



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

30601
6

E4838



UNITED NATIONS INDUSTRIAL
DEVELOPMENT ORGANIZATION

Distr.
RESTRICTED

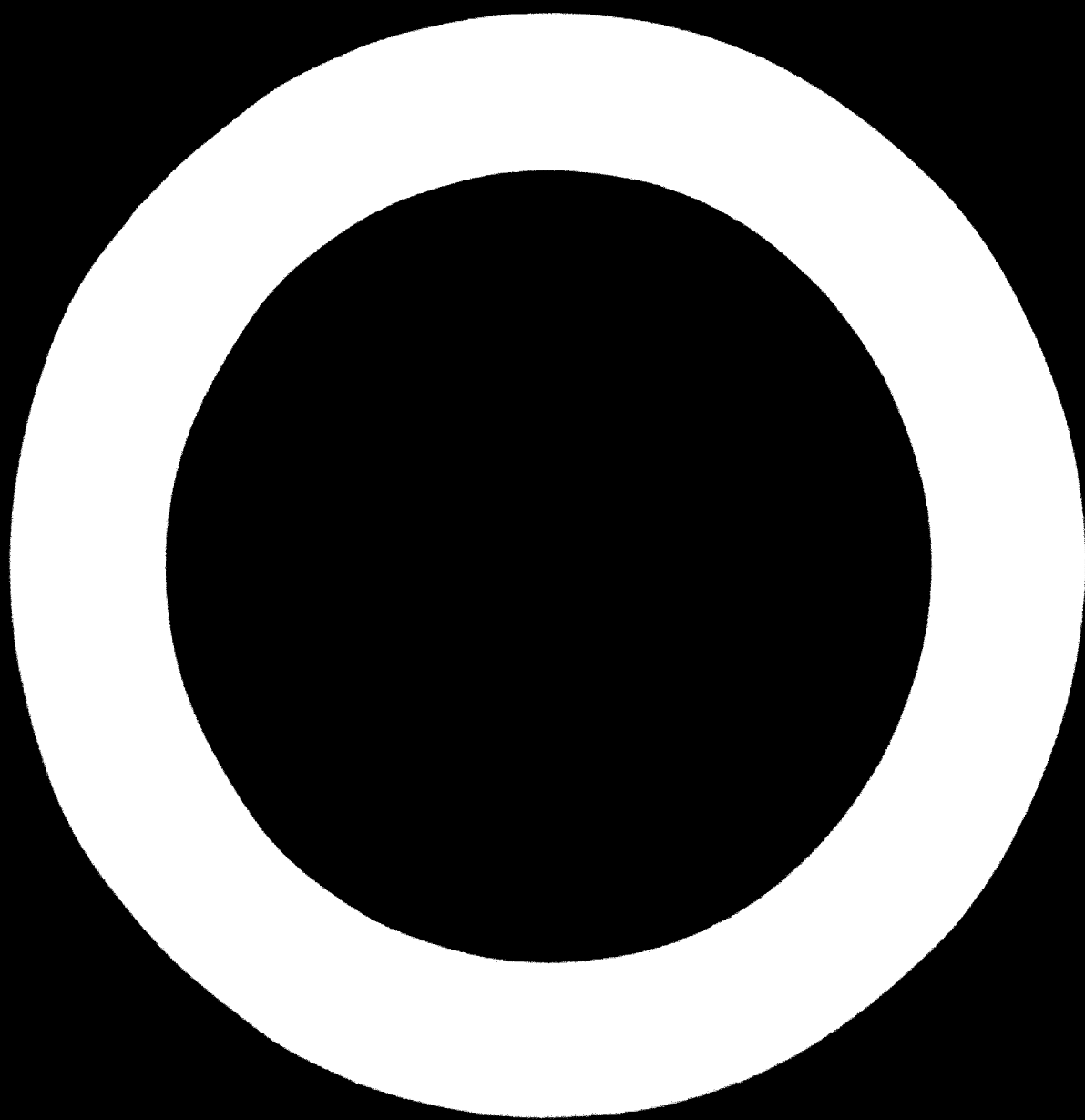
UNIDO/TCD.209
3 July 1973

Originals: ENGLISH

COTTON TEXTILE INDUSTRY RESEARCH
AND
DEVELOPMENT CENTRE

id.73-4718





UNITED NATIONS DEVELOPMENT PROGRAMME
Project of the Government of
PAKISTAN

Title COTTON TEXTILE INDUSTRY RESEARCH AND DEVELOPMENT CENTRE

Number PAK/71/562/1201/37/31/3200 Duration Three (3) years and seven (7) months

Sector Industry

Subsector Industrial Services and Institutions

Government Cooperating Agency Ministry of Industries Government of Pakistan Executing Agency United Nations Development Programme

Date of Request 2nd April, 1970 Starting Date 1st January, 1971.

Government Contribution Rs.3,943,482 UNDP Contribution US\$ 710,000.-

APPROVED :

<u>S.S. Iqbal Hossain</u> on behalf of Government (signature)	<u>Secretary, MAD</u> designation /title/	<u>2 June 1972</u> date
<u>K. Jansson</u> on behalf of Executing Agency (signature)	<u>Resident Representative</u> designation /title/	<u>2 June 1972</u> date
<u>K. JALSSON</u> on behalf of U N D P (signature)	<u>Resident Representative</u> designation /title/	<u>2 June 1972</u> date

TABLE OF CONTENTS

	<u>Page</u>
I. <u>BACKGROUND AND SUPPORTING INFORMATION</u>	1-10
A. Justification of the Project	1-2
B. Institutional Frame-Work	2-9
C. Provisions for Government follow-up	9
D. Other related activities	9-10
II. <u>OBJECTIVES OF THE PROJECT</u>	10-11
Long Range Objectives	10-
Immediate Objectives	10-11
III. <u>WORK PLAN</u>	11-21
A. Project Activities	12-16
B. Description of UNDP Inputs	16-20
C. Description of Government Inputs	21
<u>BUDGET COVERING GOVERNMENT CONTRI BTION</u>	22
<u>PROJECT BUDGET COVERING UNDP CONTRIBUTION</u>	23-24
<u>ANNEXURE - I : ORGANIZATION OF THE PROJECT</u> ..	25-30

I. BACKGROUND AND SUPPORTING INFORMATION

A. Justification of the Project:

1. Pakistan is a major producer of raw cotton, 4,000,000 bales are produced (over 700,000 tons) in 1972. The cotton textile industry, which is in the private sector has grown from a shall beginning after independence to a position of about 150 factories with 3 million spindles, and 30,000 looms, producing 670 million pounds of yarn and 790 million yards of cloth in 1970-71. Of this volume, 230 million pounds of yarn worth Rupees 357 million and 480 million yards of cloth worth Rupees 311 million, were exported. It is proposed to further expand the industry in the next plan period.

