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STRENGTHENING THE COLLEGE OF TEXTILE TECHNOLOGY

DP/BGD/85/162

BANGLADESH

Technical report: Work at the College of Textile Technology
17 October 1992 - 5 April 1993*

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

Based on the work of Frank Eckersley,
Textile Technologist (Yarn Manufacture)

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Vienna

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* Mention of company names and commercial products does not imply the endorsement of UNIDO. This document has not been edited.

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Explanatory notes

The following local industrial abbreviations are used in this report:

BTMC	Bangladesh Textile Mills Corporation	(National Sector
BJMC	Bangladesh Jute Mills Corporation	Mills)
TIDC	Textile Industry Development Centre	
BTMA	Bangladesh Textile Mills Association	
PSC	Public Service Commission	

Abstract

DP/BGD/85/162 - Strengthening of the College of Textile Technology, Dhaka, Bangladesh. The objectives are to help in the teaching of 3rd and 4th years of the BSc. course, assisting existing teaching staff, making industrial visits with students, improving college/industrial relations and assisting the college principal in the planning of short/medium/long-term manpower requirements in industry.

The project duration has been for a 6 months period commencing 17th October 1992 to 5th April 1993. There have been improvements in the college with the installation of new machines and testing equipment and also, the workshop has been rewired. Some recommendations from previous reports have not been adopted including that the college has not been given any degree of autonomy. New members of staff are required and work is required to modify the curriculum.

It is recommended that more equipment is required to improve workshops, laboratories and classrooms and more work to improve workshop and industrial training.

Introduction

This report is written by Frank Eckersley, Textile Technologist (Yarn Manufacture) with a brief to strengthen the Dhaka College of Textile Technology. This includes, helping with the teaching in the third and fourth years of the BSc. course, assisting existing teaching staff, making industrial visits with students, improving college/industrial relations and assisting the college Principal in short/medium and long-term planning (see job description, Annex-I).

A period of six months has been spent working on the project at the College of Textile Technology, Dhaka, Bangladesh, commencing 17th October 1992 and completing the work on 5th April 1993. The

original objectives have not been fully realized because of a number of factors which include:-

i. the job description was originally intended to cover a twelve months period:

ii. it was three months before all three UNIDO specialists were working together at the station, especially to work the modifications to the curriculum:

iii. difficulties with Ministerial bureaucracy, especially with regard to staff promotions and the appointment of new teachers.

Reference is also made to previous reports, namely DP/BGD/82/047 31st October 1985 and 26th July 1986 and the composite draft of 22nd December 1988.

I. WORKSHOPS

A. Short staple (cotton) workshop

The new equipment, shown as follows, had been erected and was in full working order.

One 24 unit Rieter Rotor Spinner

One single delivery Rieter/Ingolstadt Drawframe

One miniature spinning plant consisting of miniature card, single delivery drawframe and an 8 spindle ring frame.

The original specification for the Rotor Spinner was for a 4 unit machine. However, it was stated at the college that a minimum of one section - 12 units per side - was the smallest production machine that could be obtained. The Rieter machine is an extremely good one but very expensive and there are other manufacturers who could supply a good machine at lower cost.

The single delivery drawframe specification had to be changed from the original one which included auto-levelling. The auto-levelling device was very expensive and therefore was excluded.

The specification for the miniature spinning plant was for a new one which was unobtainable. The second hand one installed at the College is in good condition and quite suitable for small scale spinnings at the college. It will prove very useful for experimental purposes. The ring-frame has only one set of rings instead of three different sizes as shown in the original specification.

The electrical re-wiring in the workshop was nearing completion when I arrived in Dhaka in October 1992. This is satisfactory but there are still some electrical problems on some machines. There has been no modernizing or rehabilitation of the old machines. Some are capable of running but they are old and there are many missing parts. None of the drafting systems on drawframes, speed-frames and ring-frames is suitable for producing an acceptable quality of material. There has been no maintenance allowance for the workshops for many years and therefore the machines have suffered gradual deterioration. The only ring-frame (Platts M1) with a top arm spring weighting system does not have any top apron rollers or aprons and therefore the drafting is unsuitable. Some machines are dangerous with missing guards.

The machines in this workshop (apart from the new ones) are **not** typical of those found in Bangladesh textile mills and would be considered obsolete in the industry.

None of the machines is clothed with creel material and electrical faults in the blowing room machines have prevented the production of laps for the card. It is expected that the electrical problems will be overcome and production of laps to clothe the cards and other machines will be possible. If further delays are likely it will be arranged to obtain laps from other sources in order that practical work can be carried out.

Attempts have been made to spin a better yarn on the Platts M1 ring-frame by borrowing parts for the drafting system. Because of differences in machine gauge and other parts, these attempts have been unsuccessful up to now.

The technicians in the yarn manufacturing workshop are keen to help but their technical skills are limited. There is a language difficulty in trying to carry out any training programme with them.

B. Long Staple (jute) Workshop

One new machine has been installed in the jute workshop, namely:-

Jute Spinning Machine 24 spindles

This machine has been installed but there is an electrical fault on the machine which has not been rectified. Apart from this, the other machines in the jute workshop are in good running order and fully clothed.

