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DP/ID/SER.A/1433
29 January 1991
ORIGINAL: ENGLISH

TESTING OF TEXTILE RAW MATERIALS, YARNS AND
FABRICS AND PRODUCT DEVELOPMENT

DP/VIE/86/015/11-01

VIET NAM

Technical report: Fourth mission of the Chief Technical Adviser*

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

Based on the work of Roy Nield,
Chief Technical Adviser

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

United Nations Industrial Development Organization
Vienna

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V.91-20849

TABLE OF CONTENTS

	<u>Page No</u>
ABBREVIATIONS	1
I EXECUTIVE SUMMARY	2
II INTRODUCTION	3
III RECOMMENDATIONS	4
IV ACTIVITIES AND OUTPUTS	5
Purpose of the mission	5
Programme	5
Counterparts	5
Meetings, seminars, etc.	5
Inputs	6
Budget revision	6
Documentary outputs	6
Visits	6
V CONCLUSIONS	7
VI ACKNOWLEDGEMENTS	8
ANNEXES	
1. Progress report for TPR	9
2. Equipment	15
3. Training	16
4. Experts	17
5. Work Plan	18
6. Government Budget	19
7. Revised JD for Post 11-02	20
8. Minutes of TPR on 13.12.90	21
9. Revised TOR for Joint Evaluation	24

ABBREVIATIONS

BSO	Back Stopping Officer (UNIDO)
CTA	Chief Technical Adviser
Est	Estimate
JD	Job Description
MOLI	Ministry of Light Industries
NPD	National Project Director
Prodoc	Project Document
Req xx	Requisition No. xx
TEXTIMEX	Textile Import Export Company
TOR	Terms of Reference for Joint Evaluation
TPR	Tri-Partite Review
TRI	Textile Research Institute (Hanoi)
TRSI	Textile Research Sub-Institute (HCM City)
UCD	UNIDO Country Director
UTE	Union of Textile Enterprises

I EXECUTIVE SUMMARY

This mission took place during November/December 1990. It was coordinated with a mission to Project DP/VIE/86/014 in Hanoi.

The project concept remains very relevant to the Government's Development Plan which emphasises the need to expand the production of consumer goods especially clothing.

A TPR Meeting was held in Hanoi on 13 December 1990; the minutes are attached. The Chairman (Vice Director of MOLI) stated that the Project had already made a significant contribution to the success of National Research Programme No 16A.

A progress report by the CTA is attached.

Output 1, physical testing laboratory, will be fully produced after installation of the Uster "Tensorapid" yarn strength tester and completion of the final expert mission.

Output 2, dyeing and finishing facility, has been produced.

Output 3, product development, was delayed due to difficulties in selecting the most appropriate equipment for the testing and processing of silk. However, this problem has been overcome and delivery of the equipment is expected in January and March 1991.

Output 4, dissemination of information, has been produced.

It is expected that the main project objectives will be achieved by the middle of 1991.

It is intended to continue implementation of the project according to the work plan which is attached.

The mandatory Joint Evaluation Mission is planned to take place in April 1991, with the following timetable in Vietnam:

April 14 to 21 Hanoi (Briefing and Project 014)
April 21 to 24 HCMC (Project 015)
April 24 to 28 Hanoi (Finalizing report and Debriefing)

The CTA and NPDs will be available if required.

The Terminal TPRs for this project and 014 are planned for 12 December 1991.

II INTRODUCTION

The main object of the project is to increase the availability of good quality textiles for domestic consumption which is in line with the Government's development plan for the period 1986-90 which emphasizes the need to expand the production of consumer goods - especially clothing.

The immediate objective is to strengthen the capability of the southern subsidiary of the Vietnam Textile Research Institute in the areas of physical and chemical testing, product development and dissemination of information.

These objectives were elaborated upon in the first mission report of the CTA (DP/ID/SER.A/1154).