Investment in the industry totals about \$ 425 million, and it employs 350,000 workers. The rapid expansion of the cotton textile industry, however, outpaced technical efficiency and productivity.

2. In spite of the heavy protective duties and the overall favourable climate which this industry has enjoyed for long, productivity has not been keeping pace with its profitability. Productivity in Pakistan is lower as compared to the productivity of textile industry abroad.

The low output per man hour is another indicator of the industry's general backwardness.

3. The appraisal reports and analyses made by international organisations, examined and analysed the factors that operate as a drag on efficiency and productivity of the spinning, weaving and dyeing and finishing mills. The productivity of the spinning mills assessed by these reports is a fifth of European average.

The successive studies of the cotton textile industry by international consultants indicate the need for advice especially for medium and small firms in raising productivity, where earnings from yarn exports are only marginally higher than earnings from the exports from corresponding cotton content, despite good machinery and low wages.

There is an urgent need for improving methods of production for increasing both machine and labour productivity, for adequate quality control, for upgrading skill of mill managers, technicians and foremen, to attain better machine efficiency, the need for specialisation by firms, for concentration on a narrower range of counts and constructions.

4. Having considered the findings and recommendations of national committees, foreign consultants and international organizations and in view of the cotton industry's immediate and long term role in the economic and industrial development of the country, the Government of Pakistan proposes to establish a Cotton Textile Industry Research and Development Centre at Karachi with a Sub-Centre at Lyallpur, to increase the productivity of the cotton textile industry and make it more competitive, especially in export markets.

5. The proposal of the Government includes :

- (i) long term assistance to the cotton mills to improve their organization, management and productivity;
- (ii) applied research and product development of cotton manufactures through research and consulting activities.

B. Institutional Frame-Work

6. The Ministry of Industries will be the Government Co-operating Agency, However, as per the request of the Executive Committee of the National Economic Council of Pakistan the project will make use, to the maximum extent possible, of the existing facilities at the Pakistan Institute of Cotton Research and Technology (PICRT) in Karachi and the facilities at the Pakistan Institute of Textile Technology (PITT) in Lyallpur.

7. The Pakistan Institute of Cotton Research and Technology (PICRT) Karachi was established in 1956 under the auspices of the Ministry of Agriculture and the Pakistan Central Cotton Committee (PCCC).

PICRT functions are as follows :

- a) to provide facilities for the scientific evaluation of fibre properties and yarn characteristics of the improved varieties of cotton evolved at the various breeding stations of the Cotton Committee (which number 17 at present), and to compare them with the established varieties ;
- b) to carry out fibre and spinning tests on trade varieties of cotton and disseminate the results to trade and industry;
- c) to conduct fundamental and applied research on cotton fibre, yarn, cloth, cotton seed and on processing of cotton fibre for the optimum utilization of Pakistani cotton ;
- d) to provide Testing House facilities for the benefit of trade, industry and export agencies ; and
- e) to provide testing services to the various branches of the cotton manufacturing industry in Pakistan. Since its establishment the Institute has also been imparting practical training in spinning and testing.

8. The establishment of the Pakistan Institute of Textile Technology (PITT), Lyallpur was decided in 1954 by a Board of Trustees, while operations started in 1961. The Institute is administered by the Board of Trustees, the Chairman of which is the Secretary of Industries, Government of Punjab, and is affiliated with the Engineering University of Lahore and the Ministry of Education. PITT functions are as follows :

- a) to provide adequate facilities for education and training in textile technology;
- b) to conduct scientific research in textile technology; and
- c) to undertake such other projects and surveys in the field of textile technology as the Board of Trustees or the Government may decide.

9. PICRT has ample space available to easily accommodate the project personnel and equipment. In addition, the project envisages to utilise to the maximum extent possible the spinning pilot plant,

/ ...

the testing and research laboratories and all other facilities of PICRT, thus avoiding duplication in view of the allied nature of the projects.

10. The Co-operating Agency will ensure that at all times at least 25% of the laboratory and testing facilities and 25% of the services of testers and jobbers of PICRT are made available to the project.

11. Testing equipment, in addition to spinning, weaving, dyeing and finishing pilot plants are available at PITT, Lyallpur. However, only a limited usage of these facilities is envisaged by the project in view of their destination to education.

12. The Co-operating Agency will ensure that facilities at PITT, Lyallpur are made available to the project when required, however, compatibly with the present education functions.

13. The use of facilities at and services of PICRT and PITT, indicated under para 9 through 12 above, shall be paid for by the cooperating agency at the agreed overall annual flat rate of Rs.25,000/-. The amounts due to each of the organizations will be determined on the basis of the services rendered.

14. The Government of Pakistan officially recognizes the status of the new Centre as an autonomous organization for a combined research, engineering and management consulting body to the textile mills with headquarters in Karachi and a sub-centre in Lyallpur, as the textile industry extends from Karachi to Peshawar. Recognition of the Centre as an autonomous organization is considered a prerequisite for project implementation by UNDP/UNIDO.

15. The Centre will be governed by a Consultative Committee and a board of directors called the Research and Development Board.

16. Powers of the Consultative Committee.

The Consultative Committee shall review project activities and make recommendations to the Government as it deems appropriate. The Committee shall meet twice a year, or more often, at the request of the Project Director or Project Manager. The Consultative Committee may appoint one or more sub-committees to report on specific problems and may delegate such of its functions to the Board as it deems necessary.

17. The Consultative Committee will be formed by the following persons :

1. The secretary of the Ministry of Industries - Chairman
2. The representative of the Ministry of Agriculture. - 1st Vice-Chairman
3. The chairman of the All Pakistan Textile Mills Association. - 2nd Vice-Chairman
4. The Resident Representative of UNDP - Member
5. The project director / representative of the Department of Investment Promotion and Supplies (Ministry of Industries) - Member
- 6- 8. Three representatives of P.C.C.C. - Members.
- 9-11. The chairmen of the three zonal Textile Mills Associations - Members.
12. The principal, Pakistan Institute of Textile Technology, Lyallpur. - Member.
13. The representative of the Karachi Cotton Association. - Member
14. a representative of the Institute of Business Administration (University of Karachi) - Member
15. a representative of the Export Promotion Bureau. - Member
16. a representative of Hosiery Manufacturers Association. - Member
17. a representative of Small Manufacturers of Power Looms Associations. - Member
18. The Project Co-Manager - Member/ Secretary
19. The Project Manager, UNDP/UNIDO (in an advisory capacity)

Minimum five members of the Consultative Committee shall form the quorum.

/ ...

