cloth drill, model DX3 (10 inch)
Manufacturer : Hitaka Industrial Co Ltd
Nagoya 454, Japan

Part 25	Condensor (229v)	2
Part 89	Chuck Key	1
Part 91	Pilot Lamp	1
-	Needle Drill (2 mm)	5
-	Hollow Needle Drill (2 mm)	5

2. SEWING (All Juki Machines)

2.1 Needles :

MACHINE	NO/SIZE	QUANTITY
Single Needle Lockstitch DDL 555	DBX1-11	200
" " " " "	DBX1-14	200
Twin Needle Lockstitch LK11525	DPX5-11	20
" " " " "	DPX5-14	20
Five Thread Overlock MO2516	DCX27-11	50
Zig-Zag Embroidery LZ271	DBX1-9	20
" " " " "	DBX1-11	20
Blindstitch CB 641	LWX6T-3	20
" " " "	LWX6T-3½	20
Bartack LK1850	DPX5-14	20
Buttonhole LBH781	DPX5-11	20
Buttonsew MB372	TQX7-14	20
" " " "	TQX7-16	20

APPENDIX 4

2.2 Bobbins :

MACHINE		PART NO.	QUANTITY
Single Needle Lockstitch	DDL 555	?	25
Twin Needle Lockstitch	LK 1152S	B9117-051-000	5
Zig Zag Embroidery	LZ 271	B9117-012-000	5
Bartack	LK 1850	B1827-280-000	5
Buttonhole	LBH 781	B1811-771-00	5

2.3 Bobbin Case :

Single Needle Lockstitch	DDL 555	?	5
Twin Needle Lockstitch	LK 1152S	101-10203	2
Zig Zag Embroidery	LZ 271	B1837-027-OAO	1
Bartack	LK 1850	B1828-980-OAB	1
Buttonhole	LBH 781	B1810-771-OAO	1

2.4 Hooks :

Single Needle Lockstitch	DDL 555	?	5
Twin Needle Lockstitch	LK 1152	101-10104	2
Zig Zag Embroidery	LZ 271	B1830-027-OAO	1
Bartack (Shuttle)	LK 1850	B1818-280-000	1
(Shuttle Driver)		B1812-980-OAO	1
Buttonhole	LBH 781	B1808-771-OAC	1

2.5 Loopers :

Blindstitch	CB 641	B4815-640-000	10
Buttonsew	MB 372	B1329-372-000	5
Five Thread Overlock	MO 2516		
	Upper	118-88005	10
	Lower	118-88401	10

2.6 Knife :

Five Thread Overlock	MO 2516		
	Upper	118-45906	10
	Lower	118-46003	10

2.7 Needle Thread Trimmer Assembly :

Buttonhole	LBH 781	B2001-771-OAO	2

APPENDIX 4

3. PRESSING

All equipment from Naomoto Industry Co Ltd
Higashi 6 - 5, Dotonbori 1 - Chrome
Minami - Ku, Osaka, Japan.

3.1 Electric Iron : 85 - 9 DT6A

ITEM	QUANTITY
Thermostat	2
Indicator Lamp Bulk	2

3.2 Hy-Steam Iron : HYS6

Teflon Packing Gasket	03-C-419	10
Microswitch	03-C-406	2
Thermostat	03-C-426	2
Plunger	03-C-440	4
Coil	03-C-444	2
Mesh	03-C-456	4
Ion Exchange Resin	03-C-463	6

3.3 Finishing Board : FB700 SH

Cover (Conex)	Pt.No.1	4
Thermostate	Pt.No.10	2
Vacuum Lamp Bulb	Pt.No.14	2
Heater Lamp Bulb	Pt.No.15	2

SUPPLEMENTARY EQUIPMENT

In order to improve the utilisation of the Juki sewing machines and also improve quality on many operations, the attachments listed below should be obtained, together with two catalogues, from:-

Suisei Industrial Co Limited
17 - 24, 2 Chrome, Oji - Cho,
Abeno-Ku, Osaka, Japan.

1. FOR SINGLE NEEDLE LOCKSTITCH DDL 555

1.1 Hemmer Feet :

Size	Lot No	Quantity
1/8 inch	02	2
1/4 inch	06	2
3/8 inch	09	2
1/8 inch	H5018	2
1/4 inch	H5018	2