III RECOMMENDATIONS

1. Prepare, in detail, a comprehensive work programme for the TRSI to ensure that the inputs provided through the Project will be fully utilized for the benefit of the Textile Industry in the South of Vietnam. (NPD/Government)
2. Carefully study the Experts' reports and implement their recommendations to the extent possible. (NPD/Government)
3. Organize the Joint Evaluation in April 1991. (UNDP, Hanoi)
4. Organize a study tour for 2 or 3 senior textile technologists of the TRSI to the International Textile Machinery Exhibition (ITMA) in September 1991. NB: This opportunity occurs only once in 4 years. (UNIDO/Government)
5. Organize 2 fellowships in Shuttleless Weaving. (UNIDO)
6. Field the CTA for 2 months starting approx 1 month before the Joint Evaluation of the Project. (UNIDO)
7. Continue implementing the Project according to the Work Plan revised in December 1990. (UNIDO/NPD/CTA)
8. Complete the building modifications. (NPD)
9. Arrange for a specialist from USTER to install the Tensorapid yarn strength tester and check over the Evenness tester. Co-ordinate with Project 014. (UNIDO)
10. Organize the installation of the AVL loom, the silk testing equipment, the silk processing equipment and the Tensorapid tester as soon as possible. (NPD/UNIDO)
11. Help the technicians from AVL, Toyo, ICBT and USTER with formalities and provide all assistance necessary to enable them to carry out their work quickly and efficiently. (NPD)
12. Issue a revised JD for post 11-02 Textile Testing. (UNIDO)
13. Field the Textile Testing Expert as soon as the Tensorapid has been installed. Coordinate with Project 014. (UNIDO)
14. Be available to answer questions if called upon to do so at the time of the Joint Evaluation. (CTA/NPD)
15. Study the recommendations of the JE and implement them to the extent possible. (Government/UNDP/UNIDO)
16. Revise the list of periodicals. (NPD)
17. Organize the Terminal TPR in December 1991. (UNDP, Hanoi)

IV. ACTIVITIES AND OUTPUTS

Purpose of the Mission

To review progress since the last mission and follow up the recommendations in previous reports.

To clarify outstanding issues and decide what needs to be done.

To up-date the work plan.

To render technical and administrative assistance to the Experts and co-ordinate their activities.

To advise the NPD on the work to be carried out in the absence of the CTA.

To write a progress report for the TPR.

To participate in the TPR.

To draft the "Summary of TPR Review Report".

To revise the TOR for the Joint Evaluation in April 1991.

To prepare a mission report recording all decisions taken and recommending the actions necessary, and by whom, to expedite further implementation of the project.

Programme

The mission was combined with a mission to the TRI in Hanoi, which is receiving assistance through project DP/VIE/86/014.

Counterparts

The NPD is Mme Pham Thi Minh Chau, Vice-Director of the TRSI. There has always been a good rapport and close cooperation between the NPD and the CTA in implementing the Project.

Meetings, Seminars, etc.

Frequent meetings were held with the NPD, the Director of the TRI, the Director of the TRSI and the Experts. All outstanding matters were fully discussed and agreement was reached on all points.

The status of the project was discussed with the UNIDO Country Director, the Field Officer and the UNDP Programme Officer.

The TPR was held on 13 December 1990. Minutes are attached.

The CTA was debriefed by the UNIDO Headquarters Representative.

A meeting was arranged at the Italian Embassy to find out more about the expected Italian assistance of USD 18 million to the Sericulture Industry of Vietnam and to see if UNIDO and/or the TRSI will be able to participate in some way. This matter will be followed up by the UNIDO Country Director.

Useful meetings were held with Mr Urs Minder of Zellweger, Mr Oliviero Godi of Somet and Mr Les Morris of Rieter.

On-the-job training was given to members of staff of the TRSI.

Inputs

The project inputs are elaborated in Annex 1. All the equipment supplied was examined and found to be in good condition.

Budget

Adjustments will be made by UNIDO in the next mandatory budget revision to reflect the decisions taken at the TPR. This will include the proposed Study Tour to the ITMA Textile Machinery Exhibition in Germany.

Documentary Outputs

CTA's Progress report for TPR on 13.12.90.

Revised Terms of Reference (TOR) for the Joint Evaluation planned for April 1991.

Fourth Mission Report of CTA.

Schedules detailing the present status of the project as regards equipment, training and experts.

A detailed work plan for the remainder of the project.

Revised Job Description for the expert in Textile Testing and Quality Control Post 11-02 coordinated, if possible, with Project 014.

Visits

A visit was made to No 6 Mill where the TRSI are carrying out trials initiated by the Silk Weaving Expert on a Dierdrich St Colombe Type 2001 loom. The loom is very old but its action is gentle so it is quite suitable for weaving silk. The mill gave up weaving silk many years ago and all the other looms are weaving synthetic yarns.

V. CONCLUSIONS

Follow-up of the recommendations in the previous report and of the decisions taken at the TPR has been satisfactory.

There were some delays, firstly in starting to implement the project, then in selecting the most appropriate equipment for silk testing and silk processing and finally in obtaining the additional funds required. However, all equipment has now been ordered.

No serious difficulties are foreseen so, provided that implementation is continued as outlined in this report, all the project outputs should be produced by the middle of 1991.

VI ACKNOWLEDGEMENTS

The author wishes to take this opportunity of expressing his gratitude to all those whose willing co-operation and valuable advice were so important to the successful outcome of this mission and in particular:

Mr Pham Gia Khien Head of Science and Education Dept.
State Commission for Planning.