C. Testing Laboratory

New testing equipment received:-

twist tester
comb sorter
Pressley fibre bundle strength tester
rapid regain indicator

These are installed and in use in the testing laboratory with the exception of the rapid regain indicator which is faulty.

An important part of testing and quality control is the assessment of regularity of mass per unit length. Old fashioned methods have to be adopted at the college because of the lack of a Zellweger, Uster Evenness Tester. This instrument, even an older model, is an essential part of quality control. If more work for industry or research is envisaged at the college, other instruments will be required and it will also be necessary for at least a part of the testing laboratory to be controlled at standard testing laboratory atmospheric conditions.

II. TEACHING PROGRAMME

A. College Year

There is no conformity for starting and finishing dates of each year of the course, as shown in Annex-II. It is difficult for each year of the course to be completed within one academic calendar year and normally takes at least fourteen months. There are a number of reasons for this extended year. The number of weeks for which the class meets is flexible although initially fixed for 36 weeks. This period can be extended by agreement with the teaching staff if the syllabus has not been completely covered in the lectures. This may occur when single day holidays and hartals (general strikes) affect the teaching schedule. During the six months period there have been 21 single days without classes being held of which 5 days were caused by hartals. These are in addition to those shown on the calendar in Annex-II.

Following the completion of classes, there is a 'preparation' time of about two months before the start of examinations. The time to complete all examinations tends to be extended because of the length of time which has to be allowed between each examination:-

Number of Examination Marks	Days between examination
100	5
75	4
50	3

Examinations may also be delayed due to student sickness. There is no semester nor term structure nor fixed holidays for college staff with the present timetable. Disruption is also caused to other classes when examinations are held due to members of staff being required to be present in the examination room.

B. College staff

From the 13 technical staff of the college, three have left and are on 'unauthorized leave' overseas, another lecturer is taking an MSc. course at Leeds University until June 1993, one has retired and at least one other lecturer is due to retire in 1993.

There are three lecturers in yarn manufacture working at the college:-

Dr. D.N.C. Sutradhur BSc.(Text.C.U.India) PGD (yarn manuf. Leeds)	Associate Professor	Short staple spinning and quality control
Mr. A.B.M. Abul Kassem Dip.(Jute Tech. Dundee) PGD (Text. Leeds)	Associate Professor	Long staple spinning (jute) carpet manufacture and specialized textile products
Mr. M.A. Kashem BSc. (Text. D.U.) PGD. (Clothing, Leeds) MSc. (Text. Leeds)	Lecturer	Long staple spinning (jute) and clothing technology

Academically the specialisms are related to processes, viz. yarn manufacture, cloth manufacture and dyeing and wet processes but the lecturers are still fibre based.

Dr. Sutradhur is the head and the only lecturer of short staple yarn manufacture. Two of the three lecturers unofficially overseas taught short staple spinning. Mr. Abul Kassem is head of long staple (jute) yarn manufacturing. Mr. Kashem also teaches long staple (jute) yarn manufacturing but he and Mr. Kassem also spend about one third of their teaching hours lecturing on clothing technology, carpets and other fabrics. All three members of staff as well as two missing lecturers have been on fellowships to UK.

Dr. Sutradhur and Mr. Kashem are also candidates for promotion. This is a long, drawn out procedure and both of them have been waiting for over one year. The requirements for promotion varies with the grade of lecture and are shown as follows:

Grade	Requirements
Lecturer	BSc. First class
Assistant Professor	50% of requirements 3 years teaching minimum 50% P.S.C. 3 years BSc., 2 years MSc.
Associate Professor	66% - 6 years teaching as Asstt. Professor 33% - P.S.C. 9 years teaching experience + PhD
Professor	66% - 3 years teaching as Assoc.Professor 33% - P.S.C. 12 years teaching + PhD

Research work and publication are not essential for any grade and not mentioned except for assistant Professor but not conditional.

The college lecturers awaiting promotion are now at the last stages and awaiting the signatures of the Prime Minister and President.

C. Support to local staff

Regular weekly meetings were arranged with the yarn manufacturing group of lecturers. The meetings were intended to help in the preparation of class notes and discussing contents of the present college syllabuses and those prepared at Bolton. Copies of the UNIDO (Bolton) expanded syllabuses for fibres, yarn manufacture, testing and quality control were photocopied to be used for discussions and modification. Problems involving workshop practice have been discussed and preparation of a bank of suitable practical experiments has been started for both yarn manufacture and quality control.

This section of the job description has not been as fully covered as would be desired. Unfortunately, the meetings have not been held as frequently as was first envisaged. This is due to the time devoted to college duties and meetings in addition to teaching by the small number of lecturers in the yarn manufacturing department.

Requests have been made through the college and also UNIDO Dhaka to expedite the engagement of new teachers but without success. Assistance to new teachers would be more effective by being given help and guidance by the consultants during their first year of teaching. It would result in strengthening and producing greater long term support to the college after the consultants have left. This chance is being lost.

