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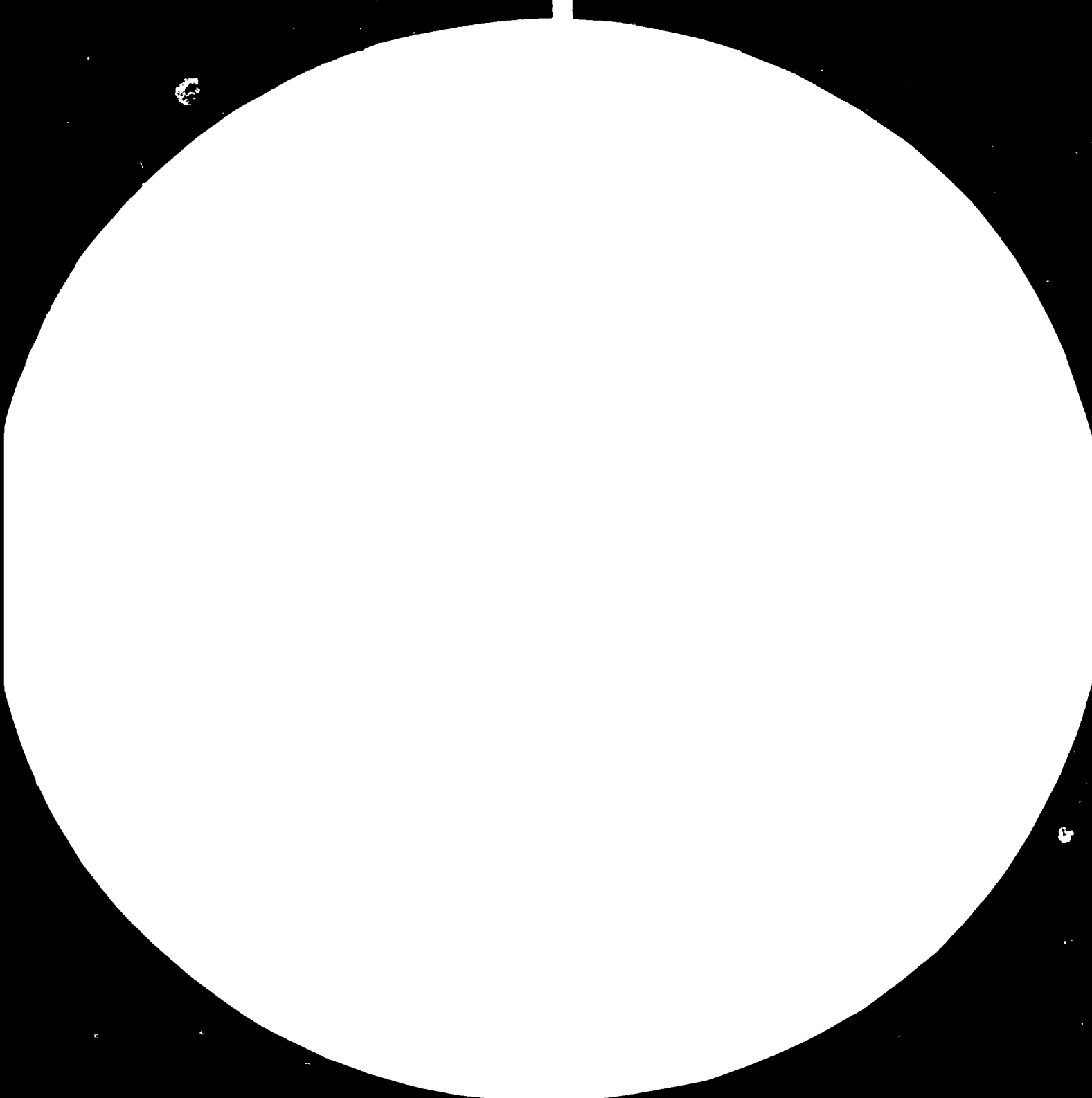
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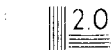
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Tanzania:

Strengthening of National Textile Corporation of Tanzania (TEXCO).