Mr Do Van Vinh Deputy Head of Industry Department,
State Commission for Science.

Mr Tran Quang Sung Vice-Minister of MOLI.

Mr Dinh Si Bang Head of Science & Technology, MOLI.

Mr Nguyen Hieu Head of Industrial Cooperation, MOLI.

Other Government Officials who participated in the TPR meeting.

Dr Mme Nguyen Thi Bau Director of the TRI.

Mme Pham Thi Minh Chau National Project Director

UNIDO Country Director.

UNIDO Field Officer.

UNDP Programme Officer.

UNIDO Headquarters Representative.

UNIDO Expert in Textile Testing/QC.

UNIDO Expert in Silk Weaving.

UNIDO Expert in Silk De-gumming and Finishing.

TESTING OF RAW MATERIAL, YARNS & FABRICS & PRODUCT DEVELOPMENT

DP/VIE/86/015

VIETNAM

PROGRESS REPORT FOR THE TRIPARTITE MEETING IN HANOI ON 13.12.90

By Dr Roy Nield, CTA

1. Introduction

- 1.1 The Project Document was signed on 8.8.88; the expected duration was 2 years.
- 1.2 The development objective is to increase the availability of good quality textiles for domestic consumption - especially clothing.
- 1.3 The immediate objective is to strengthen the capability of the Textile Research Sub-Institute in the area of physical and chemical testing, product development and dissemination of information to enable it to expand and improve its services to the textile industry in the South.

2. Progress

The decisions of the previous TPR have been followed up and acted upon as follows:-

2.1 Buildings

Many improvements have been made to the premises as explained in the NPD's report.

2.2 Equipment

All the high-speed, high-volume equipment selected for fibre testing, yarn testing (except the yarn strength tester), fabric testing and the chemical laboratory has been installed and is in regular use.

Additional funds were made available for purchase of a yarn strength tester following the last TPR. Delivery is expected in February 1991.

The equipment for silk testing and processing was selected following the Study Tour. Additional funds were made available so that processing machinery of a very high standard could be bought from France. Delivery of the processing machinery is expected in January 1991 and of the testing equipment in March 1991.

The sampling loom with computer aided design facility has been delivered. AVL will send a technician to install it.

The circular knitting machine is in regular use.

A list of the equipment supplied through UNIDO is attached

2.3 Training

Two Study tours in Textile Testing (5 persons to France, UK and Hungary) and Production of Silk and Blends (5 persons to Italy, France and South Korea) have been successfully completed and reports issued.

Five fellowship groups (13 persons) have received training. It is proposed to send the last 2 fellows for training in shuttleless weaving in Italy as soon as possible.

A list of the training activities is attached.

2.4 Experts

The experts have been fielded at appropriate times, i.e. after completion of fellowship training and delivery of the equipment.

The CTA was fielded for split missions as planned.

The Silk Weaving expert was fielded for 2 months in September 1990.

The Silk Degumming and Finishing expert was fielded for 1 month in 1990.

The Textile Testing/Quality Control expert was fielded for 1 month in 1990. A second mission is scheduled in 1991, shared with Project 014 if possible.

Details of the Expert missions are attached.

2.5 Outputs

Output 1, an operational physical testing laboratory, will be fully produced when the Tensorapid yarn strength tester is installed and the final expert mission completed.

Output 2, an operational dyeing and finishing facility, has been fully produced.

Output 3, a product development facility equipped and staffed with a sampling loom; a circular knitting machine; winding, doubling and twisting machines for silk and testing equipment for silk yarns has been partially

produced. The first problem was in selecting the most suitable equipment. This was resolved through the study tour. The next problem was that the high-tech processing equipment selected required an increase in the budget. This was provided and the processing equipment is expected in January 1991 and the testing equipment in March 1991.

Output 4, a strengthened information section, has been produced.

3. Budgets

The UNDP budget is summarised as follows:

Experts	\$ 134,511
Training	\$ 284,039
Equipment	\$ 538,453
Sundries	\$ 3,720
<u>TOTAL</u>	<u>\$ 960,723</u>

No increase is foreseen as necessary for implementation of the existing work plan.

The Government budget as discussed in the NPD's report, is attached.

4. Operational Issues

No particular difficulties are foreseen in providing the rest of the inputs but the following issues need to be addressed:

4.1 How to ensure that maximum benefit is derived from the testing facilities provided.

As a start, standard routines should be agreed for:

- Testing imported yarns.
- Quality certification of yarns for export.
- Testing the quality of the yarns produced in every cotton mill in Vietnam.
- Compiling experience statistics for future reference.

Targets for the work to be carried out should be set and reporting should be on a regular basis.