The present difficulty in engaging new staff is that the pending promotions have to be confirmed before their present positions become vacant. Also, the two persons who have left unofficially cannot be replaced.

D. Teaching

The teaching staff at the college and also the principal have been greatly overworked with excess numbers of teaching hours. This situation arose with teachers on fellowships in the UK exacerbated by staff shortages at the college. With this ongoing emergency situation, the arrival of two consultants in October 1992 and the third in January 1993 was greeted with relief at the college. The result has been that the objective of teaching in the job description (Annex-I) has been fully covered.

Initially, yarn manufacturing, short staple and long staple theory classes were taught in the fourth year (1989-90 session) until the completion of the course in December 1992. Third year yarn manufacturing classes were also taught in short staple and long staple processing, firstly up to the end of the course on 23rd December but then the classes were extended until 4th February 1993.

A new fourth year (1990-91 session) commenced 15th December and a number of classes have been taken. These are yarn manufacturing short staple for both theory and practical and quality control, also for theory and practice. In addition, with the completion of the third year course, I was given second year classes in yarn manufacturing.

1. Classroom teaching

Many of the classrooms are large and capable of holding 60 or more students. There are also many more rooms than are necessary for one course in textile technology. There are sufficient rooms for expansion of numbers of classes or courses should this be considered in the future. There is scope for improving standards of cleanliness and maintenance in the classroom blocks. A black painted section of the wall in each classroom is a substitute for blackboards. Teaching is mostly 'chalk and talk' and teaching aids are not normally used.

There is one overhead projector, one slide projector and two large screens. There are no facilities for making OHP transparencies. There is one photocopying machine with a charge of 1 taka (2.5 US cents) to cover costs.

The use of visual aids has been a neglected part of the project to strengthen the college. Better visual aid facilities with software back up will enable class work to be more effective as well as interesting.

When I commenced class teaching, there was some communication problem 'until the spoken English language could be understood by class and tutor'. The technical level in yarn manufacturing of the students in the third year is low and teaching of basic principles was necessary. Many students are keen to learn, some are lethargic and others do not attend classes regularly, especially for the first class of the day at 08:00 a.m.

2. Workshop training

The practical training carried out earlier in the review period with 3rd and 4th year students was towards the end of their course and was confined to ring spinning. This was not satisfactory because too many students (20 plus) were working on the one ringframe only. As is usual with a large group; of necessity a few carry out the work whilst others do very little. With the later 4th year (session 1990-91) group (15 students) it was expected that the blowroom would be able to produce laps to enable other machines to be used. This did not occur and other experiments had to be devised including processing samples on the miniature spinning plant.

3. Testing laboratory

Two classes per week of fourth year students were taken for practical training. Small groups of each class carried out a series of experiments which were set so that most of the testing instruments were in use. The results of comparative tests were

designed to emphasize some aspects in the theory syllabus. These classes were highly successful and popular with the students. A bank of experimental work is being produced.

The technician in the laboratory is keen and helpful and fully capable of carrying out tests on all instruments but his technical knowledge is limited.

III. ADJUSTING AND REFINING CURRICULA

No part of the UNIDO proposed curricula has been adopted and only general comments have been made at the college. It has been suggested that the levels of the technology subjects in the proposed scheme are too low although some parts of the engineering curriculum were better than the present one.

The present curricula is a modification of an earlier scheme and was introduced in 1990 to allow the three specialities issues to be process based. i.e. yarn manufacturing technology, fabric manufacturing technology and textile wet processing technology.

The present scheme is not satisfactory: there is a lot of duplication of subject matter from one year to another. Parts of some syllabuses require modernizing and some of the terms used are unclear.

Professor El-Saved Mohamed El-Helw, Textile Technologist (cloth manufacturing) has prepared the basis of a modified curricula plan based on the UNIDO proposed scheme as well as relating to the plan of the present curricula. Comments by the principal and college staff as well those from management in the industry have been taken into consideration.

The three UNIDO specialists have prepared the curricula plan and a draft (see Annex-III) has been submitted to the principal, Dr. Mustafizur Rahman and his senior staff for discussion. Continuous assessment marks and final examination marks are shown in a similar manner to the UNIDO proposals and in addition indicating the number of hours per week required for the teaching of each subject. The proportions of technology, science and engineering have been carefully considered.

The syllabus contents of the UNIDO curricula are in the process of being modified in anticipation of a general agreement for a new curricula plan.

IV. COLLEGE/INDUSTRIAL CONTACTS

There is a very good relationship between the college and some factories in the textile industry. This is due to the large number of textile graduates working in the industry. Since the BSc. course was introduced there have been between 500 and 600 persons graduating since 1981. There are also many diploma graduates in industry from earlier years, some of them having risen to high positions in the industry. The principal of the college, Dr. Mustafizur Rahman is very highly thought of by graduates in industry especially the ones he has taught in the specialism of dyeing and wet processing.

Two industrial visits have been made with 3rd year students, the small number was due to the bus being broken down. One visit was made to TIDC and the other to Padma Textiles Mills Ltd., both of which have been re-visited with the principal and the other consultants.

