



TOGETHER
for a sustainable future

OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.



TOGETHER
for a sustainable future

DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org

18034

Distr.
RESTRICTED

IO/R.135
30 January 1990

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/B.T/87/097/11-03

BOTSWANA

Technical report: Third 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

Backstopping officer: J. P. Moll, Agro-based Industries Branch

* This document has not been edited.

TABLE OF CONTENTS

	<u>Page</u>
1. INTRODUCTION	4
2. FACTORY VISITS	5
3. NATIONAL SIZE CHARTS	5
4. SPECIFICATIONS	5
5. DESCRIPTIVE SEWING DATA	6
6. QUALITY CONTROL	6
7. WORKSHOPS	7
8. EQUIPMENT	7
9. FELLOWSHIPS	8
10. CONCLUSIONS	8

ABBREVIATIONS

CTA	Chief Technical Adviser
UNDP	United Nations Development Programme
GTM	Garment Technologist/Management
P & P	Purchasing and Procurement
M & R	Maintenance and Repair
U.K.	United Kingdom
C.V.	Curriculum Vitae
UNIDO	United Nations Industrial Development Organization
BDF	Botswana Defence Force
BEDU	Botswana Enterprise Development Unit

Exchange Rates:

During the period of the mission, 25 September to 17 December 1989, the following exchange rates prevailed.

US\$1 = P2.08

1. INTRODUCTION

The purpose of this mission was to continue the 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.

This report sets out the activities completed and the results achieved during the mission.

2. FACTORY VISITS

The factory visits were continued during this trip starting with Pilane on the first day of arrival then continuing on to Selibe Phikwe and Francistown. In two of the factories, Commercial Enterprises and Perfect, films were made. These films are now being used as aids to training during all the workshops. This has been a great help as the workshop participants relate to them, with them being made in Botswana. We are using several videos now to help to demonstrate work study techniques - method study - machine layout - work in progress levels - training methods - handling systems - fusing systems - cutting techniques - marker making - spreading and cutting methods etc. Due to the lengthy workshops conducted during this visit there was less time available for factory visits.

3. NATIONAL SIZE CHARTS

The men's size charts are now being issued to suppliers for testing on machines.

If some more information and data can be obtained then a start can be made on the ladies size charts.

The intention is to have size charts for all items supplied to the department and to have them up - dated every five years. Size charts are now available for the police tunics and the B.D.F. camouflage suits.

4. SPECIFICATIONS

Good progress has been made in this area and there are now written specifications ready for 11 items.

- Police Jacket
- Police Blouse
- Police Trouser
- Police Grey Shirt
- B.D.F. Jacket
- B.D.F. Trouser
- B.D.F. Light Green Shirt
- B.D.F. Dark Green Shirt
- B.D.F. Angora Shirt
- Cleaners Ladies Overall
- Immigration Officers Blouse

The continuing process has now been taken over fully by the counterparts.

It is now hoped that no contract should be issued without a sealed sample and a full specification. There is a lot of work involved initially in producing these specifications but once done only minor alterations should be necessary in the future.

5. DESCRIPTIVE SEWING DATA

We have not progressed any further with this system as of the four people trained in its use two were in Manchester on a fellowship and one was on maternity leave. However we will be using it again early in the new year.

Several manufacturers have expressed their need for the results of this system and as long as the department uses it in the correct manner it will be a great asset.

6. QUALITY CONTROL

We have completed one more workshop in Francistown during November. It was handled by the counterpart Gaolathe Dichabeng with only minor help from the garment technologist.

Further the factory visits quality checks have now started and it is hoped that this will become a regular part of the work of the department.

It cannot be stated too strongly that this area of inwork checks is the main spearhead of the department of supply control over the quality and delivery of its goods. The person controlling this area must have a strong personality and a good grasp of technical knowledge to be able to control and lead the manufacturers.

With properly administered quality checks and specifications the supplier should automatically improve on quality and delivery. This will benefit the department but also improve the opportunities of the manufacturers to increase local sales and could lead into exports.

As stated previously the manufacturers must have a numerate and accountable quality control system in their factory. If not available they should be removed from the list of companies able to tender for orders. Representatives of the department should visit on a regular basis (perhaps once every two weeks) to check that the quality system is working. Every two years the list of companies should be reviewed and only if they meet the

criteria should they be given a manufacturing certificate.