4.2 How to derive maximum benefit from the product development facilities.

A comprehensive work plan for the TRSI should be produced. In the case of cotton, there should be close co-operation with the Cotton Research Centre and, in the case of silk, with VISERI.

4.3 How to further strengthen the resources of the TRSI in future.

This is very important in view of the Government's intentions of (a) increasing ten-fold the area allocated to growing medium and long staple cottons and (b) investing heavily in development of the silk industry in 1991-95. In both these areas the TRSI will have an important part to play.

5. Work Plan

The work plan for the remainder of the project is attached.

6. Decisions and Recommendations

6.1 Complete the building improvements.

6.2 Complete implementation of the work plan.

6.3 Study the Experts' reports carefully and implement their recommendations to the extent possible.

6.4 Evaluate the present value and the future potential of the TRSI to the Vietnamese Textile industry.

6.5 Give serious consideration to the proposals given in the report of the NPD designed to further strengthen the resources of the TRSI especially in the field of product development of silk. In particular, as discussed at the previous TPR, the provision of a shuttleless loom suitable for weaving silk would be a great asset.

7. Evaluation of the Project

A Joint Evaluation mission is planned for April 1991 with a view to extending the scope of the project.

STATUS OF THE UNDP INPUTS

The inputs have been provided except where otherwise stated.

1. EQUIPMENT

- Laboratory air-conditioner
- Thermohygrograph

Fibre Testing

- Fibrograph for testing fibre length properties
- Fineness/Maturity tester
- Fibre opener/blender for preparing samples
- Strength tester and accessories (Pressley)
- Micronaire for rapid check on fibre fineness

Yarn Testing

- Evenness tester (Uster) for measuring regularity of slivers, rovings and yarns, identifying periodic variations and counting faults (thick and thin places and neps) in yarns.
- Tensorapid tester for measuring strength and elastic properties of yarns (Delivery expected in February 1991).
- Crimp tester for synthetic yarns.
- Tensiometer for yarns.

Fabric Testing

- Thickness tester
- Abrasion tester
- Crease recovery tester
- Pilling tester
- Piece glasses (2) for fabric analysis

Chemical Laboratory

- Wash fastness tester
- Crocking tester for checking colour fastness
- Skein dyeing machine
- Viscosimeter for testing the viscosity of liquids
- Laboratory steamer
- Set of standard hydrometers

Silk Testing Laboratory (Delivery expected in March 1991).

- Length measuring meter
- Seriplane winder and 6 blackboards
- Seriplane illumination apparatus and standard photographs
- Duplan cohesion tester for silk filaments
- Drying oven for measuring moisture content of silk

Product Development

Weaving

- Sampling loom with Computer Aided Design facility.

Knitting

- Circular knitting machine

Silk Processing (Delivery expected in January 1991)

- Re-winding machine
- Doubling and twisting machine
- 2 for 1 twisting machine

Other Equipment

- Project vehicle (Landcruiser) and spare parts
- Air conditioning units (4)
- Overhead projector
- Photocopying machine
- Books and periodicals

2. TRAINING

- 2 Study tours (10 persons)
- 5 Fellowship groups (13 persons)
- 2 Fellowships in shuttleless weaving planned for 1991.

3. EXPERTS

The experts have been fielded at appropriate times:

- CTA (Split missions as scheduled)
- Silk Weaving Expert (2 months in 1990)
- Silk Degumming and Finishing Expert (1 month in 1990)
- Textile Testing/Quality Control Expert (1 month in 1990 and 1 month planned in 1991).

DP/VIE/86/015

Testing Raw Materials, yarns and fabrics + product development

EQUIPMENT - Revised December 1990

(* = Already Delivered)

Req No	Item	Supplier	Cost(\$)	Remarks
88/1	Landcruiser	Toyota	14,414	*
	Spare parts		2,290	*
88/2	Pressley tester	Baer	2,591	*
88/3	Micronnaire	SDL	4,947	*
88/4	Fineness/Maturity	SDL	23,113	*
88/5	Fibre blender	SDL	6,022	*
88/6	Evenness tester	Uster	75,112	*
88/7/1	Cloth abrasion	Heal)		*
/2	Cloth thickness	Heal)		*
/4	Pilling tester	Heal)	10,686	*
/3	Crease recovery	SDL)		*
/5	Crimp tester	SDL)	6,234	*
88/8/1	Wash fastness	SDL	6,888	*
/2	Crock tester	Heal	746	*
/3	Skein dyeing m/c	Roaches	8,872	*
/5	Viscosimeter	Roaches)		*
/6	Lab. steamer	Roaches)		*
/7	Hydrometers	Roaches)	6,345	*
88/9/2	Seriplane winder + 6 blackboards			
/3	Seriplane viewer + photographs			
/5	Manual length meter			
/6	Cohesion tester			Expected
/7	Drying oven	Toyo	55,058	Mar 91.
88/10/1	Doubler/twister			
/2	2 for 1 twister			Expected
	Winding machine	ICBT	90,345	Jan 91.
88/11	Sample loom	AVL	35,344	*
88/12	Knitting machine	Qualitex	36,650	*
88/13/1	Piece glass 25cm	Heal)		*
/2	Piece glass 20cm	Heal)		*
/3	Tensiometer	Heal)		*
/4	Thermohygrograph	Heal)	2,127	*
88/14	Overhead projector	Kwan	679	*
88/15	4 airconditioners	Kwan	2,204	*
88/16	Room conditioners	BB/York	12,326	*
88/17	PP copier	Kwan	1,649	*
88/18	Books/periodicals	Munksgaard	3,220	Revise in 91
88/19	Digital fibrograph	SDL	38,082	*
	Tensorapid yarn	Uster		Expected
	strength tester	Uster	92,509	Feb 91.