TIDC was established with UNIDO assistance in the period 1979-84 and is still part of the national sector of BTMC. The probable privatization of BTMC is expected to allow TIDC to become a national training and development centre for the textile industry. There is a clear case for co-operation between the college and TIDC. Most of the staff are textile college graduates and some have taken higher degrees in the UK. TIDC is carrying out an interesting experiment with an intensive three months training course in textiles for ten mechanical engineering graduates to work at Padma Textile Mills.

The Padma spinning mill probably employs more graduates of the textile college than any other factory as shown in Annex-IV. Some of the graduates of textiles and engineering are intended to work in other textile factories being developed. The mill is producing export quality yarn and is part of Beximco, a large conglomerate company. A visit was made to the head office where future company developments and improvements in industrial/college relations were discussed with the chairman and personnel director of Beximco.

All other visits were made with the principal and other consultants. A meeting was held at the offices of BTMA with the chairman of the organization. BTMA represents over 50 factories in the private sector, mostly spinning mills but also some in weaving, dyeing and finishing. Although the college was criticized as indicated in Annex-IV, a request for help was received from BTMA shortly after our visit regarding expected waste losses after spinning. A further meeting was held with the Secretary of BTMA to discuss the problem which is related to the importation of yarns. The only other spinning mill visited was Prime Textile Spinning Mill where a large number of graduates are employed. This larger number than is necessary for one mill is with a view to having an nucleus of skilled management/supervisions for future development.

There was another quick response to a visit to BTMC Head Office. A request was made to the college for advice on roller and saw ginning and the college was able to assist in this matter. Annex-IV lists all visits made, number of graduates employed and management comments about college graduates and future developments.

In addition to those listed, visits were made to British Council as indicated in Chapter-VI. Three days were spent at the Bangladesh Standards and Testing Institution early in December 1992 attending a workshop on "Objective Oriented Project Planning". It was jointly organized by the Government of Bangladesh and UNIDO and the present project BGD/85/162 was used as an example. Relative to the 'OOPP' workshop above, a visit was made to TIDC on 1st April by the three consultants for discussions with the Principal, Dr. Aftabuddin Hossain Chowdhury. These were to assess the actual needs for the strengthening of TIDC. All the points in Annex-V of PPD 234 25/1/93 were discussed and the Principal supplied written information about some items. Some of the points have been covered in proposals which have been submitted to and have been approved in principle by the Bangladesh Government.

V. ASSESSMENT OF SHORT/MEDIUM/LONG-TERM MANPOWER REQUIREMENTS

As previously stated there has been approximately 500/600 graduates from the BSc. course at the college since 1981. The number of students graduating is about 50 at the end of the fourth year of the course. The average number of students graduating per year is less than this because the full four year course may take six or seven years to complete. The fourth year students taking their final examination in April/May 1993 commenced their studies in first year in 1986.

A. Short-term planning

There is a self-regulating mechanism by the students themselves for each of the three specialisms in the fourth year of the course. Although the total number of students cannot be changed for the final year, each student opts for the specialism of his/her choice. The decision may be affected by the students' ability in a particular area, e.g. chemistry, but is also affected by job prospects. It is clear to the students at the end of third year studies, which specialist area offer the best prospects.

B. Medium/Long-term planning

The medium and long-term planning requirements of graduates for the textile industry is particularly uncertain at the present time. In the public sectors of the industry, BTMC and BJMC mills face an uncertain future because of pending privatization. Workers in both organizations are fiercely opposed to privatization because of possible mill closures and job losses and disruptions in the

mills are causing greater financial problems. Neither at BTMC nor BJMC would anyone estimate future requirements. Only TIDC (part of BTMC) is optimistic about their future as a national training centre but could not estimate future requirements.

There is more optimism in the private sector of short staple processing and it is probable that an increasing number of graduates will be required. Some mills are being built and others are in the planning stages. The actual increase in numbers required cannot be estimated at present and there is uncertainty regarding Government policy especially in backward linkages in the industry. At present, the garment industry which has mushroomed during the past ten years or so is using more than 90% imported finished material.

The garment industry is also taking a few graduates in textile technology particularly for the inspection and quality control of the fabric.

Although only two spinning mills have been visited in the Dhaka area, the general opinion is that the college should have a modest increase in numbers entering the first year of the course. Additionally, if the length of the course could be reduced to four years this would give a temporary increase in the number of graduates.

VI. LIBRARY

The library is well stocked with books but there are few up-to-date books on the shelves. Some books were brought from UK for the library and funded by UNIDO. These are listed in Annex-V.

The supply of textile magazines over an extended period would be helpful but there has been insufficient funds for these to be obtained on a regular basis. The quarterly journals of the Textile Institute for 1992 were ordered in UK and funded by UNIDO but no others have been supplied.

A visit was made to British Council in Dhaka in an attempt to obtain a book grant for the college library. These grants have been discontinued but as a result of the visit, an offer of 'withdrawn from shelf' books was made. They were all non-textile books but a useful 120 books were obtained on chemistry, physics, mathematics, statistics and teacher training. At present, no textile books are stocked at British Council but a request has been made to them to consider starting a textile section at the library.