PROJECT

DP/URT/78/018

The planning, organising and carrying out of an instructor training course for sewing machine operators at Ubungo Garments Limited, Dar es Salaam, Tanzania. 2nd November - 17th December 1982.

Team Composition: H L Mayhew Senior Training Consultant.

BACKGROUND

The course was initiated at the request of Mr R Blackburn, Director of Manpower Development, Texco, as an aid to the general improvement of productivity and efficiency in the Texco group's garment making concerns.

As a result of the Telex communications with Texco, the consultant gathered together all the items of equipment and stationery etc. which he thought would be required for the course. This included the purchase of 5 centi minute timers and 10 stop watches for trainee timing and assessment.

COURSE PROGRAMME

The programme which was followed was the subject of prior agreement between Mr R Blackburn and our consultant.

Our standard sewing machinist instructor course of ten days duration (all in a class venue) was extended to cover six weeks; each week in the class venue was followed by a week back in the course members own factory to allow for practices and consolidation of the procedures covered. The consultant felt that this was the chief reason for the high success rate on the course. He received full co-operation from the participating companies and all the course members worked well, without close supervision, and completed all the assignments set.

Details of each practical week's assignments are attached to this report.

OUTLINE OF PROGRAMME COVERED

- | | |
|----------|---|
| Week One | In the class venue, i.e. Ubungo Garments Ltd.
The instructor's job and process of learning.
Induction.
Machine Servicing.
Job Analysis - Job Description
Task Analysis
Identification of Basic Skills and Job Related Skills.
Design of Basic and Job Related exercises.
Motion Economy and Work Place Lay out. |
| Week Two | In the course members factory. See attached list of assignments. |

- Week Three In the class venue.
 Determine methods and write an instruction sheet
 (method breakdown) for chosen exercise.
 How to demonstrate and practice demonstrations.
 Establish targets (Time and Quality) - practices to target.
 Faults Analysis, quality training and quality marking.
 Training syllabus and programme.
- Week Four In the course member's own factory.
- Week Five In the class venue.
 Trainability assessments.
 Presenting Knowledge.
 Graphical Recording.
 Work Place Layout and instruction sheet - actual job.
 Simple work study points.
 Element timings - with practices on actual jobs.
 Production build up and transfer from training to production.
 Build up targets and graphs.
 Safety.
 Written Test for City and Guilds of London Institute.
- Week Six In the course members factory.

The programme was carried out exactly as planned proving the forecasts of our consultant as to the likely progress of the course members to be correct.

PREPARATION

The first two days following his arrival, our consultant paid visits to the participating companies for management introductions and familiarisation with local conditions. He also helped Mr R Blackburn to transport machines and set up the course venue at Ubungo Garments.

MANAGEMENT BRIEFINGS

Two briefings were held prior to the start of the course to allow for explanations of the course needs and objectives to company management. The attendance was somewhat disappointing perhaps due to a lack of sufficient notice to top management. However, the consultant felt that these meetings were of benefit in ensuring company facilities for the factory based weeks of the course.

MAKE UP OF COURSE

The course was attended by twelve trainee instructors and four observers from Texco to be used for translation purposes and general assistance to the course tutor.

The make up of the twelve people was as follows:

Ubungo Garments Ltd	-	3	members
Urafiki Textiles Ltd	-	2	"
Kiltex Ltd	-	3	"
Sunguratex Ltd	-	2	"
The National Vocational Training Centre	-	2	"

REFERENCE MATERIALS

The consultant took sets of our course hand outs with him; some of these he had simplified to allow for easier understanding by the Tanzanians.

Further copies in English were typed and duplicated by Texco staff who also completed the very difficult task of translating all the hand outs into a Swahili version for the use of course members whose English was not so good. These were typed, duplicated and given to the course participants and one complete set to each of the four Texco garment makers.

