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17806

Distr.
RESTRICTED

IO/R.116
25 October 1989

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

ORIGINAL: ENGLISH

ESTABLISHMENT OF A CLOTHING UNIT IN THE DEPARTMENT
OF SUPPLIES TO ORGANIZE AND SUPPORT TECHNICALLY
LOCAL MANUFACTURE OF SCHOOL AND OTHER UNIFORMS

US/BOT/87/097/11-03

BOTSWANA

Technical report: Second visit of a garment technologist*

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

Based on the work of Colin Whitehouse
Garment technologist

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* This document has not been edited.

V.89-60717

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1. INTRODUCTION

The purpose of this mission was to provide technological help and assistance in garment manufacture within the newly established Clothing Unit of the Department of Supplies, Ministry of Finance and Development Planning. The objective of the Unit is to coordinate and support technically, local manufacture of uniforms for various government agencies.

Attached to the Department of Supplies, the Garment Technologist was to

- devise and conduct training courses in
 - Garment production management
 - Pattern cutting and grading
 - Quality control
 - Production planning.
- provide direct assistance to garment manufacturers;
- train his counterparts in garment technology;
- assist in the selection of candidates for sewing machine technician fellowships;
- preparation of a final mission report.

Due to the departure of the first Garment Technologist, Tom Ramsey, a second person was engaged, Colin Whitehouse, to continue the mission.

This report sets out the investigations conducted, and their results, together with the activities carried out, and results achieved during the time "on site".

2. FACTORY VISITS

The first few weeks were taken up with duplicating the work of the first Garment Technologist in visiting as many garment producers as possible. As mentioned in the first report of 26 June, 1989 there is a great disparity in the types and size of the factories and this will have to be taken account of when arranging workshops and training. All of the people spoken to during these visits expressed a desire to attend training courses.

Some of the owners were not aware that some of their fabric requirements could now be met locally and were still importing. We have been able to advise them during these visits on the fabric availability - local zip purchase - batch dyeing of buttons to reduce stocks and various other small points. Several were thinking of purchasing new equipment and will now consult us on type.

3. NATIONAL SIZE CHARTS

With the cooperation of a number of government agencies approximately 200 men and 100 women have been measured with a view to producing national size charts. In the case of the men this has now been done. A size chart is now available to local manufacturers to enable them to improve their patterns and fit.

This size scale still has to be tested but it is expected that this will be the base for further improvements.

4. SPECIFICATIONS

One of the main problems that manufacturers have is the lack of written specifications for them to follow. Up until now they have been given a sample garment to copy only, with no measurements or sewing details. Four written specifications are now available;

Police Jackets

Police Trousers

Camouflage Jackets

Camouflage Trousers

A fifth one, BDF officers shirts is now being worked on and it is hoped this process will continue until every item in demand is covered.

A wordprocessor has recently been installed to generate these specifications with five people trained in its use. A specification bank is now being built up.

5. DESCRIPTIVE SEWING DATA

DSD is a Methods Time Measurement based procedure by which any manual operation can be analysed as to the basic motions needed to perform it. It assigns each motion a time value according to the distance of travel, difficulty, or the accuracy required.

This data has been compiled to provide descriptive elements, to overcome a major shortcoming in other forms of data. D.S.D. is universal in its application. It is not confined to one industry, or to one method of measurement. This data can be used successfully in a clothing plant, machine shop, or a furniture plant, in fact in any situation where manual operations occur. Distances have been expressed in centimetres and inches to cope with national differences.

Principal Uses

The principal uses of D.S.D. are as follows:-

Developing effective methods prior to production.

Establishing accurate time standards prior to production.

Analysing and improving existing methods.

Establishing fair time standards.

Establishing consistent time standards.

Analysing and developing training methods.

Analysing the effect of equipment or work aids.

During the month of August Mr. Geoffrey Parkin from Software Systems of Oldham in U.K. conducted a training course, manual and computerised, in the above Predetermined Motion Time Systems.

Four people successfully completed the course, namely

GAOLATLHE DICHABENG

MOTHUSI MARUPING

DAVID GARESEGO

NKGWEDI RAMALEBANG

All four are now in the process of practising this system. Two of these have also been trained to use a video camera and are now visiting suppliers and taking video film of a number of operations. This they then play back and analyse with a view to improving the operation in terms of efficiency and quality. An improved method is then worked out and the manager and specified operators are then sent for to explain to them the improvements. This is already working quite well and a number of improvements installed. The object of this is to help the garment industry improve its quality and efficiency through the retraining of the workforce. The Department of Supplies should gain with improved deliveries, better quality, better fit and keener prices.

A presentation was held on Wednesday 30th of August, 1989 to demonstrate the usefulness of the system.

The factory owner will be presented with three printouts;

- a. Present method
- b. Recommended method with the same machine
- c. Recommended method with a new machine

So far we have been able to see on some operations a saving of 33% changing to (b) and a possible 70% by installing (c).

6. QUALITY CONTROL

Three workshops have been held successfully, two by the U.N.I.D.O. expert, Colin Whitehouse and one by the counterpart, Gaolatlhe Dichabeng. The response and attendance was very good and it is intended to do more of the same in Gaborone and Francistown. The workshops have aroused quite a lot of local interest in the factories with several requesting further sessions with different employees attending.

The groundwork has now been laid for installing a national scheme for all suppliers to the Department.

RECOMMENDATION

It is strongly recommended that, as soon as possible, all tender forms should contain the words;

"In order to become a contractor to the Department of Supply, the manufacturer must demonstrate that they have a working numerate quality control system and accept periodic checks from trained Department Staff. Failure to do so could cause loss of contract."

7. FACTORY REPORTS

A programme of factory visits with the view of producing a report for the owners giving a list of improvements and recommendations has been set in motion. The first 20 page report has been finished and presented to the owner, a Mr. Hamman of Franka Clothing on the 24th August. He has expressed his thanks and fully intends to carry out the majority of the suggestions. Some have already gone into operation while the report was being typed. In particular he has changed his method of fusing (a demonstration machine has now been set up in the Department of Supplies) and now has improved quality and efficiency on that operation. At least two other companies have also changed their fusing methods with the same results. Time permitting, it is planned to do seven other reports, one is in progress now.

8. CONCLUSIONS

In this second garment technology visit we have succeeded in getting some counterparts, part trained and created enough interest from the factories to ensure their cooperation for the rest of the mission.

The only area causing some worry is the lack of personnel. One main counterpart has left and the other main one is on leave missing a vital training period. Something must be done urgently to ensure continuity.

Full cooperation has been given during this visit from all Department of Supply Staff plus the personnel in the factories.

The next visit starting 25th September will concentrate on pattern making and grading which is an extremely weak area here.

We are also offering any help we can to BEDU and the Prison Workshop which is expanding to produce their own uniforms and requires our help in machine choice and layout.

Overall we feel the visit was very productive and covered all the main points of the mission;

- Workshops
- Factory support
- Technical back-up
- Counterpart training.