Funding of a library for books and magazines on a continuous basis is essential for the BSc. course in textile technology at the college for both staff and students.

Draft Recommendations

The recommendations made in previous reports and where no action has been taken should be reconsidered. The main one is that more autonomy should be given to the college of Textile Technology or that the college should be assimilated into the University of Dhaka. Many of the problems which exist at the college are related to the lack of progress with this recommendation.

Other recommendations for action to strengthen the College of Textile Technology are as follows:

1. The urgent appointment of new teachers. It is more important to leave a legacy of trained teachers than the teaching of students by consultants;

2. Additional equipment and accessories are required in the workshop to bring it to a suitable standard. Also required is the rehabilitation/modernization of some machines. The minimum requirements are modern drafting systems for both speedframe and ring-frame. Essential accessories include, tachometer for measuring spindle speeds, stroboscope and sling hygrometer;

3. It is necessary for the Ministry of Education to budget for maintenance of machines, equipment and consumable items such as processing material. A regular allowance is also required for purchase of books and technical magazines for the library;

4. The Ministry of Education is also recommended to improve the maintenance of the building, in particular, replacing rotten window frames, glazing and painting; also to provide additional cleaning resources;

5. The setting up of a visual aids section to help improve teaching methods. This should also include the supply of teaching aids and the upgrading of the classrooms;

6. The college authorities, staff and students should have a plan and self discipline to coordinate the start and finish of each year of the course. A target should be set for the completion resulting in a normal academic year and it could be accomplished within two years. Some of the problems at the college originate in the absence of a normal academic year;

7. In view of comments from the textile industry, a modest increase of 10 students should be considered for the next intake into the college;

8. The agreement for a new curriculum should be targeted to commence when the next intake of first year students is due;

9. The establishment of the number of teaching hours for each grade of lecturer;

10. Although it is outside the scope of the present project, greater provision is required for the needs of the garment industry. During the last decade, the garment industry has been the fastest growing sector in textiles and it is likely to be moving into a new phase which depends less on foreign input. Although the garment industry employs a few graduates of the college of Textile Technology, the situation cannot be considered wholly satisfactory.

ANNEX I.

UNIDO

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANISATION
PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH

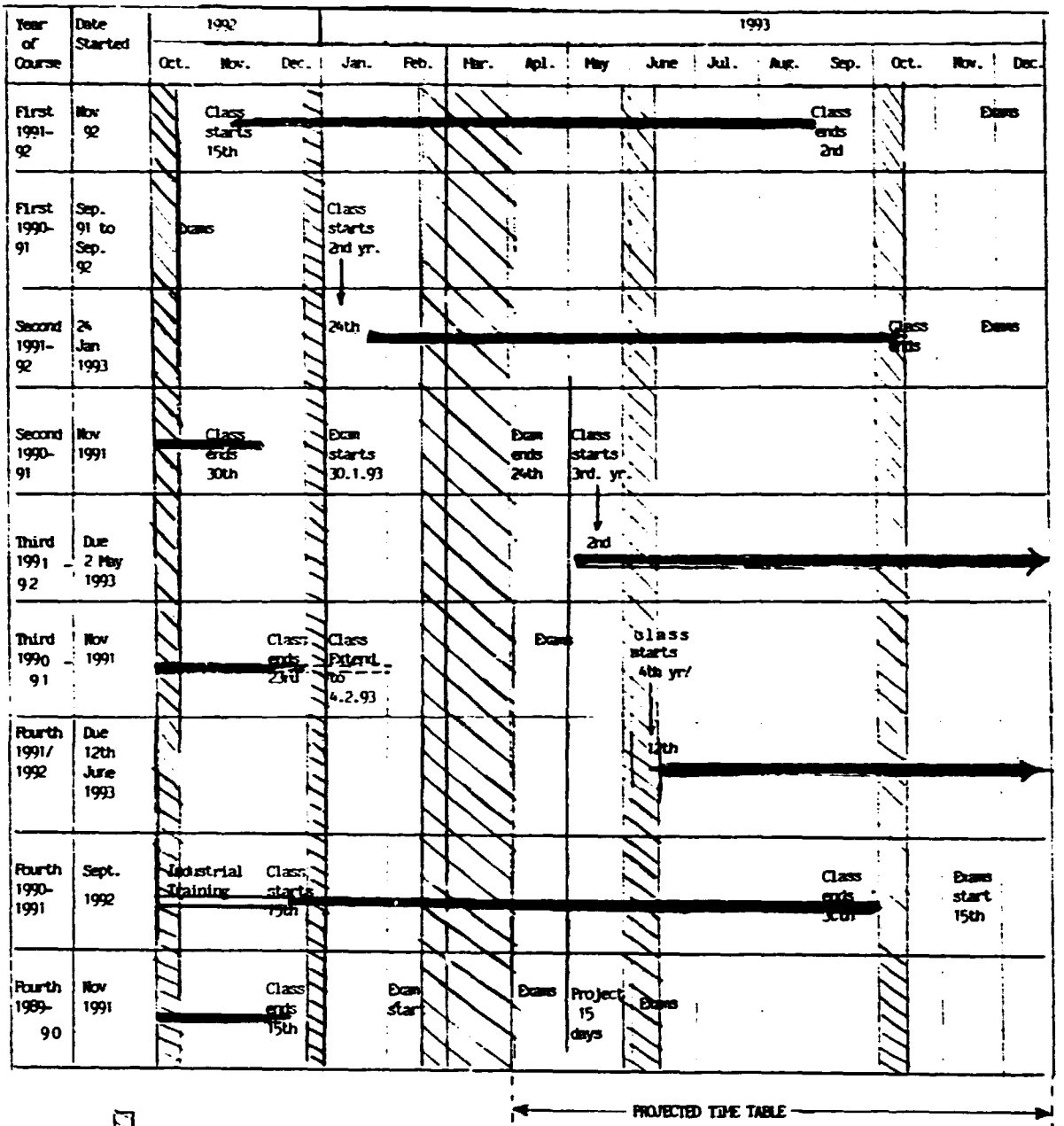
JOB DESCRIPTION

DP/BGD/85/162/11-01/J13102

Post title	Textile technologist (yarn manufacturing)
Duration	6 months
Date required	
Duty station	Dhaka
Purpose of project	Strengthening of the Bangladesh College of Textile Technology.
Duties	Attached to the Bangladesh College of Textile Technology and under the general supervision of the National Project Director, the Principal of the College, the expert will participate in the teaching of 3rd and 4th year students in yarn manufacturing technology. This will include adjusting and refining the new curriculum developed during the preparatory phase of this project, supporting and guiding the local teaching staff designated to him as counterparts to improve their teaching skills and technical knowledge and, in particular, promoting active College/industry contacts through frequent factory visits with the students and by linking course assignments with real factory situations to the extent possible. He will also assist the Principal in assessing the short, medium and long-term man-power requirements of the textile and jute industry in the yarn production sub-sector.
Qualifications	Degree in textile technology. A minimum of five years of industrial experience and 3 - 4 years of teaching experience.
Language	English.

COLLEGE CALENDAR

ANNEX-II



STUDENT HOLIDAYS:

Oct.	2 weeks
Dec.	1 week
Ramadan + Eid el Fitr	6 weeks
Eid el Hazha	2 weeks
Single day holidays/ hartels (estimated)	2 weeks
	13 weeks

1st YEAR: B.Sc, IN TEXTILE TECHNOLOGY

COURSE	HOURS PER WEEK			MARKS			HOURS FOR FINAL EXAMINATION
	LECTURES	TRAINING	TOTAL	CONTINUOUS ASSESSMENT	FINAL WRITTEN EXAMINATION	TOTAL	
Mathematics	3	1	4	40	60	100	3
Physics	3	2	5	50	75	125	3
Chemistry	3	2	5	50	75	125	3
Polymer Science	2		2	20	30	50	2.5
Mechanics	3	1	4	40	60	100	3
Machine Drawing		3	3	30	45	75	2.5
Engineering Materials	2	2	4	40	60	100	3
Computer Science	2	3	5	50	75	125	3
Textile Raw Materials I	2		2	20	30	50	1
English Language	2		2	20	30	50	1
TOTALS	22	14	36	360	540	900	26

2nd YEAR: B.Sc, IN TEXTILE TECHNOLOGY

COURSE	HOURS PER WEEK			MARKS			HOURS FOR FINAL EXAMINATION
	LECTURES	TRAINING	TOTAL	CONTINUOUS ASSESSMENT	FINAL WRITTEN EXAMINATION	TOTAL	
Theory & Design of Machinery	3	2	5	50	75	125	3
Statistics I	2	1	3	30	45	75	2.5
Electrical Engineering	3	1	4	40	60	100	3
Mechanical Engineering (Hydraulic, Pneumatics & Thermo-dynamics)	3	1	4	40	60	100	3
Textile Fibre Physics & Testing	3	1	4	40	60	100	3
Fibre Analysis		1	1	25		25	Practical exam.
Yarn Manufacturing Technology I	2	1	3	30	45	75	2.5
Fabric Manufacturing Technology I	2	1	3	30	45	75	2.5
Wet Processing I	2	2	4	40	60	100	3
Textile Chemistry (dyestuff & Auxiliaries)	2	1	3	30	45	75	2.5
Textile Raw Materials II (chemical fibres)	2		2	20	30	50	1
TOTALS	24	12	36	375	525	900	26