APPENDIX 4

1.2	Top Ply Joining :		
	1/8 inch	P5	2
1.3	Compensating Foot :		
	2.5 mm	CR 25	2
	5.0 mm	CR 50	2
1.4	De Luxe Quilter Foot :		
	3/16 - 1½ inch	P723	2
1.5	Adjustable Taping Foot :		
	0 - 1.3/16 inch	A18	1
1.6	Elastic Shirring Foot :		
	1/8 inch	A 227	1
1.7	Bias Binder :		
	1 inch	A 9	1
	Foot	P 344	1
	Screw	SA	2
1.8	Swing Hemmer :		
	6 mm	A11	1
	Foot	CHN	1
	Throat Plate	12411	1
	Feed Dog	12457	1
1.9	Swing Gauge :		
	Gauge	G7	10
	Screw	SA	20
2.	FOR BLINDSTITCH CB641		
	Adjustable Latch Hemmer	A74	1
3.	CLOTH CLAMPS		
	Adjustable	AP8	20
4.	RUFFLER FOR JUKI DDL 555		
	Every stitch	G9E	1
	Needle Clamp	G932	1
	Blade	G9S	1
	Every 4 or 8 stitches	C 900E	1
	Needle Clamp	G 900-28	1
	Cams	CF4S	1
	"	CF8S	1
	Blade	G 900-02	1

APPENDIX 4

5. ATTACHMENTS STANDARD FROM JUKI

5.1 For Buttonsew MB 372 (for other buttons)

Medium Buttons Z002	D2529-372-0B0	1
Shank Buttons Z003	b2401-372-0B0	1

5.2 For Buttonhole LBH 781

Belt	B7252-781-000	2
Measuring Gauge	B9401-761-000	1
Screw	SS7110840 - SP	2
Washer	WP0501016 - SD	2

5.3 For Five Thread Overlock M02516

Swing Type Gatherer	S097	2
Presser Foot	?	2
Feed Dog	?	2
Superimpose Guide	H005	2

6. ATTACHMENTS FROM:-

Sewing Attachments Co (London) Ltd
Holmethorpe Avenue
Redhill, Surrey
(Together with a catalogue)
All for Juki DDL 555 Lockstitch

6.1	Rose Bud Attachment	1
6.2	French Piping	1
6.3	Bubble Stitch (1/4 inch Gauge)	1

ADDITIONAL EQUIPMENT

To enable the Co-operative to develop a specialised product range in the womens' wear and childrens' wear sector of the market, they should have some additional items of equipment such as:-

A. LABEL PRINTING MACHINE

At present the Co-operative does not have any trademark and they do not size or label their garments. Although some size labels have now been provided, a printing machine (and ribbon) such as "Norprint" (U.K.) would allow the production of labels locally which would then provide clear identification of the manufacturer and enhance the name in the market.

B. PLEATING

There is a considerable demand for pleated skirts and dresses in the local market and this has been met in the past by hand pressing them with electric irons. This process has been improved recently by the introduction of the "Naomoto" Finishing Tables used in conjunction with steam/electric irons but it is still a slow process which does not give consistent pleat widths.

In view of this situation, the Co-operative could make good use of a simple pleating chamber with a reasonable variety of card formers.

C. EMBROIDERY/PIERCING MACHINE

Another garment feature popular in the local market is to have collars, sleeve ends and pockets pierced and embroidered as shown in the example.

This effect can be achieved by use of a special machine which would be a valuable asset to the Co-operative.

APPENDIX 6

THREAD REQUIREMENTS

There is considerable difficulty in obtaining supplies of suitable sewing thread since most of that available in Dar es Salaam is of poor quality and is inadequate for use with the high speed machines now installed. In order to rectify this situation, the Co-operative need a range of good quality thread:-

A. COLOURS : Black, White, Grey and
Pastel shades - Blue, Green and Yellow

B. SIZES : 40's, 60's, 80's, 100's and 120's

C. TYPES : Mercerised Cotton
100% Spun Polyester ("Coats: Drima T")
Polyester/Cotton Cove-spun ("Coats: Koban)
Multifilament-single ply polyester ("Coats: Gral 2)

C. CONSUMPTION Dresses : Ladies 190m. Childrens' 90m.

Production : Est.50% up:	90 per day	90 per day
Thread req'd	17000 m	8,100 m
Total :	25,200 m/day	
Cops : of 1000 m	25 per day 125 per week 500 per month	