DP/VIE/86/015

Testing Raw Materials, yarns and fabrics + product development

TRAINING - Revised December 1990.

Number	Name	Duration	Remarks
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FELLOWSHIPS

Textile testing

31-01	Do Van Quong	3	Implemented May 1990
31-02	Nguyen Thi Ngan Ha	3	Bolton
31-03	Tran Thanh Liem	3	

Testing and processing of blends

31-08	Tran Gia Huyen	3	Implemented May 1990
31-09	Nguyen Anh Kiet	3	Bolton
31-10	Dinh Cong Quyet	3	

Standard testing procedures

31-	Nguyen Thi Minh Duc	3	Implemented May 1990
31-	Nguyen Thi Tuy	3	Bolton

Silk testing and processing

31-04	Ha Nhu Thi Viet	3	Implemented 1989
31-05	Thai Dao Duy	3	S. Korea + India
31-06	Vuong Cu Luu	3	
31-07	Thuy Pham Van	3	

Circular knitting

31-11	Lanh Tran Ngoc	1	Implemented January 90 Qualitex, UK.
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Shuttleless weaving

31-		1	Scheduled 1991
31-		1	

STUDY TOURS

Textile testing (No 53)

32-01	France, UK + Hungary	5x1	Implemented 1989
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Production of silk and blends (No 54)

32-02	Italy, France + S. Korea	5x1	Implemented January 90
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DP/VIE/B6/015

Testing raw materials, yarns and fabrics + product development

EXPERTS - 1990 AND FUTURE - Revised December 1990

Post no	Title	m/a	Remarks
11-01	CTA	4	R. Nield appointed. Next missions Apr 91 and Oct 91. Co-ordinate and share cost with DP/VIE/B6/014
11-02	QC/Testing	2	H. M. Goerlach fielded for 1 m/m Nov 90. Another expert required in April 91, shared if possible with Project 014.
11-03	Silk weaving	2	J. C. Guigou fielded Sept 90.
11-05	Degumming & Finishing	1	H. R. Hofstetter fielded Oct 90.
	AVL Technician		Required as soon as possible.
	ICBT Technician		Required when equipment arrives
	USTER Specialist		Required when equipment arrives. Coordinate with Project 014.
	Toyo Technician		Required when equipment arrives.

DP/VIE/86/015

Testing Raw Materials, Yarns and Fabrics + Product Development

WORK PLAN - Revised December 1990

	1989	1990	1991
<u>Personnel</u>			
11-01 Chief Technical Adviser	—	—	—
11-02 QC/Testing		—	—
11-03 Silk weaving		—	
11-05 Degumming of silk		—	
AVL Technician			—
ICBT Technician			—
Uster Specialist			—
Toyo Technician			—
<u>Fellowships</u>			
Silk testing. S.Korea/India 4x3m/m	—		
Textile testing. Bolton 8x3m/m		—	
Circular knitting. UK 1x1m/m		—	
Shuttleless weaving. 2x1m/m			—
<u>Study Tours</u>			
Textile testing (No 53) 5x1m/m	—		
Silk and blends (No 54) 5x1m/m		—	
<u>Equipment</u>			
Physical testing	—		
Dyeing & Finishing	—		
Circular Knitting	—		
Silk testing (Toyo)			—
Product development of silk (ICPT)			—
Sample loom (AVL)		—	
Tensorapid strength tester (Uster)			—
<u>Activities of TRSI</u>			
Physical testing		—	
Dyeing and finishing tests		—	
Silk testing			—
Product development of silk			—
Circular knitting		—	
Sample weaving			—
Dissemination of information			—
<u>Joint Evaluation of Project</u>			
			—