18. Powers and duties of the Research and Development Board.

1. supervise the activities of the Centre;
2. formulate general policies and periodically review and evaluate the activities of the Centre;
3. approve the budget of the Centre and new items of expenditure not covered by the budget;
4. appoint senior officers;
5. appoint auditors;
6. sanction allowances and remunerations to staff members and consultants;
7. frame service rules;
8. the Board may delegate such of its functions to the Project Director or the Project Co-Manager as it deems necessary.

The Board shall meet at least four times a year and as and when necessary.

19. The Research and Development Board will be formed by the following persons:

1. The director general, Investment Promotion and Supplies (Ministry of Industries) - Chairman
2. The representative of the Ministry of Agriculture - 1st Vice-Chairman
3. The chairman of the All Pakistan Textile Mills Association - 2nd Vice-Chairman
4. The project director / representative of the Department of Investment Promotion and Supplies (Ministry of Industries) - Member
5. The representative of P.C.C.C. - Member
6. The principal of the Pakistan Institute of Textile Technology, Lyallpur. - Member
7. The Project Co-Manager - Member/Secretary
8. The Project Manager (in advisory capacity) -

Minimum three members of the Board shall form the quorum.

/ ...

20. On the Government side, the project will be managed by a Project Director (appointed by the cooperating agency) and by a Project Co-Manager. The Director of the Pakistan Institute of Cotton Research and Technology will serve as Project Co-Manager. After completion of the UNDP financed project, the Project Director and the Co-Manager will be Director and Manager of the Centre respectively.

21. The Project Director, as the representative of the Ministry of Industries, will perform the following functions in addition to his usual duties, as Director of Textiles in the Department of Investment Promotion and Supplies:

- a) coordinate the work of the Cotton Textile Industry Research and Development Centre with the Ministry of Industries and other bodies concerned;
- b) monitor the work of the project and report thereon to the Ministry of Industries in consultation with the Project Manager and Co-Manager;
- c) assist in planning, programming and administration;
- d) ensure, in cooperation with the Project Manager and Co-Manager, the implementation of the directives of the Consultative Committee and the Research and Development Board.

22. The Project Co-Manager, in addition to his normal duties as Director of PICWT, will perform the following functions:

1. cooperate with the Project Manager to establish and run the Centre;
2. co-ordinate the work of the Institute (PICWT) and Centre (CTIRDC);
3. supervise the day to day work;
4. prepare the Counterpart Budget and submit it to the Research and Development Board for approval;
5. act as drawing and discussing officer and maintain proper accounts;
6. sign cheques and have them counter-signed by a member nominated by the Board;
7. appoint Class III and IV staff;
8. sanction expenditures upto Rs.2000/- on any single item.

9. The Project Co-Manager, as director of the Institute (PICTI):

- a) is the technical and administrative head of the Institute;
- b) is responsible for all research projects, routine testing for various cotton botanists and testing of cotton yarn and fabric samples for the trade and industry;
- c) reports to the Technological Research Sub-Committee of the Central Cotton Committee on technical matters and to the Vice-President of the Pakistan Central Cotton Committee on administrative matters.

23. On behalf of the Executive Agency and UNDP, the internationally recruited Project Manager will perform the following functions:

- a) lead and coordinate project personnel;
- b) train on the job national counterparts;
- c) organize and manage all project activities;
- d) be responsible for the management of all the equipment provided to the project from UNDP funds.

24. To settle problems regarding the utilization of PICTI facilities by the project, a four-man committee may be formed by the following persons:

1. Secretary, P.C.C.C.
2. Project Director
3. Project Co-Manager
4. Project Manager

25. The cooperating agency will ensure the active co-operation of the Pakistan Institute of Management and the Textile Section of the Export Promotion Bureau on project activities relating to management training and export promotion respectively.

26. The cooperating agency will ensure that budget funds are released to the project on a quarterly basis.

1...

27. Recruitment of the counterpart staff will be made by the Selection Committee which will be formed by the following persons:

1. The chairman of the Research and Development Board - Chairman
2. The Project Director/Representative of I.P. and S (Ministry of Industries) - Member
3. The representative of P.C.C.C. - Member
4. The Project Co-Manager - Member
5. The Project Manager - Member.

C. Provision for Government follow-up

28. Upon completion of UNDP assistance, to ensure long term staffing, financing and effectiveness of the project, it is foreseen that :

- a) training activities in plant as well as at the Centre be continued through Government support and subsidy;
- b) the Centre be supported and subsidized by the Ministry of Industries and through contributions by the private industry. The consultancy services of the Centre, in due course, will be made available to all cotton Mills on a fee basis. Thus, the above subsidies, in time, will be reduced in relation to the consultancy fees earned.
- c) After the expiry of the project, the Centre will be supervised by the Manager and the Director.

D. Other related activities

29. Upon the request of the Government UNDP/UNIDO sent to Pakistan a top level industrial management team to study and analyse the short and long range problems facing the textile industry. This mission (management clinic - 74K-101/SIS) visited Pakistan in 1969 and discussed problems of international marketing, export training, productivity and mill management.

In conclusion the experts of this clinic ascertained the need for long term continuous efforts in the form of a Productivity Centre.

30. The International Bank for Reconstruction and Development's Report "Industrialization of Pakistan - The record, the problems and the prospects (1970)" while making a detailed study of the textile industry of Pakistan expressed concern over its declining efficiency and recommended better training

of lower level personnel, balancing the capacities rather than establishing new mills, and increasing export sales through professional representatives to promote cotton goods and through more direct channels of market intelligence. "

31. The project request was prepared with the assistance of a UNICEF Expert.

II. OBJECTIVES OF THE PROJECT

1. It is envisaged that this project will be included in the forthcoming country programme for Pakistan.

As stated in the Government's original request, since 1955 earnings from the export of cotton goods have played an important role in the general development of Pakistan's economy and now the Government is more than ever anxious to expand the cotton textile industry and to increase its productivity and efficiency.

The objective of the project is to assist in the reorganization of the textile industry, to improve its productivity and labour efficiency and to advise on quality and cost control, modern marketing methods, product development and export promotion.

In the light of the foregoing government objectives, the project fits well into the country's development programmes.

Long Range Objectives

1. The purpose of the project is to assist the Government in establishing a Cotton Textile Industry Research and Development Centre at Karachi with a sub-Centre in Lyallpur, to increase productivity in order to make the cotton textile industry more competitive especially in export markets.

Immediate Objectives

2. The immediate objectives of the project are as follows :-

(a) better organization of the manufacturing sectors through standardization of facilities, specialization and concentration of production, and consolidation of the existing smaller units;

- (b) Improved efficiency through production planning, reduction of labour and material waste, suitable materials and quality control;
- (c) better trained technical personnel and development of specialist expertise in such fields as technology of spinning, weaving and finishing, cost accounting, marketing and export promotion of cotton textiles;
- (d) taking into account the modern trends in textile machinery, to advise on the feasibility and techniques for replacing conventional machinery with new types of machines;
- (e) taking into account the severe competition facing cotton by man-made fibres, to advise and provide expertise and training facilities for special blends, easy care treatments etc.