The result was that each course participant took a full set of reference notes with him at the end of the course. These were extra to the complete practical work book which each person compiled for himself as the course proceeded. We believe that a copy of one of these work books is to be forwarded to UNIDO from Texco direct.

CITY & GUILDS OF LONDON INSTITUTE

This organisation is an internationally recognised standard setting and examining body for a wide range of technical and vocational subjects.

We at Fielden House have been fortunate to have had a close liaison with City & Guilds over many years especially in the area of sewing machinist instructor training. The course we run is recognised by City & Guilds for the award of a certificate under their Skills Testing Service. We have been involved with the setting up of the course from the outset some ten years ago and are one of only three organisations in the UK able to offer this qualification.

We asked for permission to award the certificate for the course in Dar es Salaam and this was granted. As far as we know the first time this has occurred outside the UK.

Our consultant is also an accredited examiner for the City & Guilds and so was able to conduct the practical assessments and written test needed for success by his course participants.

He is delighted to report that eleven out of the twelve candidates achieved a Pass standard for the course. The results have been forwarded to the City & Guilds in London and when the official certificates are received here we will post them on to Dar es Salaam.

The consultant was surprised and pleased with the ability of most of his course members to complete the course syllabus and achieve equivalent standards to those he would expect from his usual intake on a UK course. He was especially pleased with their high standard of English language usage both oral and written, their facility with basic Mathematics as required for calculations associated with trainee assessments, averages etc., their ability to compile and interpret simple graphs of trainee progress and the speed with which they learned how to use stop watches for progress and element timings of training exercises and actual sewing tasks.

He sees no reason why most of the course participants should not make very good intensive training instructors given good facilities and management support and encouragement.

A profile assessment of each individual course member was given to Mr R Blackburn by the consultant before he left.

FINAL BRIEFING FOR MANAGEMENT

This was held in the Board Room of Ubungo Garments Ltd on Thursday 16th December 1982 and was attended by twenty management representatives from four participating companies and by the twelve trainee instructors who had attended the course.

Also attending were Mr Ron Blackburn (Texco Manpower Department), Ndugu Nkya (Managing Director, Texco) and Ndugu Basil Mramba (Minister for Industries).

The objective of the briefing was to inform members of top management about the procedures covered during the course, the implications of these procedures if they were used by the participating companies and to state quite clearly where executive management would have to play an active part to ensure initiation, control and upkeep of any new training approaches.

To help with this, the instructors were placed with their respective managers and allowed to explain the items in their work books to their managers. This seemed to come as a surprise to many managers and contributed greatly to the success of the Briefing showing, as it did the good understanding the trainee instructors had of the systems practised on the course.

There were speeches, in Swahili, by the Managing Director and the Minister of Industries and then a presentation of Fielden House Certificates to the course participants.

Finally all the four company managements were made aware of the fact that the course tutor would attend their factories on the next day for a personal chat. This would give a final opportunity for management to ask for any advice on training specific to their own company requirements.

FINAL MEETINGS WITH INDIVIDUAL COMPANY MANAGERMENTS

About 1½ hours was spent at each of the four garment making companies to give management a chance to discuss their own problems. On these visits our consultant was accompanied by Mr R Blackburn representing Texco Manpower Development.

The meetings ranged over the training systems covered on the course and the requirements for managements to ensure initiation and control. The consultant gave some forthright observations of his own concerning the lack of efficiency and cleanliness in the production units in general and made some suggestions as to the requirements for improvements. He made out reports of his comments and these were left with Texco Management for their future reference.

The consultant felt that the meetings at Sunguratex, Kiltex and Urafilsi had been very lively and well worthwhile. The meeting at Ubungo Garments was disappointing as only the Production Manager found time to attend and his interest in points discussed did not seem so intense. This was a final indication of an apparent lack of interest in the course on behalf of Ubungo Garments management. Although the course was held on their premises not one member of management had visited at anytime to see what was going on and discuss points with the tutor. This was in spite of an open invitation to do so by the course tutor at the outset of the course.