APPENDIX 7

INSTRUCTOR NOTES - CONTENTS

LEARNING

THE INSTRUCTOR'S JOB

THE JOB DESCRIPTION

JOB DESCRIPTION - SPECIMEN - SHIRTS

JOB DESCRIPTION - SPECIMEN - LADIES COATS

TASK ANALYSIS

TASK ANALYSIS - SPECIMEN - SHIRTS

DEMONSTRATIONS

MEASURING TRAINEE'S PERFORMANCE

THE USE OF THE INSTRUCTIONAL RECORD

QUALITY TRAINING

INSTRUCTIONAL TECHNIQUES

USE OF TEACHING AIDS

OPERATION TRAINING

PREPARING A TRAINING SYLLABUS

SELECTING THE RIGHT JOB FOR THE TRAINEE

TIMETABLING THE COURSE

ADULT TRAINEES

SLOW LEARNERS

RE-TRAINING

MANAGEMENT'S ROLE

INTRODUCING SYSTEMATIC TRAINING

APPENDIX 8

MANAGEMENT TRAINING COURSE NOTES

TITLE	PD. NUMBER
PROGRAMME	
QUALITY CONTROL	147/84/T46
GARMENT COMPONENTS	159/84/T46
GARMENT CONSTRUCTION	162/84/T46
MACHINE TYPES	164/84/T46
DESIGN IMPROVEMENTS	160/84/T46
HOW OUTPUT IS LOST	151/84/T46
METHOD STUDY	148/84/T46
METHOD STUDY	13/72/T1
IMPROVING PRODUCTIVITY	93/81/T1
CHART	244/75/T45
HISTORY OF WORK STUDY	85/56/T1
WORK STUDY	150/84/T46
WORK STUDY	149/84/T46
NOTES	1 to 10/72/T1

APPENDIX 8

MANAGEMENT TRAINING COURSE NOTES (Cont)

TITLE	PD. NUMBER
EQUIPMENT SELECTION	156/84/T46
WORK AIDS	161/84/T46
IMPROVING PRODUCTIVITY	93/81/T1
	244/75/T45
REPRESENTATIVE GUIDE	94/81/T1
A HISTORY OF WORK STUDY	1-10/72/T1
PRODUCTION STUDIES	23/77/T1
ACTIVITY SAMPLING	59/63/T24
	61/63/T24
	65/63/T24
	200/75/T1
SYNTHETIC DATA	104/80/T1
APPLIED WORK STUDY	104/77/T1
WORK STUDY	149/84/T46
PROBLEMS OF CHANGE	153/75/T1
MEASURED DAY WORK	201/73/T1
IMPLEMENTING SCHEMES	203/73/T1
WORK STUDY	150/84/T46
PRODUCTION SYSTEMS	155/84/T46
MATERIALS HANDLING	68/65/T1
FACTORY LAYOUT	163/84/T46
PRODUCTION BALANCE	70A-C/83/T3
	87/81?T3
SKILLS ANALYSIS	88/81/T3
LINE BALANCING	95/81/T1
	152/84/T46
JOB EVALUATION	153/84/T46

APPENDIX 8

MANAGEMENT TRAINING COURSE NOTES (Cont)

TITLE	PD. NUMBER
BASE RATE ANALYSIS	161/75/T1
NON FINANCIAL INCENTIVES	196/73/T1
WAGE STRUCTURE	197/73/T1
COLLECTIVE BARGAINING	198/73/T1
PAYMENT SYSTEMS	154/84/T1
SETTING STANDARDS MTL	16/75/T5
MATERIAL CONTROL	145/84/T46
OVERHEAD VAR. ANALYSIS	18/75/T5
COSTING INTRODUCTION	52/73/T5
VARIANCE ANALYSIS	82/73/T5
" "	83/73/T5
LABOUR COST CONTROL	82/64/T1
" " "	146/84/T46
GLOSSARY OF TERMS	51/73/T5
CONVENTIONAL ACCTS	78/73/T5
OVERHEAD COST CONTROL	14/75/T5
OVERHEAD VAR. ANALYSIS	17/75/T5
" " "	18/75/T5
" " "	19/75/T5
" " "	23/75/T5
STANDARD COSTS	28/77/T5
" "	29/77/T5
OVERHEAD VAR.	61/73/T5
	62/73/T5
VAR. ANALYSIS	68/73/T5
	70/73/T5
	71/73/T5
	72/73/T5
SINGLE MACHINE	84/73/T5
	85/73/T5
	86/73/T5
STD. COSTS	89/75/T5
	90/75/T5
	93/75/T5

APPENDIX 8

MANAGEMENT TRAINING COURSE NOTES (Cont)

TITLE	P.D. NUMBER
LABOUR COST VARIANCE	63/73/T5
LABOUR AND O/H VAR.	80/75/T5
VARIANCE ANALYSIS	82/73/T5
" "	83/73/T5
METHOD : HEMMING	310/72/T45
LOCKSTITCH	316/72/T45
TRAINING SYLLABUS	338/72/T45
TEACHING METHOD	517/72/T45
TASK ANALYSIS : SHIRTS	298/73/T45
TRAINABILITY TEST	45/73/T45
MEASURING PERFORMANCE	56/78/T45
TRAINING PLAN	291/74/T45
MACHINE SERVICING	562/73/T45
" "	563/73/T45
SPECIFIC TRAINING	251/74/T45
HEM SHEETS	311/72/T45
WEEKLY REPORT	185/74/T45
ATTACH BUTTONS	264/72/T45
TRAINING ADULTS	570/73/T45
DAILY WORK SHEET	316/73/T45
DEMONSTRATION	337/72/T45
BASIC EXERCISE	183/74/T45
ATTACH POCKET	262/72/T45
MAKE BRIEFS	277/72/T45
MACHINE OPERATION	280/72/T45
PREDICTING TRAINABILITY	414/72/T45
JOB DESCRIPTION	281A/72/T45
INSTRUCT. DOCS	287/72/T45
SAFETY	565/73/T45
SELECTING JOBS	336/72/T45
GRAPHICAL METHODS	1/73/T45
PLANNING	132/81/T3
"	133/81/T3
FINDING & TRG SUPV	157/84/T46
SUPV ACTIVITIES	55/81/T3
MANAGEMENT OF TIME	81/82/T3
AUTHORITY & RESPONS.	86/81/T3
CONTROLLING THROPUT	90/81/T3