3. The project is primarily consultancy and secondarily applied research and training oriented and does not have investment potential. However one of its activities involves establishing and operating laboratory equipment for dyeing and finishing as described in detail under " Research and Development Activities " (dyeing and finishing) of the Work Plan.

III. WORK PLAN

The project activities will consist of the following : -

- (a) training courses to be held both at the Centre and in plant, to upgrade the skills of plant managers, foremen and technicians.
- (b) management consultancy to advise on the solution of specific problems in the mills;
- (c) testing and quality control, service and consultancy;
- (d) organisation of information and promotion services;
- (e) applied research activities to solve specific mill problems.

The above services will be provided on a fee basis.

A. PROJECT ACTIVITIES

Details of Activities	Starting date and proposed duration	
1	2	
A. <u>PREPARATORY ACTIVITIES</u>		
1. Elaboration of detailed schedules of upgrading and consultancy programmes, and schedules of technical reports.	1-1-1973	three months
2. Recognition by the Government of Pakistan of the Cotton Textile Industry Research and Development Centre as an autonomous organization.	28-2-1973	at the latest
3. Recruitment of staff and personnel according to the "Manpower Table" (Government Order - 1.22)	1-1-1973	continuously
4. Selection of equipment and preparation of a research programme for the new dyeing and finishing laboratory under the guidance of a consultant.	1-1-1973	three months
B. <u>RESEARCH AND DEVELOPMENT ACTIVITIES</u> (<u>Spinning and Weaving</u>)		
Preparation of a research programme of the Centre oriented towards actual technological problems of the cotton spinning and weaving mills. The research programme will include subjects such as :	1-1-1973	two months
1. The establishment of theoretical bases of cotton standards in terms of staple and grades on scientific basis.	scheduled in the above research programme.	
2. The establishment of scientifically based and proper quality control systems.	- do -	
3. Selection of suitable cotton grades and staples for better utilization of the raw cotton stocks of Pakistan.	- do -	
4. Selection of suitable ring-traveler combinations ensuring optimum ends-down on ring frames.	- do -	
5. Relationship between ends-down and the specific atmospheric conditions prevailing in the mills.	- do -	

/ ...

B. RESEARCH AND DEVELOPMENT ACTIVITIES
(Spinning and Weaving - contd.)

- | | | |
|-----|---|--|
| 6. | Research ensuring adequate technological methods for spinning synthetic - cotton blends on different types of cotton systems. | scheduled in the above research programme. |
| 7. | Product development oriented research work in new cotton and blends constructions. | - do - |
| 8. | Product development oriented research to better utilization of carding and spinning waste. | - do - |
| 9. | Research in sizing technology to select new sizing materials and formulas and determining optimal sizing parameters for cotton and blended warps. | - do - |
| 10. | Economic and technological studies on "open end spinning". | - do - |
| 11. | Economic evaluation of new weft inserting methods of weaving. | - do - |

C. RESEARCH ACTIVITIES (Dyeing and Finishing)
ESTABLISHING OF A DYING AND FINISHING
LABORATORY.

The objectives of the Dyeing and Finishing laboratory are (a) to introduce the latest techniques of finishing (b) to train existing local mill staff in the latest methods of finishing (c) evaluation of indigenous compound for easy care finishes.

- | | | | |
|----|---|-----------|---------------|
| 1. | Training of two dyer and finisher - Research Officers in the Centre and in foreign research institutes. | | |
| | Fellowships | 1-7-1973 | 24 man months |
| | at the Centre | 1-12-1973 | 24 man months |
| 2. | Completion of laboratory facilities | 1-3-1974 | 6 months |
| 3. | Appointment and training of two Assistant Research Officers | | |
| | at the Centre | 1-7-1974 | 24 man months |

/ ...

C. **RESEARCH ACTIVITIES (Dyeing and Finishing)**
ESTABLISHING OF A DYING AND FINISHING LABORATORY (1974)

- | | | | |
|----|---|-----------|--------------|
| 4. | Final adjustment of the laboratory | 1-11-1974 | two months |
| 5. | Transition period during which preliminary experiments will be carried out. | 1-1-1975 | two months |
| 6. | Normal functions of the laboratory. | 1-3-1975 | three months |

D. **MANAGEMENT CONSULTANCY**

Organizing productivity and quality oriented management consultancy teams with joint-efforts of an international expert or consultant, the Centre's permanent staff members and trainees from mills (on fee basis after 1st January, 1975)

- | | | | |
|----|---|----------|--------------|
| a. | To solve specific mill problems | 1-7-1974 | continuously |
| b. | To develop comprehensive and extensive studies in spinning and weaving mills to give an overall picture of the mill's technological and productivity level and working out proposals to improve efficiency and upgrade quality. | 1-7-1973 | continuously |
| c. | To provide consultancy services for management and marketing problems. | 1-7-1974 | continuously |
| d. | To provide consultancy services to textile mills to set up their vocational schemes. | 1-7-1974 | continuously |

E. **REFERENCE ACTIVITIES**

Expansion of the library of the Centre and dissemination of knowledge of the latest developments in textile technology to mill and technicians through publication of research results and abstracts of international work done in cotton technologies.

1-7-1973 continuously

1	2
---	---

F. UPGRADING ACTIVITIES

Preparation for and implementation of weekly and monthly seminars and training courses for top executives, managers, section engineers, technicians, supervisors and mill masters (foreman) at the Centre and in plant on topics such as :

1-1-1974 continuously

1. the importance of scientifically based quality control for the mills;
2. quality control in spinning, weaving and finishing with demonstrations in laboratories;
3. up-to-date technologies (non-woven, open-end spinning, shuttleless weaving) and on the economic aspects of modern processing methods;
4. latest permanent and easy care finishing technologies.

The following seminars and training courses will be held in close collaboration with and utilising the facilities of the West Pakistan Institute of Management, Karachi:

5. work study training courses for Spinning and Weaving Technicians;
6. seminars in general management of cotton mills;
7. industrial management seminars for vertically integrated mills personnel;
8. production management courses for horizontally organized textile mills;
9. industrial relations seminars.

The following seminars and training courses will be held in collaboration with the Export Promotion Bureau, Karachi and with the help of UNCTAD:

10. seminar on international marketing of textiles;
11. seminars on export promotion of cotton goods;
12. specific training courses for upgrading foreman in installing, setting and maintenance of textile machinery such as cards, spinning frames, looms etc.

1-1-1974 continuously

Location of Seminars:

Karachi,
Lahore,
Hyderabad,
Faisalabad
and
Rawalpindi.