This leaves a doubt about successful changes being made in training practices at Ubungo. There is only so much can be done by training staff, no matter how good they are, if they are not given informed, committed support by executive management

OBSERVATIONS ON PRODUCTION UNITS

Although the running of the instructor course was our consultants main objective he was asked to make general observations on the organisation and apparent efficiency of the four production units.

He wrote his observations in the form of brief reports which were given to Mr R Blackburn for possible use in his discussions with Texco management.

Copies of these reports would be available from Texco direct or from us at Fielden House if they were felt to be of any relevance.

ACKNOWLEDGEMENTS

We wish to thank all at UNIDO for their financial assistance in making the course possible and for your support of the whole venture.

Our consultant wishes us to convey his appreciation of all the assistance he received in Dar es Salaam from all levels of management and administrative staff at Texco headquarters. A special thank you to Mr Roy Ryder (Project Leader) and Mr Ron Blackburn (Director of Manpower Development) for their many kindnesses both at work and socially and for easing him over his problems of transport and settling in.

We wish to thank all concerned in helping to set up this unique course which, as far as we know, is the first of its kind carried out anywhere outside of the UK.

SEWING MACHINIST INSTRUCTOR COURSE - TEXCO

ASSIGNMENTS FOR 1ST WEEKS PRACTICAL TO BE CARRIED OUT IN THE
COURSE MEMBER'S OWN FACTORY

1. Collect detailed information about the various subjects needed to be covered during a new worker's induction period.

Make use of the list which you wrote in the class. Ask questions of management if you need to.
2. Arrange these subjects into a training induction programme.
3. Complete instruction sheets for all the machine servicing tasks.
4. Complete a job description for one of your garments. This must be different from the one you did in class. Each person in the one factory should cover a different garment than his colleague on the course.
5. Complete a task analysis for your chosen garment and make up a list of basic skills.
6. Design a series of basic exercises on cloth.
7. Choose one of the exercises and get about 50 repeats cut. These you must bring back with you to the next week in the course venue for demonstration purposes.
8. Draw a work place lay out for your chosen exercise.

ASSIGNMENTS - WEEK FOUR

1. Observe your colleague on the course whilst he/she is carrying out an exercise on the machine.

Write an instruction sheet (detail of method) for the exercise.
2. Establish the targets for the exercise both time and quality.
3. Write up the quality specification (list of faults and causes of faults) for the exercise.
4. Choose one fault, do a fault analysis for this fault and make samples - one perfect and the other with your fault in it.
5. Get a "trainee", teach them your exercise and then have them practise to target with recordings on the Daily Work Sheet.
6. Draw up a training syllabus and programme for your factory if you were training for the garment for which you did the job description and analysis during your assignment on Week Two.

ASSIGNMENTS - WEEK SIX

1. Practice the Trainability assessment for the lockstitch and/or overlock machine. Use an English speaking person without any previous sewing experience, if possible.
2. Carry out some stop watch timings on actual jobs. First of all the whole task time and then time the elements of the task.

Do these on skilled machinists in production, if possible. Get the permission of the production manager before you do this.
3. Design a series of basic exercises for the overlock machine and set targets for these.
4. Prepare your project and practical books for the management briefing on Thursday 16th December.

You must report to Ubungo Garments on that day before 9.00 am.

RECOMMENDATIONS FOR THE IMPLEMENTATION OF THE TRAINING
PROCEDURES PRACTISED ON THE SEWING MACHINIST INSTRUCTOR COURSE

I see it as important that some of the participants on the course should have the opportunity to practise their new instructional techniques in a real training situation in the very near future.

From information I have been given, it would appear that the recruitment of initial trainees, without previous sewing experience, is not likely to occur in the immediate future.

However, it seems likely that some versatility training of existing non-sewing machinists, will be needed at Ubungo Garments in 1983. Since I regard Ubungo Garments as the most important garment making unit, because of its size and output potential, I will make that unit the subject of most of my recommendations. I will attach some reference to the other units to this report as appendices.