APPENDIX 8

MANAGEMENT TRAINING COURSE NOTES (Cont)

TITLE	P.D. NUMBER
A VIEW OF MANAGEMENT	49/75/T38
JOB DESCRIPTIONS	65/75/T38
" "	54/75/T38
SUCCESSION PLANNING	59/75/T38
APPRAISAL	58/75/T38
TRG. PROG. DESIGN	61/75/T38
TRG. OBJECTIVES	62/75/T38
IDENTIFYING NEEDS	63/75/T38
EVAL. TRG. & DEVELOPMENT	64/75/T38
JOB INFORMATION	65/75/T38
JOB SPECIFICATION	67/75/T38
MAN. TRG. TECHNIQUES	158/84/T46

APPENDIX 9

DESIGN BOOK LIST

1. Metrication : Its Application to Pattern Construction and Drafting of Women's Outerwear and Light Clothing.
   British Clothing & Allied Products Industry Training Board.

2. Metrication : Its Application to Pattern Construction and Drafting of Men's Outerwear.
   British Clothing & Allied Products Industry Training Board.

3. Making Patterns for Childrens Clothes.
   Brenda Redmile : B T Batsford : 1980

4. Coat & Skirt Making.
   Samuel Heath : Granada Publishing : 1978

5. Pattern Designing & Adaption for Beginners.
   Pamela Lee & Rozanne Hawksley : Granada Publishing : 1981.

6. Fitting.
   Ann Tuit : Heinemann Educational Books : 1979

ANNEX II

PROGRESS REPORT NO. 2, DATED APRIL 1986

CONTENTS

	ITEM
1.0	INTRODUCTION.
2.0	OBJECTIVES.
3.0	GENERAL.
4.0	LAYOUT.
5.0	EQUIPMENT.
	5.1 CUTTING.
	5.2 SEWING.
	5.3 PRESSING.
	5.4 MAINTENANCE.
6.0	RECOMMENDATIONS TO DATE.
7.0	COURSES IF INSTRUCTION.
	7.1 TRAINING INSTRUCTORS.
	7.2 MANAGEMENT TRAINING.
	7.3 DESIGN TRAINING.
8.0	CONCLUSION

APPENDICES

1. CONSUMABLE ITEMS RECORD.
2. MACHINE REGISTER.
3. MACHINE BREAKDOWN RECORD.
4. NEEDLE USAGE.

1.0 INTRODUCTION.

This report describes the changes introduced by the project since Progress Report No 1. was issued during week number 9.

During the last five weeks the productivity of the Cooperative has risen further and output is now 25% above the original level even though the working hours have been reduced to 37 hr/wk; a reduction of nearly 12%. (see Appendix 5).

This rise has been assisted by analysis of garment construction with subsequent improvement to reduce work content whilst giving better quality standards. this was mainly achieved by increased utilisation of the five thread overlocking machines. Again, the operators have had more training and experience of the control of the new equipment which also makes a contribution to increased output and higher quality.

Complete sets of notes and reference books have been issued for all the courses of instruction and the contents explained.

Because of the necessity to keep machines running and maintain output the instructor training has been concentrated on the shop floor with the participants being trained to make-up garments using the new machines and methods, better patterns and working to a higher quality standard than before.

Due to Management sickness and preoccupation with personel matters arranged theoretical training sessions were not attended thus the subjects could be covered in outline but not to the depth originally intended. Subjects were discussed on an individual basis.

Mr R Matthews of Fielden House Productivity Centre Limited. provided considerable assistance in these last two matters.

2.0 OBJECTIVES.

The immediate and intermediate objectives given in the first report have been attained with the exception that control systems were only explained in outline as mentioned above.

Again, the Final objective, which is longterm and on-going, could only be presented as an introduction to Management in view of the difficulties encountered.

3.0 GENERAL.

There have been no problems with the new electrical installation and all machines are running correctly.

Further, the electricity supply is more consistent in that power cuts have only averaged 1% of the working hours over the last five weeks; a considerable improvement.

The problem of poor lighting remains since contractors were asked for recommendations and quotations but no one has visited the premises to inspect them.

4.0 LAYOUT.

The layout shown in Progress Report No.1, Appendix 1, has proved satisfactory for the current styles of dresses.

However, since the rainy season has started it has not been possible to move the treadle machines out of the building due to inclement weather.