G. PREPARATION FOR AND TRANSFER OF FULL RESPONSIBILITY TO THE CENTRE	1-8-1975	two months
--	----------	------------

TERMINAL REPORT:

Draft Terminal Report to be submitted to UNIDO by the Project Manager three months prior to completion of his assignment.

30 June, 1975

UNIDO's Terminal Report to be submitted to UNDP upon completion of field work

30 September, 1975

Transmission of Terminal Report to the Government of Nepal within one month after project completion

30 October, 1975

The above time schedule of project activities (Chapter A) are based on January, 1973 as the date of signature of the Project Document.

B. DESCRIPTION OF UNDP INPUTS

<u>Description of UNDP Inputs</u>	<u>Duration</u>
-----------------------------------	-----------------

1. ASSIGNMENT OF INTERNATIONAL STAFF

i) Project Manager -

43 months

Advance recruitment of the Project Manager was authorised by UNDP to facilitate preparation of the Project Work Plan. The Project Manager reported to UNIDO Headquarter on 7 March, 1972 and arrived in the field on 18-3-1972.

ii) Consultant in dyeing and finishing.

3 months

The consultant should have a knowledge and experience of the latest processes of dyeing and finishing, especially easy care finishes of cotton and its blends with man-made fibres. He will have joint responsibility with the Project Manager and the Director of the Centre for selecting the dyeing and finishing small scale machinery and for planning its layout.

The consultant should arrive not later than 1 January, 1973 for three months. The duty station will be Karachi.

Description of UNDP Inputs	Duration
----------------------------	----------

1. Assignment of International Staff (contd.)

- iii) Expert in Industrial Engineering and Management. 30 months

The Industrial Engineer shall coordinate his work with the Project Manager and will be responsible for introducing industrial engineering techniques to improve the work efficiency of various cotton textile enterprises in Pakistan.

His main activities will be:

organization of management administration, information systems, cost accounting (cost of operation and production), work studies, conducting training courses for counterpart personnel and mill technologists.

The expert should arrive on 1-4-1973.

- iv) Textile Chemist: 24 months

Expert in dyeing, finishing and printing especially in easy care finishes of cotton textiles and their blends with synthetics.

The expert will be responsible for running in the dyeing and finishing laboratory, developing and establishing quality control methods for the laboratory of the Centre and for the mills, carrying out research activities in up-to-date finishing methods and management consultancy in dyeing and finishing. He will make proposals for and introduce up-to-date dyeing and finishing technologies in mills, in addition to conducting seminars on the above subjects.

The expert should arrive by 1 October 1973.

- v) Textile Technologist: spinning of cotton and its blends with synthetics and quality control. 30 months

The expert should assist the Project Manager as a member of the team, in development work in cotton spinning mills, locating draw-bars, upgrading and streamlining processes, to improve quality and increasing productivity and in carrying out consultancy in spinning cotton and synthetic blends.

Consultancy in new lay outs (building, lighting atmospheric control), and modernization of spinning equipment.

Introducing quality control schemes in textile mills.

To assist in conducting seminars for mill personnel on the above subjects.

The expert should arrive by 1-4-1973.

vi) Marketing Expert

24 months

The Marketing expert, in close cooperation with the Project Manager and the other experts, shall identify priorities for the promotion of traditional and new cotton and cotton-synthetic blends in foreign markets and for conducting seminars on marketing techniques of textile goods.

The expected fielding date is 1 October, 1973.

vii) Product Development Expert

24 months

The expert will be responsible for developing new textile constructions in pure cotton and cotton-synthetic blends with the aim to increase the export potential of the textile industry and stimulate a fuller utilization of the weaving, dyeing and finishing capacities which lie at present underutilized. Cotton yarn and cotton grey cloth account for nearly 90% of the present exports.

The expected fielding date is 1 October 1973.

viii) Sizing Consultant.

8 months

The consultant is to introduce up-to-date sizing materials, modified starches and improved sizing technologies to increase the low weaving efficiency and low quality of certain woven goods.

The consultant should also, introduce new synthetic sizing compounds for sizing of cotton-synthetic blended yarns.

The consultant, in addition, would hold seminars on the above subjects and train counterparts.

The expected fielding date is 1 January 1974

100

1. Assignment of International Staff (contd.)

- (ix) Automatic Looms Standardization Expert. 12 months

The expert should introduce standardized setting methods for automatic looms through direct technical assistance to the mills.

The expert, in addition, would hold seminars on the above topics and train the personnel of the Centre.

The expected arrival date for the expert is 1 July 1974.

- x) Consultants (on an ad-hoc basis) to advise on specific topics, not covered by the above experts. 12 months

2. Training Facilities (Fellowships) Starting date and duration

The long range objectives of the project will be implemented primarily by means of specialised teams of counterparts. Each team will consist of two textile technologists (spinner and weaver) a textile chemist, an industrial engineer and a management consultant.

It is envisaged to have two teams for Karachi and one for Lyallpur.

The qualifications of the team members proposed for fellowships: B.Sc. in Technology, Physical or Engineering Science, or Business Administration and at least 2-3 years practical experience.

The training schedule of research and consulting personnel is as follows :

a. Industrial Management and Organisation - (two)	July 1973 - 12 months
	July 1973 - 12 months
b. Industrial Engineering - (two)	July 1973 - 12 months
	July 1974 - 12 months
c. Cotton Spinning and Quality Control - (two)	July 1973 - 12 months
	July 1974 - 12 months
d. Product Development - (two)	July 1973 - 12 months
	July 1974 - 12 months
e. Dyeing and Finishing - (two)	July 1973 - 12 months
	July 1974 - 12 months
f. Applied Research and Quality Control - (two)	July 1973 - 12 months
	July 1974 - 12 months

Description of UNDP Inputs		Duration		Cost
3. <u>Equipment to be provided by UNDP</u>		<u>Delivery date</u>		
<u>(Non-expendable equipment)</u>				
a. <u>Vehicles</u>	1 car	March 1973		\$ 3,000
	1 minibus	April 1973		\$ 4,000
	1 minibus or car	September 1973		\$ 4,000
b. Mechanical Testing:		January 1974		\$ 25,000
1) Yarn Evenness Tester				
2) Spectrograph				
3) Thick and Thin slice counter				
4) Classimat				
c. Dyeing and finishing laboratory equipment to complete and modernize the dyeing and finishing laboratory of PICOT made available for the Centre.		August 1973		\$ 34,000
a) Laboratory jigger				
b) Laboratory coating device				
c) Laboratory steamer				
d) Yarn mercerizing range				
e) High pressure dyeing unit				
f) Washing machine and hydro-extractor				
g) Boiler for laboratory purposes				
h) Homogenizer				
i) Small-scale bleaching equipment				
j) Spray tester				
k) Reflectometer				
l) Air permeability tester				
The sum of \$34,000.- is considered as a take-off grant. However, the complete list and the request for additional grant will be presented after the Dyeing and Finishing Consultant is fielded.				
d. Miscellaneous audiovisual training aids.		September 1973		\$ 0,000
4. <u>Miscellaneous</u>				
a. Operation and maintenance of equipment	(\$ 1,000)] continuously	\$ 22,000
b. Reporting costs	(\$ 1,000)			
c. Sundry, including all internal travel costs and expenses for the internationally recruited staff	(\$ 7,000)			
d. Direct costs	(\$ 2,000)			

! ...