1. RECRUITMENT AND SELECTION

A number of people at present employed at Ubungo Garments (UGL) should be named by the personnel/production management for versatility training. The number of people suggested should be greater than the trainee requirement so that a selection of the most trainable can be made. Only those with a good work and disciplinary record should be considered.

All the applicants would be asked to take the trainability assessment, which was practised on the course, and would be given by the instructor(s) involved. The assessments would be given to the administration manager as extra information for him to make the final selection.

2. NUMBERS OF TRAINEES AND INSTRUCTORS

UGL Limited should be asked to decide how many people they need to be trained. These should be in multiples of four. The reason for this is that one instructor should not be asked to look after more than four trainees at any one time.

It follows that one instructor be appointed for each group of four trainees.

My final assessment of the trainee instructors should help to arrive at the best selection of instructor, although company preference would also need to be considered

3. FACILITIES

Each trainee would require his/her own machine either lockstitch or overlock. These machines need to be the best maintained machines in the factory and must be the same type as those which the trainee will use when they are transferred to the production line. Any other situation should be strenuously resisted. An ideal situation is when the trainee machinist can take the machine upon which they have been trained into production with them.

Each trainee should be provided with a bench timer for self timings and recording. I realise, in the circumstances, that some sharing of timers would be needed.

Pieces of cloth, cut in large numbers (200 per trainee at least) would be needed. I realise the difficulties but these are essential to the effective use of the intensive analytical training approach.

In the later stages of job training, an adequate supply of production work would need to be arranged. The transport to the training department should not be done by the instructor, their job is to concentrate on trainee practices and give feed back on method etc., as often as possible.

For the same reason a quality checker should be positioned in the training area in order that all work produced by the trainee can be immediately inspected, and a record made of each trainees quality standards, i.e. number of returns for repair etc. This will ensure that quality is monitored alongside production output figures.

All the documentation required in the assessment and control of the training will need to be duplicated and made available. All writing necessities provided.

TRAINING OFFICER

For the period required to bring the first batches of trainees up to experienced machinists standard a responsible person should be located, full time, in the training area.

He would be responsible for the day to day running of the training, control of trainee progress etc. and be on hand to give advice and help the instructors over the initial problems they may encounter.

My choice for this position would be Mr Mbagile who has had the opportunity to follow the course throughout and should have a good understanding of the techniques involved.

He should be responsible for the initiation and upkeep of all necessary training records of progress, graphs and weekly reports to management. These must be properly filed away and kept for reference and evaluation of training.

STANDARDS

At present there are no standards of time and quality available. The instructors have set targets and quality for some of their exercises and these could be used. However, they have not been the subject of rating by a work study engineer, which ideally they should be.

Any change in the production unit to work studied standard minute values for individual jobs and a payment by results (incentive) system can only be a subject for very careful top management consideration and policy decision.

I suggest that the first group(s) of trainees be kept in the training area right through to final stages of job training so that their performance potential can be proven. I have only a rule of thumb way of suggesting a performance figure for the trainees to aim for. As they are being paid on a daily basis then a production performance equivalent to an 80 BSI rating might be the target. I feel that this would probably be a higher standard than is being achieved by the existing production machinists, although I cannot back this up with any actual observed data.

The performance target level should be a subject for management consideration and decision. Once this decision is reached the targets for all the training activities should be rated and established at that level. This way the required pace and effort will be demanded from the trainees right from the start of training.

Once agreed upon the standards should not be lowered in order to accommodate slow learners. It is almost certain to be the case that some trainees will fail to reach the standards set, even after sufficient time and help has given to them, and this must be expected and planned for.

UPGRADING OF EXISTING MACHINISTS

The techniques practised on the course are also useful for this purpose. Timed practices to target, element timings, capability studies and hourly build up to target performance have been used in many companies in the UK, sometimes with dramatic effect.

One of the instructors, or even more, could be usefully employed in this way under the control of production management or work study.