DP/VIE/B6/015

Testing raw materials, yarns and fabrics + product development

GOVERNMENT BUDGET - Revised December 1990

Units: Dongs x 1,000

Item	1989	1990
1. National staff	30,000	30,000
2. Value of existing building & equipment	1,200,000	-
3. New construction	110,000	40,000
4. New equipment	40,000	45,000
5. Miscellaneous expenses	14,000	5,000
TOTAL	1,394,000	120,000

UNITED NATIONS

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANISATION
UNIDO

Job Description
DP/VIE/015/11-02/J13102

Post title Textile testing and Quality Control expert

Duration 2 months
Date required March 1991

Duty Station Hanoi and Ho Chi Minh City (1/2 time in each)

Purpose of Project To strengthen the capabilities of the Textile Research Institute in Hanoi and its Sub-Institute in HCMC of evaluating cotton fibres and yarns and conducting spinning development work, with particular emphasis on short staple cotton. This will enable the two Institutes to advise spinning mills on optimum processing conditions when using such cottons.

Duties The expert will work with counterpart personnel, under the leadership of the CTA, and will be expected to assist the national staff to:

1. check all project instruments.
2. improve testing techniques if required.
3. organise the work of the laboratories.
4. prepare job descriptions for the staff.
5. develop procedures for routine testing and also for testing for research purposes.
6. utilise international calibration cottons to calibrate the laboratories and apply correction factors to their results.
7. evaluate Vietnamese and imported cottons.
8. evaluate yarns produced from Vietnamese and imported cottons.
9. begin to compile experience statistics.
10. establish quality assurance & certification procedures for yarns.

Qualifications: At least 10 years experience in fibre and yarn testing and quality control and certification. Knowledge of the quality standards expected in importing countries.

Language English

Background Information As in Job description for post 11-01.

VIE/86/015 (MAIN)

SUMMARY OF TRIPARTITE REVIEW REPORT

BRING-UP DATE
August 1991

PART A. (To be completed by the UNDP Resident Representative)

1.	<u>Project No</u>	<u>Title</u>	<u>Date of Review</u>
	DP/VIE/86/015	Testing of Textiles and Product Development	13 December 90

2. Agenda of Review (Full agenda attached)

- Updated reports by CTA/NPD
- Operational issues
- Utilization of project inputs equipment
- Budget for remainder of project
- Relevance of project to Government's Development Plan.
- Timing and TOR for Joint Evaluation

3. Conclusion of the review concerning

(a) Follow-up of previous review

All decisions taken at the previous review have been followed up.

(b) Project design

It was found that the project concept remains very relevant to the Government's Development Plan which emphasizes the need to expand the production of consumer goods - especially clothing.

The Vice-Minister of MOLI stated that the project had already made a significant contribution to National Research Programme No 16A.

(c) Status of project outputs

1. Output 1, physical testing, will be produced when the one outstanding instrument is delivered in February 1991 and the final expert mission completed.
2. Output 2, dyeing and finishing facility, has been fully produced.
3. Output 3, product development facility, was delayed because of problems in selecting the most appropriate equipment for processing and testing

silk yarns. However, the equipment has now been ordered for delivery in January and March 1991.

3. Output 4, information services, has been produced.

(d) Status of project objectives

It is expected that the project objectives will be achieved by the middle of 1991.

(e) Problems of implementation

These are fully explained in the CTA's progress report which was accepted as presented. A copy is attached. No major problems are foreseen.

(f) Follow up of the project

This will depend on the outcome of the forthcoming evaluation.

(g) Outputs to be produced before the terminal TPR

All outputs as defined in the Project Document.

(h) Decisions and management actions

1. Continue implementation of the project according to the work plan given in the CTA's report.
2. Both the CTA and the UNIDO Headquarters Representative pointed out that the project equipment had been selected with a view to high-speed, high-volume testing as opposed to only research work. This is in keeping with the planned role of the Sub-Institute as a Testing and Certification Centre for the textile industry. It was agreed that a Government Decree would be necessary to authorize the TRSI to fulfil this role.
3. The TRSI was encouraged to intensify its contacts with, and to promote its services to, the textile industry.
4. The UNIDO Representative strongly recommended that arrangements be made for 2 or 3 staff members of the TRSI to attend the next ITMA (International Textile Machinery Exhibition) in Hannover in September 1991. The delegates should be carefully selected and their respective tasks clearly defined well in advance. Furthermore,

on their return, they should be required to disseminate the information collected widely among their colleagues in the Vietnamese textile industry. The Vice-Minister welcomed this suggestion. Financial provision should be made in the next budget revision.