C. DESCRIPTION OF GOVERNMENT ASSISTANCE

1. Land and Buildings:

a) Land: The project will be accommodated on a plot of land measuring approximately 20,000 sq. yds. located near the business/financial centre of Karachi. The building has four wings, two wings have been built upto 2nd floor level and the remaining two wings have been built upto 1st floor level. The covered area is approximately 100,000 sq. ft.

b) Buildings: The Spinning Pilot Plant, Testing Division, Physics Division and X-ray Division have been airconditioned and fitted with individual humidifying units. Some of the divisions have standby airconditioning units thus assuring standard atmospheric conditions for research and development throughout the year.

i) The cooperating agency will ensure that the full east wing of the top floor of FICOT Karachi, about 2,500 sq. ft. is made available to the project.

ii) The project will have access to the Conference Hall, lecture rooms as well as the facilities for duplicating technical material.

iii) Low price housing accommodation is readily available.

of Office furniture equipment and supplies.

2. The Sub-Centre at Lyallpur will be located in the West Pakistan College of Textile Technology where adequate facilities for lectures and conferences are available.

3. Assignment of the national staff:

The Co-Managers of the Centre will serve as a counterpart to the Project Manager, UNDP, UNICEF. Personnel provided in the budget (about 200) will be counterparts to the experts to be provided by UNDP through UNICEF. The counterpart project personnel will be divided between the Centre and Sub-Centre at the discretion of the Project Manager and Project Director in the light of workload.

4. To be provided by the Government in addition to the local transport and handling and operation of equipment:

Import and customs clearance;

Transport, handling, operation, storage and related expenses.

Insurance after delivery to the project site.

BUDGET COVERING GOVERNMENT CONTRIBUTION IN KIND

PAK RUPES

Country: PAKISTAN
 Project No. PAK/71/562/7/01/27/30/35 W.
 Title: Cotton Textile Industry Research and Development Centre.

Particulars	Total		1972-73		1973-74		1974-75	
	Man month	Amount	Man month	Amount	Man month	Amount	Man month	Amount
V. Project Personnel:								
1. Co-Manager (1)	36	54,000	12	17,400	12	18,000	12	18,600
2. Senior Development Officers (10)	360	297,000	120	90,000	120	99,000	120	208,000
3. Research Development Officers (10)	360	138,600	120	42,000	120	46,200	120	50,400
4. Technicians (5)	180	69,300	60	21,000	60	23,100	60	25,200
5. Information Officers (2)	72	27,720	24	8,400	24	9,240	24	10,080
6. Officer-in-Charge (Adm. & Training) (1)	36	12,000	12	4,200	12	4,620	12	5,040
7. Secretary (8)	36	29,700	12	9,000	12	9,900	12	10,800
8. Accountant (1)	36	13,500	12	4,500	12	4,950	12	4,870
9. Superintendants (2)	72	27,000	24	8,000	24	8,000	24	9,600
10. Stenographers (5)	180	33,100	60	16,500	60	17,700	60	18,900
11. Cashier (1)	36	8,200	12	2,500	12	2,700	12	2,800
12. Upper Division Clerks (7)	252	47,640	84	15,180	84	15,960	84	16,500
13. Drivers (3)	108	16,040	36	5,000	36	3,630	36	5,410
14. Peons (7)	252	25,704	84	8,400	84	8,500	84	8,790
15. Allowances and Honoraria.		291,000		92,700		97,030		100,270
16. Grand Total		1,000,000		312,000		324,310		363,680
20. Equipment/Contract:								
Expendable Equipment								
Furniture		2,500,000		.		2,500,000		.
Total		2,500,000		.		2,500,000		.
20. Miscellaneous/Contract:								
(a) Purchase, Operation and Maintenance of office and laboratory equipment, carbon, publication, etc.		100,000		30,000		30,000		30,000
Total		100,000		30,000		30,000		30,000
(b) Payment to PCC and Tech. Instt., Lyallpur, for use of personnel, laboratories and pilot plant.		75,000		25,000		25,000		25,000
Total		75,000		25,000		25,000		25,000
21. Grand Total		3,275,000		1,067,000		1,109,310		1,218,680

PROJECT BUDGET COVERING UNDP CONTRIBUTION

(In US Dollars)

Country: PAKISTAN
 Project No. PAK/71/562/C/01/37/35/3530
 Title: Cotton Textile Industry Research and Development Centre.

		Total		1972		1973		1974		1975	
		m/m	\$	m/m	\$	m/m	\$	m/m	\$	m/m	\$
10. PROJECT PERSONNEL											
11. EXPENSES											
11-01	Project Manager	43	107,500	10	25,000	12	30,000	12	30,000	9	22,500
11-02	Industrial Engineer.	30	75,000	-	-	9	22,500	12	30,000	9	22,500
11-03	Textile Technologist.	30	75,000	-	-	9	22,500	12	30,000	9	22,500
11-04	Textile Chemist.	24	60,000	-	-	3	7,500	12	30,000	9	22,500
11-05	Marketing Expert.	24	60,000	-	-	3	7,500	12	30,000	9	22,500
11-06	Product Development Expert.	24	60,000	-	-	3	7,500	12	30,000	9	22,500
11-07	Stitching Expert	8	20,000	-	-	-	-	8	20,000	-	-
11-08	Automatic Looms Standardization Consultant.	12	30,000	-	-	-	-	6	15,000	6	15,000
11-09	Equipment Consultant (dyeing and finishing)	3	7,500	-	-	3	7,500	-	-	-	-
11-10	Consultant	12	30,000	-	-	-	-	6	15,000	6	15,000
<hr/>											
11-99	Sub-Total	310	525,000	10	25,000	42	105,000	92	230,000	64	165,000
12	Ad. Suppt. Personnel.		10,000		-		4,000		4,000		2,000
<hr/>											
10	Component Total:		535,000		25,000		109,000		234,000		167,000

/ ...