Perhaps, in the future, you may arrange for your line supervisors to be instructed in the use of these techniques, they are all essential skills for them to have.

CONCLUSION

I sincerely thank all the people at TEXCO who were concerned in the decision to bring me here and give me the opportunity to help the development of the company, even in a small way. I also wish to acknowledge all the help and assistance I have been given by Mr Ron Blackburn and his staff and all levels of management at the TEXCO factories during my visit.

I have always enjoyed working with Africans during my visits to Nigeria and Zimbabwe and once again it has been a pleasure to have met such a diligent and good natured group as the one I have had on my course.

I wish you all success in your future efforts and say thank you to everyone.

SUNGURATEX

I was informed that, at this company, the production is based on short runs of a possible wide range of products, although during my visits I have only seen four different items being made up.

The ones I did see were produced on a kind of progressive bundle system, i.e. each machinist doing a section of the garments such as collars for men's shirts.

This is a small unit of about 20 lockstitch and 4 overlock machinists so, unless labour turnover is very high, there will not be a continued demand for trainees. If training is needed then my comments on Ubungo Garments Limited would apply here also as far as selection and training procedures are concerned.

The instructor appointed would only need to be part time. This means that he would be fully free from other duties when a trainee was with him but at other times he would revert to his usual production activities.

Recruitment needs would be low so an intensive training approach could be adopted, i.e. a 1-1 instructor/trainee ratio. After basic training, an initial actual job would be chosen for the trainee build up to target production performance and then he would be trained for more versatility by a planned and controlled re-training programme.

There is plenty of work which could be done immediately by the instructor in the up grading of existing machinists by use of element timings and capability studies. Again work studied, standard minute values would be vital.

This company is geographically close to KILTEX but, due to the differences in machine types and production systems, I do not think that training on a shared basis would be of benefit.

KILTEX

This is a small production unit of 20 lockstitch and 5 overlock machinists.

Production seems based on short runs of a wide range of garment and each lockstitch machinist working in a group of four, with access to the services of one overlocker, work in a make-through way, i.e. one machinist carries all the sewing necessary to make-up all the parts of a complete garment. The garment industry's "Job Production"

This has an important bearing on training as the machinist must be multi-skilled and have a wide knowledge of garment make-up procedure. It follows from this that the training of recruit from scratch will be a lengthy process and can be likened to a kind of apprenticeship. The present procedure of having trainees attend the National Vocational Training Centre for long term training has some value in this set up. However, I would warn against the present tailoring approach, often a domestic, hand powered sewing machinist can be counter productive in the sewing skills area causing, as it does, the learning of a very slow, bespoke approach to sewing with its consequent re-training problems in getting trainees up to production targets in the company.

It would be interesting to see how a "trainee" from N.V.T.C. responded and made progress under the supervision of one of the instructors from the course following a planned, controlled programme, with timed practices etc. to bring them up to the scope of a make-through machinist. KILTEX is fortunate to have three good people attending the course, two of them very good.

URAFIKI

This is a very small unit of only twelve machinists, all lockstitch of a Singer type and not equipped with knee press linkage for the raising of the presser foot. The unit appears not to be too well established for production and during my few visits to the factory I often found no work in progress.

I was told that the reason was that the workers targets for the day had been reached and so they were waiting for the end of the day. Perhaps more realistic targets might be established.

The two people who attended the course had a problem keeping up, partly because of difficulty with English but also because of their educational background.

I appreciate that the companys choice was very limited and the two tried hard and have satisfactorily done the practical work so far. However, they would need a deal of constant assistance and control if they were put in charge of a systematic machinist training scheme.

As URAFIKI is so close to Ubungo, I suggest that if any new recruits are required they should be asked to join the trainees at Ubungo at least until the early stages of job training are complete.

If it were to become the future intention to expand and reorganise the garment section of Urafiki then there would be a need for them to undertake the whole training package but I would hope a better choice of instructor than the present two could be found.

I am sure that some upgrading of the present machinists would be possible especially if meaningful production standards were set.