5.0 EQUIPMENT.

5.1 CUTTING.

The cutting table was delivered on time but as soon as it was assembled in location the rainy season started, the "repaired" roof leaked and the room was flooded; as was the unfinished table surface.

Although the roof was repaired within a few days, when the rain stopped, it took ten days for the table surface to dry to the state where it could be planed and smoothed. Subsequently the surface was finished with polyurethane varnish. This was still tacky two weeks later, at the end of the assignment, thus it could not be used.

However, it was imperative that the staff were trained to use both the straight knife cloth cutting machine and the cloth drill, the remaining items of equipment which had not been demonstrated. These had been ready for use before the end of March but limited cloth stocks, (a few rolls of 100% polyester A5 yards long). were too little for a reasonable lay.

In view of this situation Management were requested to purchase additonal material. This was done and a small lay devised to fit on one of the desks previously used for hand cutting.

The material was bult up into a lay of reasonable thickness and a marker was drawn on the top ply.

The features and use of the cloth drill were demonstrated and several of the staff were trained to set the adjustment and use the equipment.

When they were sufficiently familiar with the use of the cloth drill they were introduced to the features of the straight knife, cloth cutting machine. Again the equipment was demonstrated and several of the staff trained in its use. Subsequently they were shown how to change the blade together with other maintenance tasks.

Patterns are now being made from pattern card instead of the original use of newspaper. A set of these components were used to demonstrate the creation of a paper marker; using "Spot & Cross" paper, to improve the accuracy of the marking-in and consequently the quality of the cut work.

In order to control the use of consumable items supplied to the Cooperative a record has been created as shown in Appendix 1 up-dated each month this record will show the rate of usage of the various items to allow the forecast of future requirements. These items are all kept securely in the new store room.

5.2 SEWING

In order that each machine can be clearly idendified a Machine Register had been complied which indicates both the needle type and oil required, (See Appendix 2).

Although there were problems in the initial stages of the project now that the operators have been trained and have acquired more experience in handling the equipment there is much less trouble. Most of the breakdowns are the result of using poor quality thread from China or India. However, a small quantity of spun polyester thread has been acquired and has been used for further training on the automatic machines with great success.

To provide a record of the incidence of breakdowns and of needle usage it is recommended that a Machine Breakdown Record is introduced. This also includes a column to indicate needle usage as a guide to future requirements, (See Appendix 3). An initial indication of the rate of usage is shown in Appendix 4 which gives the results over the initial four weeks of operation. The rate at which the small stock of needles is diminishing has given great cause for concern but this has now been somewhat alleviated since Management have eventually located a local source of equivalent needles for the basic machines. Special needles are still a problem.

The manufacturers of the Astor - Bernin 244 Belt Heat Sealing machine have satisfied the queries put to them with respect to materials and trials have been made. Unfortunately the folder supplied appears to be inteded for thick fabrics, not dress materials. In view of this it was necessary to experiment and eventually a new folder was made from tin plate which gave excellent results. Consequently staff were trained to operate the machine with a temporary set-up since missing parts have still not been supplied. Again, the matter of the supply of buckles has not been resolved.

The Management expressed an interest in obtaining a Belt and Button Covering Machine but that would create even move difficulties with respect to the supply of components.

5.3 PRESSING

There have been no problems with this equipment and there has been a greater increase in quality of pressing now that the operators appreciate the effect of variations in heat, pressure and vacuum.

The possibility of trouble with the steam irons has been overcome by the location of a source of distilled water thus preventing jets becoming filled with contaminants from local water.

5.4 MAINTENANCE.

Since the initial problems have been overcome; such as loose balance wheels, loose foot lifters, poorly adjusted foot pedals and knee lifts, etc., and the machines have been run-in there have been fewer breakdowns. Those that have occurred can be rectified by the mechanic.

6.0 RECOMMENDATIONS.

It is not considered necessary to make any recommendations beyond those made in the first report with respect to equipment.

However, it must be emphasised that it is not possible to implement several changes at once they must be made in progressive stages.

Consequently, there would be a considerable advantage to the Cooperative if there was a follow-up visit after three to six months for a period of four to six weeks to monitor progress and provide further assistance where necessary. This would also help to consolidate the situation and the opportunity could be taken to reinforce the managements knowledge in any area of weekness. Further, if any machine attachments are available at that time they could be checked to ensure that they have been installed properly and that they are working in a satisfactory manner.

7.0 COURSES OF INSTRUCTION.

7.1 TRAINING INSTRUCTORS.

The theoretical training sessions, supported by extensive notes, were translated into practical applications on the shop floor. The instructors were shown correct techniques and methods then were supervised whilst they trained other members of the Cooperative to a satisfactory standard.

Consequently they will be able to extend this experience to the training of others in the future.