PROJECT BUDGET COVERING UNDP CONTRIBUTION (in US Dollars) - contd.

	m/m	Total		1972		1973		1974		1975	
		m/m	\$	m/m	\$	m/m	\$	m/m	\$	m/m	\$
30. <u>Training</u>											
31. <u>Fellowships</u>											
31-01 Industrial	12		6,400	-	-	6	3,200	6	3,200	-	-
31-02 Management	12		6,400	-	-	-	-	6	3,200	6	3,200
31-03 Industrial	12		6,400	-	-	6	3,200	6	3,200	-	-
31-04 Engineering	12		6,400	-	-	-	-	6	3,200	6	3,200
31-05 Textile	12		6,400	-	-	6	3,200	6	3,200	-	-
31-06 Technology	12		6,400	-	-	-	-	6	3,200	6	3,200
31-07 Textile	12		6,400	-	-	6	3,200	6	3,200	-	-
31-08 Chemistry	12		6,400	-	-	-	-	6	3,200	6	3,200
31-09 Product	12		6,400	-	-	6	3,200	6	3,200	-	-
31-10 Development	12		6,400	-	-	-	-	6	3,200	6	3,200
31-11 Applied Research	12		6,400	-	-	6	3,200	6	3,200	-	-
31-12 and Quality Control	12		6,400	-	-	-	-	6	3,200	6	3,200
31-99 Sub-Total	144		76,800	-	-	36	19,200	72	36,400	36	19,200
39 Component Total			76,800	-	-	19,200		36,400		19,200	
40 <u>Equipment</u>											
42 Non Expendable			78,000		1,000	62,000		15,000		-	
49 Component Total			78,000		1,000	62,000		15,000		-	
50 <u>Miscellaneous</u>											
51 Operation and Maintenance of Equipment			5,500		1,000	1,500		1,500		1,500	
52 Reporting cost			5,000		-	-		-		5,000	
53 Sundry			7,000		1,000	2,000		2,000		2,000	
54 Direct Costs			3,000		-	3,000		-		-	
59 Component Total:			20,500		2,000	6,500		3,500		8,500	
99 Project Total			710,300		28,000	196,700		290,900		194,700	

/ ...

ORGANIZATION OF THE PROJECT

1. The general organisation of the Project will be as follows.
2. The Government, the UNDP and the Executing Agency shall jointly be responsible for the execution of the project and the realization of its objectives as described in Part II of this Project Document.
3. The Government shall provide to the project the national project personnel, training facilities, land, buildings, equipment and other required services and facilities. It will designate the Government Co-operating Agency named in the cover page of this document, which will hereinafter be referred to as the "Co-operating Agency" and which will be directly responsible for the implementation of the Government contribution to the project.
4. The UNDP undertakes to complement and supplement the Government participation and will provide through the Executing Agency the required expert services, training, equipment and other services within the funds available to the project.
5. Upon commencement of the project the Executing Agency may be requested to assume primary responsibility for project execution. However, that primary responsibility shall be exercised in consultation and in agreement with the Co-operating Agency. Arrangements to this effect shall be stipulated in the project Work Plan as well as for the transfer of this responsibility to the Government or to an entity designated by the Government during the execution of the project.
6. Part of the Government's participation may take the form of a cash contribution to UNDP. In such cases, the Executing Agency will provide the related services and facilities and will account annually to the UNDP and to the Government for the expenditure incurred.

Participation of the Government.

7. The Government shall provide to the project the services, equipment

/ ...

and facilities in the quantities and at the times specified in the Work Plan. Budgetary provision - either in kind or in cash - for the Government's participation so specified shall be set forth in the Project Budgets.

8. The Co-operating Agency shall in consultation with the Executing Agency assign a Co-Manager for project on a full-time basis. He shall carry out such responsibilities in the project as are assigned to him by the Co-operating Agency.

9. The estimated cost of items included in the Government contribution, as detailed in the Project Budget, shall be based on the best information available at the time of drafting this project proposal. It is understood that price fluctuations during the period of execution of the project may necessitate an adjustment of said contribution in monetary terms; the latter shall at all times be determined by the value of the services, equipment and facilities required for the proper execution of the project.

10. Within the given number of man-months of personnel services described in the Work Plan minor adjustments of individual assignments of project personnel provided by the Government may be made by the Government in consultation with the Executing Agency, if this is found to be in the best interests of the project.

11. The Government shall continue to pay the local salaries and appropriate allowances of national project personnel during the period of their absence from the project while on UNDP fellowships.

12. The Government shall defray any customs duties and other charges related to the clearance of project equipment, its transportation, handling, storage and related expenses within the country. It shall be responsible for safe custody of the equipment, its installation and maintenance, insurance, and replacement if necessary, after delivery to the project site.

13. The Government shall make available to the project - subject to existing security provisions - any published and unpublished reports, maps, records and other data which are considered necessary to the implementation of the project.

14. The services and facilities specified in the Work Plan which are to be provided to the project by the Government by means of a contribution in cash shall be set forth in the Project Budget. Payment of this amount shall be made in local currency to the UNDP in accordance with the Schedule of Payments by the Government.

15. Payment of the above-mentioned contribution to the UNDP on or before the dates specified in the Schedule of Payments by the Government is a prerequisite to commencement or continuation of project operations.

Participation of the UNDP and of the Executing Agency.

16. The UNDP shall provide to the project through the Executing Agency the services, equipment and facilities described in the Work Plan. Budgetary provision for the UNDP contribution as specified shall be set forth in the Project Budget.

17. The Executing Agency shall consult with the Government on the candidature of the Project Manager who, under the direction of the Executing Agency, will be responsible in the country for the Executing Agency's participation in the project. The Project Manager shall supervise the experts and other agency personnel assigned to the project, and the on-the-job training of national project personnel. He shall be responsible for the management of all equipment provided to the project from UNDP funds.

18. The Executing Agency, in consultation with the Government, shall assign international staff and other personnel to the project as specified in the Work Plan, select candidates for fellowships and determine standards for the training of national project personnel.

19. Fellowships shall be administered in accordance with the fellowships regulations of the Executing Agency.

20. The Executing Agency may, in agreement with the Government and UNDP, execute part or all of the project by subcontract. The selection of sub-contractors shall be made, after consultation with the Government, in accordance with the Executing Agency's procedures.

21. All material, equipment and supplies which are purchased from UNDP resources will be used exclusively for the execution of the project, and will remain the property of the UNDP in whose name it will be held by the Executing Agency. Equipment supplied by the UNDP shall be marked with the insignia of the UNDP and of the Executing Agency.

22. Arrangements may be made, if necessary, for a temporary transfer of custody of equipment to local authorities during the lifetime of the project, without prejudice to the final transfer.

23. Prior to completion of UNDP assistance to the project, the Government, the UNDP and the Executing Agency shall consult as to the disposition of all project equipment provided by the UNDP. Title to such equipment shall normally be transferred to the Government, or to an entity nominated by the Government, when it is required for continued operation of the project or for activities following directly therefrom. The UNDP may, however, at its discretion, retain title to part or all of such equipment.