It is doubtful that any manufacturer would voluntarily install such a quality system unless the department insists and assists with setting it up.

7. WORKSHOPS

During this visit 8 workshops have been completed ;

Supervisor Training	Mr Don Hague	C.T.A.
Improving Productivity	Mr Don Hague	C.T.A.
Pattern Drafting / Cutting / Grading	Mr C. Whitehouse	G.T.M.
Production Planning	Mr C. Whitehouse	G.T.M.
Quality Control	Miss G. Dichabeng	

This has added up to 214 student days during this visit and a total of 484 for the year. In 1990 it is hoped to at least double this figure and maybe treble it. This places the main emphasis of the project on training and in particular counterpart training. It should be stated that 4 of the subjects - pattern making - descriptive sewing data systems - sewing machine maintenance and fabric testing are of a very practical nature.

The counterparts have to be involved in a " HANDS ON " approach with them doing the work and not watching the expert.

A lot of local interest has been generated in these workshops to the extent that people are now enquiring for places on them.

8. EQUIPMENT

All the equipment has now arrived and is in position. At the time of writing the washing machine and the light fastness machine had not been plumbed in. However the order is with the appropriate department and should be completed shortly.

All the equipment has now arrived and is in position. At the time of writing the washing machine and the treadle sewing machine had not been plumbed in. However, the order is with the appropriate department and should be completed shortly.

Everything has been tested and is in good order. Aside from the equipment I would recommend that the department should have a small library of technical books. It should consist of books on fabric types and manufacturing process, garment manufacturing from cutting to finishing but in particular patterns and quality control. If the intention is that the counterparts continue the training workshops then the library is essential.

9. FELLOWSHIPS

Miss Lesego Tshelametsi returned from her fellowship at the University of Leeds in early October. She successfully completed the course on Textile Testing and Fabric Care. She is now awaiting the arrival of the fabric expert to put her knowledge into use.

Mothusi Maruping and David Garosego are still in Manchester attending a course on Sewing Machine Maintenance, and are due back in the third week of December.

The fellowship for Miss Gaolathe Dichabeng has been postponed until September 1990 due to inadequate manning levels in the department.

10. CONCLUSIONS

In this third visit we have successfully completed the planned work schedule. The main emphasis has been on workshops, and in particular, pattern drafting - cutting and grading. Everyone has been of the opinion that this has been the weakest area in all the factories. We have 14 people so far including two from the Department of Supply, who have successfully completed this workshop to draft patterns for trousers, skirts, dresses, waistcoats etc, and grade the patterns up and down. As long as their employers allow them to use these new found skills, I am quite confident that they now have a solid foundation on which to build.

Full cooperation has been given during this mission, from all Department of Supply staff, plus the personnel in the factories.

Three girls from B.E.D.U. and two officers from the Prison Service joined workshops with the view to improving their knowledge. This will help the B.E.D.U. staff in their training in the Brigades, and the prison officers in their tailoring section at the prisons.

During the next mission, the last two outstanding parts of the training programme, fabric testing and sewing machine maintenance, will be dealt with. We have sought permission to carry out the sewing machine maintenance workshop on the premises of B.E.D.U., where a selection of equipment is available.

One more counterpart has joined the unit - Mrs Montsamaisa Ramahobo, and it is intended that she concentrate on the Quality Control aspects of the department. I would again like to stress my concern about trying to operate with an incomplete staff.

Some of the systems and techniques being taught during the workshops are now taking effect in the factories. This is showing up in two ways:-

1. The factories are asking to send more of their employees to the workshops, and have also requested an advanced course in pattern construction.
2. The end user is showing more confidence in having their garments made in Botswana and are accepting the same or better quality and delivery than they experienced up to now with garments manufactured abroad. Several large orders are now being placed locally which traditionally were manufactured elsewhere, e.g. Security Guards - B.D.F. camouflage, and camouflage for the Mozambique forces etc. This has put a great deal of product into the local market which can only make it stronger. As of now, all unlined garments can be manufactured locally. This would mean only a very small percentage need to be placed abroad.

Finally, a tentative date has been set for a Tripartite Review Meeting on the 20th February 1990, at the Ministry of Finance and Development Planning.