7.2 MANAGEMENT TRAINING.

Management training was carried out only as far as the senior people would allow and attend. As a final measure the participants were issued with all remaining notes and asked to study them and return with any aspects they wished to have further discussion on. None did therefore it is assumed that the information given was clear to them.

8.0 CONCLUSIONS

This unit now has the foundation to become an effective and expanding production operation. Unfortunately management have too much pre-occupation with external affairs and this must affect the rate of growth and level of efficiency achieved.

Futher equipment and associated training will of course be required as the range of products increases. This assistance must only be given on the proviso that the full co-operation and attention of the management is ensured.

KURASINI WOMEN TAILORS COOP SOCIETY

PROGRESS REPORT NO 2

APPENDIX 1

CONSUMABLE ITEMS RECORD.

ITEM	DATE	STOCK	DATE	STOCK	DATE	STOCK	DATE	STOCK	DATE	STOCK
1. Pattern Paper : (1 roll)(metres) (25 cm dia)	27 Feb	300								
	27 Mar	290								
2. Spot & Cross Paper: Heat Seal. (1 roll)(metres) (20 cm dia)	27 Feb	100								
	27 Mar	100								
3. Spot & Cross Paper: Plain. (1 roll)(metres) (15 cm dia)	27 Feb	100								
	27 Mar	100								
4. Scotch Tape: 5cm (rolls)	27 Feb	10								
	27 Mar	9								
5. Steel Pins : 3cm (boxes 500gm)	27 Feb	10								
	27 Mar	10								
6. Tailors Chalk: Red. (boxes 50 pieces) (Pieces)	27 Feb	150								
	27 Mar	150								
7. Tailors Chalk: Black (boxes 50 pieces) (Pieces)	27 Feb	150								
	27 Mar	147								
8. Tailors Chalk : Yellow (boxes 50 pieces) (pieces)	27 Feb	100								
	27 Mar	97								
9. Tailors Chalk: White (boxes 50 pieces) (pieces)	27 Feb	0								
	27 Mar	0								
10. Thimbles : (singles)	27 Feb	50								
	27 Mar	50								

KURASINI WOMEN TAILORS COOP SOCIETY

PROGRESS REPORT NO. 2
APPENDIX I

CONSUMABLE ITEMS RECORD.

ITEM	DATE	STOCK	DATE	STOCK	DATE	STOCK	DATE	STOCK	DATE	STOCK
11. Tape Measures (singles)	27 Feb	50								
	27 Mar	50								
12. Staples : 10mm (boxes 5000)	27 Feb	20								
	27 Mar	20								
13. Hand Sewing Needles (packets 12)	27 Feb	50								
	27 Mar	49								
14. Gummed Tape: 7cm (rolls)	27 Feb	0								
	27 Mar	0								
15. Label Attachers : 65mm (box 1)	27 Feb	5000								
	27 Mar	5000								
16. Pens : Ball Point : Red	27 Feb	24								
	27 Mar	21								
17. Pens : Ball Point : Black	27 Feb	24								
	27 Mar	21								
18. Pens : Ball Point ; Blue	27 Feb	24								
	27 Mar	21								
19. Pens : Felt Tip : Red	27 Feb	16								
	27 Mar	14								
20. Pens : Felt Tip : Black	27 Feb	16								
	27 Mar	14								

KURASINI WOMEN TAILORS COOP SOCIETY

PROGRESS REPORT NO 2

APPENDIX I

CONSUMABLE ITEMS RECORD.

ITEM	DATE	STOCK	DATE	STOCK	DATE	STOCK	DATE	STOCK	DATE	STOCK
21. Pens : Felt Tip : Blue	27 Feb	16								
	27 Mar	14								
22. Pencils : HB	27 Feb	50								
	27 Mar	50								
23. Cleaning Fluid. (Cans : Gal.)	27 Feb	2								
	27 Mar	2								
24. Machine Oil (Containers : 1 ltr)	27 Feb	6								
	27 Mar	6								
25. Machine Oil : Juki 1 (Containers : 900 ml.)	27 Jan	11								
	27 Feb	1½								
	27 Mar	0								
26. Machine Oil : Juki 2 (Containers : 900 ml.)	27 Jan	2								
	27 Feb	½								
	27 Mar	0								
27. Scissors 6"	27 Feb	50								
	27 Mar	38								
28. Thread Trimmers	27 Feb	10								
	27 Mar	4								

APPENDIX 2

MACHINE REGISTER.

Machines are numbered clockwise round the sewing room starting at the distribution board. All are Juki unless stated otherwise.