24. At an agreed time after the completion of UNDP assistance to the project, the Government and the UNDP, and if necessary the Executing Agency, shall review the activities continuing from or consequent upon the project with a view to evaluating its results.

Facilities, privileges and immunities.

UNDP and Executing Agency personnel.

25. In accordance with the Agreement concluded by UNDP and the Government concerning the provision of assistance, the personnel of UNDP and other United Nations organizations associated with the project, shall be accorded facilities, privileges and immunities specified in the said Agreement.

Subcontractors and their personnel.

26. The Executing Agency's contractors and their personnel (except Government nationals employed locally) shall.

(a) Be immune from legal process in respect of all acts performed by them in their official capacity in the execution of the project;

(b) Be immune from national service obligations;

(c) Be immune together with their spouses and relatives dependent on them from immigration restrictions;

(d) Be accorded the privileges of bringing into the country reasonable amounts of foreign currency for the purposes of the project or for personal use of such personnel, and of withdrawing any such amounts brought into the country, or in accordance with the relevant foreign exchange regulations, such amounts as may be earned therein by such personnel in the execution of the project.

(e) Be accorded together with their spouses and relatives dependent on them the same repatriation facilities in the event of international crises as diplomatic envoys.

27. All personnel of the Executing Agency's contractors shall enjoy inviolability for all papers and documents relating to the project.

28. The Government shall either exempt from or bear the cost of any taxes, duties, fees or levies which it may impose on any foreign firm or organization which may be retained by the Executing Agency and on the foreign personnel of any such firm or organization in respect of :

(a) The salaries or wages earned by such personnel in the execution of the project;

(b) Any equipment, materials and supplies brought into the country for the purposes of the project or which, after having been brought into the country, may be subsequently withdrawn therefrom;

(c) Any substantial quantities of equipment, materials and supplies obtained locally for the execution of the project, such as, for example, petrol and spare parts for the operation and maintenance of equipment mentioned under (b) above, with the provision that the types and approximate quantities to be exempted and relevant procedures to be followed shall be agreed upon with the Government and, as appropriate, recorded in the Work Plans and

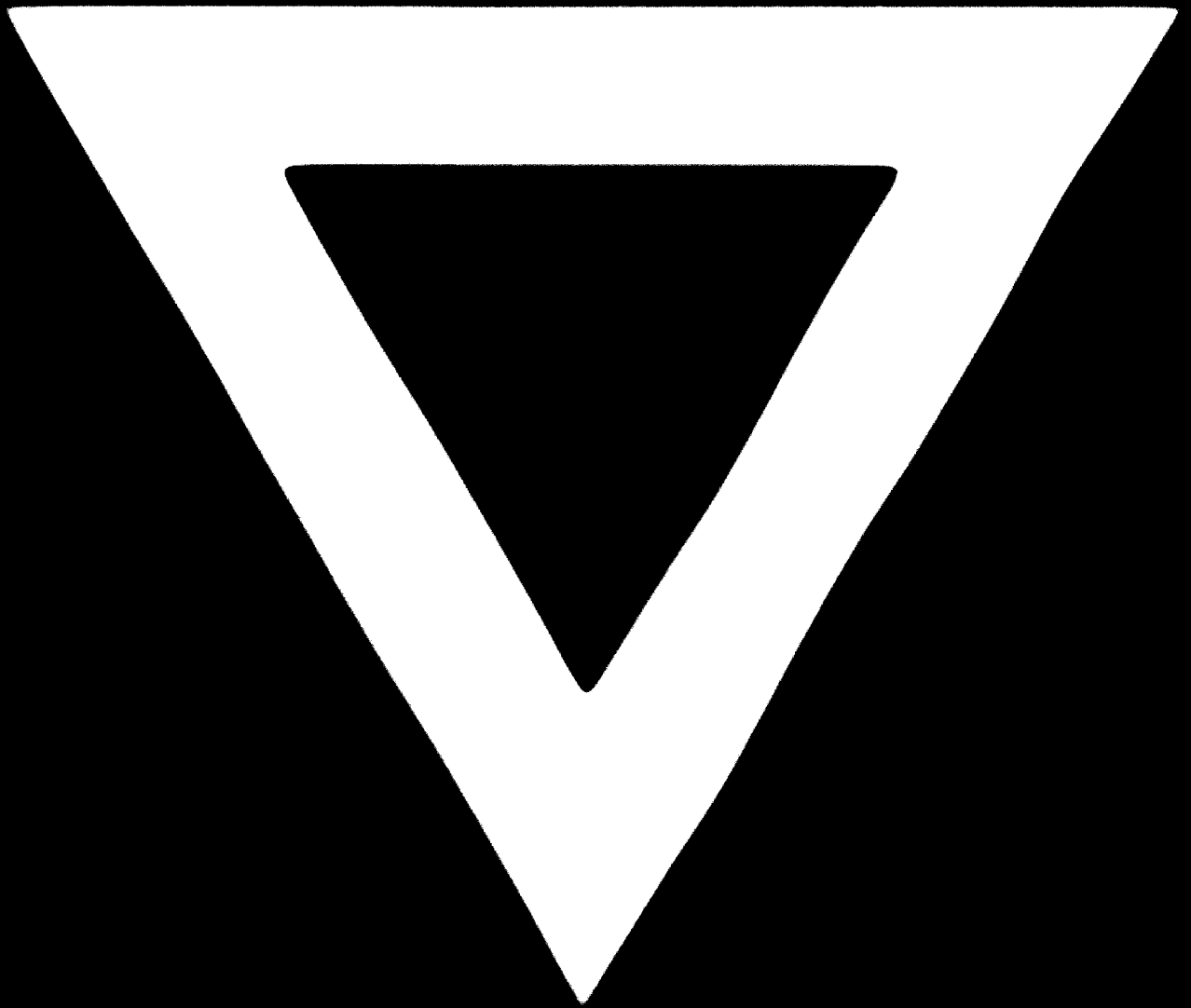
(d) As in the case of concessions currently granted to UNDP and

Executing Agency's personnel, any property brought, including one privately owned automobile per employee, by the firm or organization or its personnel for their personal use or consumption or which after having been brought into the country, may subsequently be withdrawn therefrom upon departure of such personnel.

29. The privileges and immunities to which such firm or organization and its personnel may be entitled, referred to in the paragraphs above, may be waived by the Executing Agency where, in its opinion or in the opinion of the UNDP, the immunity would impede the course of justice and can be waived without prejudice to the successful completion of the project or to the interest of the UNDP or the Executing Agency.

30. The Executing Agency shall provide the Government through the Resident Representative with the list of personnel to whom the privileges and immunities enumerated above shall apply.

(Is)



76 02.16