3rd YEAR: B.Sc, IN TEXTILE TECHNOLOGY

COURSE	HOURS PER WEEK			MARKS			HOURS FOR FINAL EXAMINATION
	LECTURES	TRAINING	TOTAL	CONTINUOUS ASSESSMENT	FINAL WRITTEN EXAMINATION	TOTAL	
Yarn Manufacturing Technology II	4	2	6	60	90	150	2 x 2
Fabric Manufacturing Technology II	4	2	6	60	90	150	2 x 2
Wet Processing Technology II (dyeing & finishing)	4	2	6	60	90	150	2 x 2
Textile Physics & Testing (yarn & fabric Physics)	3	2	5	50	75	125	3
Textile Statistics II & Quality Control	3	2	5	50	75	125	3
Weaving Preparation	1	1	2	20	30	50	2
Fabric Structure & Design (woven & knitted structures	3	1	4	40	60	100	3
Textile Engineering Services	1	1	2	20	30	50	2
TOTALS	23	13	36	360	540	900	25

4TH YEAR B.Sc. IN TEXTILE TECHNOLOGY

ADVANCED YARN MANUFACTURING

COURSE	HOURS PER WEEK			MARKS				HOURS FOR FINAL EXAMINATION
	LECTURES	TRAINING	TOTAL	CONTINUOUS ASSESSMENT	ORAL & PRACTICAL EXAMINATION	FINAL WRITTEN EXAMINATION	TOTAL	
Yarn Manufacturing III	6	4	10	50	50	150	250	2 x 2
Special Yarn Manufacturing	2	1	3	30		45	75	1.5
Spinning Mill Organisation	2	1	3	30		45	75	1.5
Industrial Management & Administration	2		2	20		30	50	1
Textile Application of Computer Science	3	2	5	50		75	125	2.5
Marketing & Economics of Textile Mills	3	1	4	40		60	100	2
Machine Technology (Maintenance & repairs)	2	1	3	30		45	75	1.5
Clothing Technology	3	1	4	40		60	100	2
B.Sc. Spinning Project		2	2 *				350	
TOTALS	23	13	36	290	50	510	1200	16

* The 2 hours per week are for Supervision of the Project, which preferably takes place in Industry.
The Supervisor should make at least 3 visits to each student during the Project period of 2 months between 3rd and 4th years.

4TH YEAR B.Sc. IN TEXTILE TECHNOLOGY

ADVANCED FABRIC MANUFACTURING.

COURSE	HOURS PER WEEK			MARKS				HOURS FOR FINAL EXAMINATION
	LECTURES	TRAINING	TOTAL	CONTINUOUS ASSESSMENT	ORAL & PRACTICAL EXAMINATION	FINAL WRITTEN EXAMINATION	TOTAL	
Fabric Manufacturing Technology III	6	4	10	50	50	150	250	2 x 2
Advanced Fabric Structure	2	1	1	30		45	75	1.5
Weaving Mill Organisation	2	1	3	30		45	75	1.5
Industrial Management & Administration	2		2	20		30	50	1
Textile Application of Computer Science	3	2	5	50		75	125	2.5
Marketing & Economics of Textile Mills	3	1	4	40		60	100	2
Machine Technology (Maintenance & Repairs)	2	1	3	30		45	75	1.5
Clothing Technology	3	1	4	40		60	100	2
B.Sc. Fabric Manufacturing Project		2	2 *				350	
TOTALS	23	13	36	290	50	510	1200	16

* The 2 hours per week are for Supervision of the Project, which preferably takes place in Industry.
The Supervisor should make at least 3 visits to each student during the Project period of 2 months between 3rd and 4th years.

4TH YEAR B.Sc. IN TEXTILE TECHNOLOGY

ADVANCED WET PROCESSING TECHNOLOGY.

COURSE	HOURS PER WEEK			MARKS				HOURS FOR FINAL EXAMINATION
	LECTURES	TRAINING	TOTAL	CONTINUOUS ASSESSMENT	ORAL & PRACTICAL EXAMINATION	FINAL WRITTEN EXAMINATION	TOTAL	
Wet Processing Technology III	6	4	10	50	50	150	250	2 x 2
Dyeing theories & Colour Matching	2	1	3	30		45	75	1.5
Dyeing & Finishing Mill Organisation	2	1	3	30		45	75	1.5
Industrial Management & Administration	2		2	20		30	50	1
Textile Application of Computer Science	3	2	5	50		75	125	2.5
Marketing & Economics of Textile Mills	3	1	4	40		60	100	2
Machine Technology (Maintenance & Repairs)	2	1	3	30		45	75	1.5
Clothing Technology	3	1	4	40		60	100	2
B.Sc. Wet Processing Project		2	2 *				350	
TOTALS	23	13	36	290	50	510	1200	16

* The 2 hours per week are for Supervision of the Project, which preferably takes place in Industry.
The Supervisor should make at least 3 visits to each student during the Project period of 2 months between 3rd and 4th years.