5. All participants of the TPR agreed that a detailed, comprehensive work programme for the TRSI, designed to ensure full utilization of the facilities provided through the Project should be prepared as a matter of urgency and should receive full Governmental backing.
6. Schedule the Joint Evaluation of the project for April 1991.
7. Schedule the Terminal TPR for December 1991.

In-depth Evaluation needed	PPER available	Comments received before TPR				
		Ex.	Ag.	Govt.	Reg.	Bur.
Yes.	April 1991	Yes				Yes

PART B. (To be completed by the UNDP/HQ Area Office).

Hanoi, 14 December 1990

Prepared by Dr. ROY NIELD, CTA

TERMS OF REFERENCE

JOINT EVALUATION MISSION

of the Government of the Socialist Republic of Vietnam, UNIDO
and UNDP of Project DP/VIE/86/015 Testing of Textile Raw
Materials and Product Development.

(Co-ordinated with a JE for DP/VIE/86/014, Short Staple Cotton)

Revised December 1990

1. Background

1.1 The relevance of the project

The textile industry in Vietnam comprises about 880,000 spindles and 11,000 looms, roughly equally divided between the North and the South, and generally operating at 50% installed capacity. The industry is faced with serious difficulties leading to low productivity and product quality. The raw material base, both as regards fibres and dyestuffs and auxiliaries, is heterogenous - making effective process control difficult. Equipment, for the most part, is outdated, run down and originates from too many sources for effective maintenance and spare-parts supply. The scarcity of capital precludes new investment on a scale that is necessary. Also access to technical information from abroad is inadequate.

Despite these formidable difficulties, the industry had made notable progress during the past few years. Yarn production increased from 31,000 tons in 1981 to 51,000 tons in 1985. In the same period fabric production rose from 116 million to 203 million metres, which is equivalent to 3.4 metres per capita. This is still a very low figure by international standards and the Government plans to increase it to 8 metres per capita by the year 2,000.

To supplement other measures necessary to meet the target of increased availability of good quality textiles for clothing the Government established in 1980, in Ho Chi Minh City, a subsidiary of the Vietnamese Textile Research Institute to serve the textile industry in the South while the main Institute in Hanoi continued to cover the factories located in the North. The mandate given to the Sub-Institute in Ho Chi Minh City was:-

- to test fibre raw materials, dyestuffs and auxiliaries for quality and suitability for the intended end-products.
- to develop specifications for new products in accordance with the requirements of the Ministry of Light Industry and the Union of Textile Enterprises and advise on their manufacturing.

- to carry out quality checks in the factories and assist in quality control in general at all stages of the production process;
- to develop standards for yarns and fabrics;
- to disseminate technical information;
- to develop and adapt technological processes in order to assist the factories in coping with their perennial spare parts shortage.

The Sub-Institute embarked upon these tasks with enthusiasm and, despite being handicapped by limited physical facilities, its services to the industry are already being appreciated. It now collaborates closely with about 40 textile factories in the South, covering all textile processes and fibres from cotton to silk, viscose rayon and polyester. It carries out about 800 yarn and fabric examinations per year, produces specifications for 20 new fabric designs and tests 400 dyestuffs and auxiliaries. In addition, work is being done on developing new size formulas and improved methods of processing natural silk.

When the Project was designed, it was felt that the quality and quantity of the work of the TRSI could be greatly enhanced if the physical facilities were improved and the staff given an opportunity to gain new technical knowledge through first-hand contacts with the rest of the world. Their basic technical training was sound and they would be able to assimilate new knowledge quickly and subsequently adapt and apply it in accordance with the needs of industry. The Sub-Institute thus met all the fundamental pre-requisites for UNDP assistance, and this project was designed to address only priority areas where the need of external assistance was pressing.

Since the start of the Project, the Government of Vietnam has decreed the Sub-Institute shall carry out quality assurance tests on all yarns for export; this will enhance the status of the TRSI in the eyes of the textile industry at home and abroad.

- 1.2 The Project Document was signed on 8/8/88 with UN financial input of USD 881,540 and Government input of 10.6 million dongs Vietnam (in kind).
- 1.3 The development objective of the Project is to increase the availability of good quality textiles for domestic consumption which is in line with the Government's Development Plan for the period 1986-90 which emphasizes the need to expand the production of consumer goods - especially clothing.

1.4 The immediate objective of the Project is to strengthen the capability of the southern subsidiary of the Vietnamese Textile Research Institute in the areas of physical and chemical testing, product development and dissemination of information to enable it to expand and improve its services in these areas to the textile industry in the South.

1.5 The following four outputs were envisaged:-

(1) An operational physical testing laboratory - equipped and staffed (6 persons) to measure such parameters as fibre length, strength and fineness; yarn count, strength, elongation and regularity; and fabric construction, strength and resistance to abrasion. This would enable the Institute to carry out the comprehensive range and number of physical tests required to monitor quality at all stages of production.