Machine No.	Type	Model No.	Needle Type	Oil No.	Note
1	Single Needle Lockstich	DDL 555	DBX1 11/14	1	
2	Single Needle Lockstitch	DDL 555	DBX1 11/14	1	
3	Single Needle Lockstitch	DDL 555	DBX1 11/14	1	
4	Single Needle Lockstitch	DDL 555	DBX1 11/14	1	
5	Single Needle Lockstitch	DDL 555	DBX1 11/14	1	
6	Zig Zag Embroidery L.S	LZ 271	DBX1 11B	1	Use Oil Can
7	Five Thread Overlock	MO 2516	DCX27 11	2	
8	Five Thread Overlock	MO 2516	DCX27 11	2	
9	Twin Needle Lockstitch	LK 1152F	DPX5 11/14	1	Needle Feed
10	Single Needle Lockstitch	DDL 555	DBX1 11/14	1	
11	Single Needle Lockstitch	DDL 555	DBX1 11/14	1	
12	Astor 244 Belt Sealer	244	-	-	Use Oil Can
13	Single Needle Lockstitch	DDL 555	DBX1 11/14	1	
14	Single Needle Lockstitch	DDL 555	DBX 11/14	1	
15	Single Needle Lockstitch	DDL 555	DBX 11/14	1	
16	Lockstitch Bar Tack	LK1 850	DPX 5 14	2	Use Oil Can
17	Chainstitch Blindstitch	CB 641	LWX6T 3½/3	1	Use Oil Can
18	Chainstitch Button Sew	MB 372	TQX7 14/16	1	Grease Also
19	Lockstitch Button Hole	LBH 781	DPX5 14J	1	

APPENDIX 3

MACHINE BREAKDOWN RECORD.

DATE	DAY	MACHINE NO.	TYPE	REASON	TIME			NO. OF NEEDLES AS SPARES.
					FROM	TO	TOTAL	

APPENDIX 4

NEEDLE USAGE.

This is a record of the rate at which needles have been used during the first four weeks of the use of the new machinery. It can be anticipated that the usage will reduce as operators gain experience of control of the machines.

Needle Code	Machine Types	Stock		Usage		Report 1 Weeks Supply
		Original	Now	To date	Per Week	
DBx1 11/14	SN/LS DDL555 ZZ/LS LZ271	44	18	26	7	52 (2)
DPx5 11/14	TN/LS LK1152 Bartack LK1850 Buttonhole LBH781	20	14	6	2	40
DCx27 11/14	5ThdOL M02516	16	9	7	2	25 (4)
LWx6T 3/3½	Blindstitch CB641	4	4	0	0	00 (00)
TQx7 14/16	Buttonsew MB372	5	0	5	2	20 (0)

The last column "Report No.1: Weeks Supply" refers to the recommendations made in Report No.1., Appendix 4, "Essential Spare Parts" where the number of needles required in the future was estimated. This column shows the number of weeks the estimated quantities should sustain the machines. The figure circles, eg. 2 show the number of weeks the present stocks will last.

The figures are calculated for the first four weeks of machine operation.

APPENDIX 5

WORKING HOURS.

Original Working Hours :

5 days	:	8.30 am	-	12.30 pm	=	4.0 hr.	
		1.30 pm	-	5.00 pm	=	3.5 hr.	
						7.5 hr. x 5	= 37.5 hr.
1 day	:	8.30 am.	-	1.00 pm	=	4.5 hr. x 1	= 4.5 hr.
							42.0 hr.

New Working Hours :

5 days	:	8.30 am	-	3.00 pm	=	6.5 x 5	= 32.5 hr.
1 day	:	8.30 am	-	1.00 pm	=	4.5 x 1	= 4.5 hr.
							37.0 hr.

Reduction :

$$\frac{42 - 37}{42} \times 100 = 11.9\% \text{ say } 12\%$$

OUTPUT.

Original - Dresses :

120 per day $= \frac{120}{7.5} =$ 16 per hour

Latest - Dresses :

130 per day $= \frac{130}{6.5} =$ 20 per hour

Increased Output :

20 - 16 = 4 per hour

$\frac{4}{16} \times 100$ = 25%

REPORT ON THE UNPREDICTABLE EVENTS WHICH AFFECTED PROGRESS ON THE KURASINI PROJECT, DAR ES SALAAM, TANZANIA. NO. IW/URT/84/001.

WEEK NO.	COMMENT	TIME RELATIVE TO ORIGINAL PROPOSAL
1	Three days spent at UNIDO, DeS for formalities and work permit.	3 days lost
2	Electrical installation found to be inadequate. Contractors contacted for quotation. Visit Thursday to quote next Monday. Two electric irons installed, finishing tables located and 17 machines built.	(Working Hours) (8.30 am - 5.00 pm) (8.30 am - 1.00 pm Sat)
3	Installation quote accepted Monday. Cheque for 50% deposit given Wednesday. Work started Thursday Buttonsew machine built. Astor 244 instructions in German but obvious that parts are missing. Letter to supplier. No buckles in accessories. Only possible to check machines by manual rotation. Mechanic shown basis of machines and instruction book for each explained. 50% trunking installed. Training notes received and sorted.	2 weeks late.
4	Continue machine checks. Button sew needle bent, embroidery machine needle broke. Both retimed. Machines in final location and directly wired (no 4 pin plugs available). Power on Saturday : 3 machines running but thread quality problems. Operators allocated to machines. Cutting table designed and for quote. Instructor Training sessions started.	3 weeks late.
5	Fault on electricity supply to automatic machines. All other machines running. Instructors trained on type, threading up, tensions, etc. Operators trained on single needle, flat bed machines. Thread quality and quantity (shortage) gave great problems. Cops had to be transferred from machine to machine. Fabric shortage. Paper exercises requested by Management but refused. Training on off-cuts and production. Cutting room ancillary supplied delivered on site and checked. Store created.	4 weeks late and 2 days sick.