VISITS TO INDUSTRY

Dates Visited	Organisations & Business	Persons seen & Positions	Number of Graduates Employed and Comments		
			Number	College/College Graduates	Planning Requirements
1992/93 Nov 23 Mar 1	U.C.E.P. * Technician Training	R. Flaherty Consultant	3	Graduates poor in workshop practice U.C.E.P. used as 'stepping stone' to industry.	Similar to present
Dec 30	Dewan Textiles Bleaching & Dyeing	Amirul Huque Manager	4		
Dec 30	Sun Textiles Dyeing, Printing & Finishing	M.A. Karim Manager	5	More emphasise on workshop practice/ mill training, also computers & engineering	More graduates will be required, number not known.
Dec 31	Sidex Ltd. Bleaching & Dyeing	Sirajul Islam Manager	12		More graduates required when spinning plant is ready.
Jan 12	B.T.M.C. Spinning, weaving Finishing.	M. Akhtaruzzaman Director of Operations	150		No planning, future uncertain
Jan 12 Jan 30	B.T.M.C. Quality Control.	Dr. Anwar Hassan Noor . Director	3	Should be more on management, also stronger relations with College are desired.	No plans, uncertainty about future of B.T.M.C.
Jan 19 Mar 10	T.I.D.C. Development & Training Centre	Dr. Uddin Hossain Chowdhury, Principal M. Mohiuddin Head of Q.C.	7	Workshop practice considered poor. Management, especially communications should be improved.	If T.I.D.C. becomes national centre, more graduates required
Jan 28 Mar 14	Padma Textile Mills. Spinning	Shah Alam G.M. Abul Hashem Manager.	35	More engineering and prectical work desired.	Graduates required for future developments.
Feb 25	B.J.M.C. Jute Industry	A.S.M. Shaheed Director of Research & Q.C.	few	No graduates employed recently	Uncertain future for B.J.M.C.
Mar 5	Prime Textile Spinning Mills	Mahbub E Rabbani G.M.	22	Industrial training should be six months and include project.	More graduates required upon expansion.

* Underprivileged childrens' Education Programme.

Dates Visited	Organisations & Business	Persons seen & Positions	Number of Graduates Employed & Comments		
			Number	College/College Graduates	Planning Requirements
Mar 7	Opex Garments Ltd Making up Garments	Lt. Col. Mozibul Islam Khan (retd.) Executive Director	6	Graduates required with knowledge of clothing manufacture.	More expansion shortly and more graduates required.
Mar 7	Friends International. Knitting, Printing, Dyeing & Making up.	Ashrof Uzzman Technologist	2		Some expansion possible but no plans made.
Mar 9	Syntex Printing & Finishing Mills	Md. Jiaul Islam G.M.	4	Workshop practice and industrial training very important.	Further expansion planned but graduate numbers not known.
Mar 9	Meghna Mills Ltd Composite Mill of B.T.M.C. Dyeing & Finishing only.		3		Depends upon government policy re B.T.M.C.
Mar 10	B.T.M.A. Employers' Assoc.	Wali ul Islam Chairman	-	Very critical of College graduates. More industrial training required, at least four months including project.	A probable increase in graduate numbers in private sector but no forward plans.
Mar 14	BEXIMCO Conglomerate, owns Padma Mills	A.S.F. Rahman Chairman S.M. Kamal Director Human Res.	-	Course should include preventive and predictive maintenance, management should include forward planning and communications.	See Padma Textile Mills.
Mar 21	Rahim Textile Mills Ltd. Weaving, Dyeing & Finishing.	A.S.M. Sayef Ullah G.M. Md. Joymul Abedin Prod. Man.	2	Graduates should be skilled in theory and practice.	No plans.
Mar 21	Jamuna Knitting & Dyeing Ltd. Conglomerate Knitting, Dyeing, Finishing & Making up	Habib Rahman G.M. (Garments) M.Q. Zaman G.M. (Knitting, Dyeing)	- 5	College should consider more on garment manufacture.	New spinning plant planned & more graduates required.

TEXTILE BOOKS

One copy each of the following list of textile books has been brought from the United Kingdom for the library at the College of Textile Technology, Dhaka.

Fibre & Yarn Quality in Jute Spinning - Dr. H.P. Stout
1988 1 870812 09 3

Identification of Textile Materials 7th Edn. - Perry and Farnfield
1985 0900739 14 2

Managing Technological Change
1980 0900739 42 8

Production & Properties of Staple Fibre Yarns made by Recently Developed Techniques. L. Hunter. 1978

Production of Textured Yarns by the False-Twist Technique.
D.K. Wilson & T. Kollu 1991 1 870812 33 6

Rotor Spinning - C.A. Lawrence & K.Z. Chen.
1984 0 900739 68 1

Strength and Elongation Testing of Single and Ply Yarns R. Furter
1985 0 900739 78 9

In addition to the above, the four quarterly issues of the Journal of the Textile Institute for 1992 were ordered and have been delivered to the College.

Substantive officer's comments

The first six months of a 12-month assignment cover the very first impressions the expert gained as a teacher at the College of Textile Technology.

The expert is developing a new curricula for B.Sc. students in the field of spinning. These curricula will cover the period from enrolment to the final (fourth) year of studies.

During these six months the expert assisted the existing teaching staff in the lecturing of students in the 3rd and 4th year of their B.Sc. studies and by making industrial factory visits with the students and college staff to promote and strengthen the link between the College and the industry. Improvements will probably be visible at the end of the second six-month assignment.

It became apparent that the appointment of additional well qualified and experienced lecturers is required to improve the quality of studies. Furthermore, stronger attention to the attendance respectively absence of the teaching staff should be given.