(2) An operational dyeing and finishing facility, equipped and staffed (6 persons) to test dye-fastness to light, washing and crocking and to study cloth shrinkage characteristics and the silk-degumming process; thereby enabling the TRSI to offer the industry more effective monitoring and technical services.

(3) A product development facility - equipped and staffed (6 persons) with a sample loom, a knitting machine and doubling and twisting machines for silk threads - capable of developing methods and techniques to improve the quality of silk yarns and fabrics and designing up to 100 cloth specifications per year.

(4) An information section (3 persons) with a small technical library of textbooks and periodicals and access to at least one foreign abstracting service, capable of extracting relevant information and disseminating it to the textile industry in a monthly news letter.

1.6 Reasons to undertake the evaluation

- The evaluation was foreseen in the Project Document.
- As the Project has gone well so far and favourable comments have been made at the TPRs, an extension should be considered.

2. Purpose

The purpose of the evaluation is:-

2.1 to assess the achievement of the Project against the set

objectives and expected outputs and, in the light of this, recommend any further action that might be necessary in order to improve the Project;

- 2.2 to examine the extent to which the results/outputs produced by the Project have contributed to an increase of efficiency of the physical testing laboratory, the dyeing and finishing facility, the product development facility and the information section;
- 2.3 to identify and assess the factors which facilitated the achievement of the Project's objectives as well as any factors which may have impeded fulfillment of them;
- 2.4 to review the actual need, scope and justification for an extension of the Project, taking into consideration the current priorities of the Government's Development Plan.

3. Issues to be covered

In accordance with provisions contained in the UNDP Policies and Procedures Manual (PPM) the Evaluation Mission should be requested to consider the following:-

3.1 Project concept and design

The Evaluation Mission should assess the appropriateness of the original project concept and design in the light of present circumstances.

3.2 Implementation

- relevance, adequacy, quality and timeliness of the planned activities in relation to the Project's objectives and workplan;
- relevance, adequacy, quality and timeliness of the inputs planned both from Government and UNIDO in carrying out project activities and the ability of the Project to utilize the inputs available;
- quality and timeliness of monitoring and backstopping by the Government, UNIDO and UNDP.

3.3 Results

The Evaluation Mission should examine:-

- the achievement of the results/outputs identified in the work plan;
- the effectiveness and efficiency of operation of the physical testing laboratory, the dyeing and finishing

facility, the product development facility and the information section;

- the utilization by and the effect upon the textile industry of the services provided by the TRSI.
- the utilization by the TRSI and the textile industry of the personnel whose capabilities have been enhanced through the various training programmes provided under this Project.

4. Composition

The mission will consist of:-

One representative of the Government of Vietnam;

One representative of UNIDO (Textile Technologist);

One representative of UNDP (Textile Economist/Team Leader)

These representatives should not have been involved directly in the design, appraisal or implementation of the Project.

5. Timetable and Itinerary

The mission will be conducted during a period of 2 weeks in Vietnam, the time being shared between this Project and Project VIE/86/014 in Hanoi.

The UNDP and UNIDO representatives will receive prior briefing at the UNIDO Headquarters where substantive briefing will be provided by the backstopping branch (AGRO) whilst guidance on evaluation methodology and procedural requirements will be provided by the UNIDO Evaluation staff. The UNDP's Resident Representative and the UNIDO Country Director will brief the Mission upon its arrival in Hanoi and assist it during its stay.

While in Vietnam, the Mission will draft a report on its initial findings and recommendations. The Mission will be de-briefed by the Resident Representative of UNDP who will organize a meeting involving senior Government officials to whom the Mission should present its draft report and be ready to discuss its initial findings and recommendations. The report in its final form should be submitted to UNDP (Hanoi), UNDP Headquarters and UNIDO Headquarters (3 copies each). UNDP will be responsible for formal submission of the report to the Government of Vietnam. After completion of the mission, the UNDP and UNIDO representatives will be de-briefed at their respective Headquarters.

The proposed timetable for the mission is as follows:

April 14 Arrive in Hanoi

April 14 to 21 Hanoi (Briefing and Project 014)

April 21 Travel to Ho Chi Minh City

April 21 to 24 HCMC (Project 015)

April 24 Travel to Hanoi

April 24 to 28 Hanoi (Finalizing report and Debriefing)

April 28 Depart from Hanoi.

7. Consultation in the field

The Mission will maintain close liaison with the Resident Representative of UNDP and the UNIDO Country Director as well as with the concerned Government Organizations and the national and international staff of the Project.

Although the Mission should feel free to discuss anything relative to its assignment with the authorities concerned, it is not authorized to make any commitments on behalf of UNDP or UNIDO.