WEEK NO.	COMMENT	TIME RELATIVE TO ORIGINAL PROPOSAL
6	Electricity supply to automatics rectified. Running after considerable resetting and readjustment. Training of both instructors and operators started on these machines. Thread problems worse. Two cops polyester from Dar es Salaam made considerable improvement but no more available. Cleaning gun demonstrated. 3 of 6 instructors absent so no formal sessions - 3 included 2 English speakers. Received Astor 244 instructions in English quoting materials other than supplier. Again queried with supplier. Cutting table ordered for 2 week delivery. Erling Skjnsberg requested report.	4 weeks late.
7	Breakdown on flat beds mainly due to pieces of broken thread in mechanism. Needles broken so retraining of handling. Retraining on tensions because of variety of types, count and quality of threads. One needle remains for button sew machine. 3 of 6 instructors absent still. Requested formal Management Training start next week - little enthusiasm. Course revised to 4 weeks of half days.	4 weeks late.
8	Polyester thread finished. Buttonhole machine reset tension and thread trimmer. Size also reset. Mechanic and operator instructed on change. Last needle broken on button sew. No management for training. Astor 244 installed in correct location awaiting reply from manufacturer ref materials. Progress Report No 1 for copying	(House changed) (8.30 am - 3.00 pm) (8.30 am - 1.00 pm SAT) 5 weeks late.
9	More machine breakdown. Repairs difficult since workshop dark due to rainy season. No management of factory for training - sickness and "too busy". Local needle found for buttonsew but mechanic dropped needle bar since it was too short. Cutting machine and cloth drill prepared ready for cutting table delivery. Progress Report No. 1 discussed with E.S. and appreoved. To be copied by UN.	4 weeks late and 2 days lost(Easter)
10	Senior staff member died. Co-op closed for three days. Management sickness and "too busy". No formal instruction possible. Cutting table delivered and assembled in room with repaired roof. Report circulated.	4 weeks late and 3 days lost.

WEEK NO.	COMMENT	TIME RELATIVE TO ORIGINAL PROPOSAL
11	Monsoon and cutting room roof leaked. Room and unfinished table top flooded. Roof repaired and table left to dry out. Management away at funeral at Moshi. Then too busy arranging a wedding on their return. Consequent transport problems. Instructor/operator training continued. Ron Matthews arrived.	4 weeks late.
12	Information from manufacturer so trials on Astor 244 belt machine begun. Folder unsuitable for fine fabric so samples poor quality. Stitching jig set up on single needle lockstitch and sample belts made as staff trained on machine. Management arranging another wedding, absent all day so no formal training. Transport problems again. R.M. provided spun polyester thread for taining. Operators retrained on setting-up automatic machines. Remaining instructor course notes issued to be explained later. Cutting table surface dry after 10 days Planed, polished and finished with polyurethane varnish.	5 weeks late.
13	Polyester thread for training all used up on production. Autos not in use. Retraining staff on twin needle machine after re-setting up. More training on Astor 244 belt machine after folder modified with cardboard to give good quality. Sample belts made using a few buckles from R.M. Management requested buckle and button covering machine. They found and bought 2 gross flat bed equivalent needles and others. Management still busy arranging wedding most of time. Transport problems. Sets of Management Training notes issued to be explained next week. Cutting table varnish not dry : tacky still.	5 weeks late and 1 day lost (Union Day)
14	No production until 10.00 am since all chairs still at wedding location. Only three instructors for training present by 10.30 am so to P.A.C. and R.M. started session. Three management arrived P.A.C. at 11.00 am to collect transport to attend a meeting in Dar.	

WEEK NO.	COMMENT	TIME RELATIVE TO ORIGINAL PROPOSAL
14 (cont)	Chairperson arrived back at Kurasini in afternoon with extra supply of 45 yd rolls of fabric. Large cutting table varnish still sticky so demonstration of laying-up arranged on desk top. Staff trained to make small lay "on the fold". Drilling and cutting machines demonstrated and staff trained in use and maintenance. Two more lays. Arranged discussion on Management Training notes Wed, Thur, Fri but in one attended. Tin plate folder made for Astor 244 which gave excellent quality.	5 weeks late and 1 day lost (May Day)

E A TRIGGS
JUNE 1986