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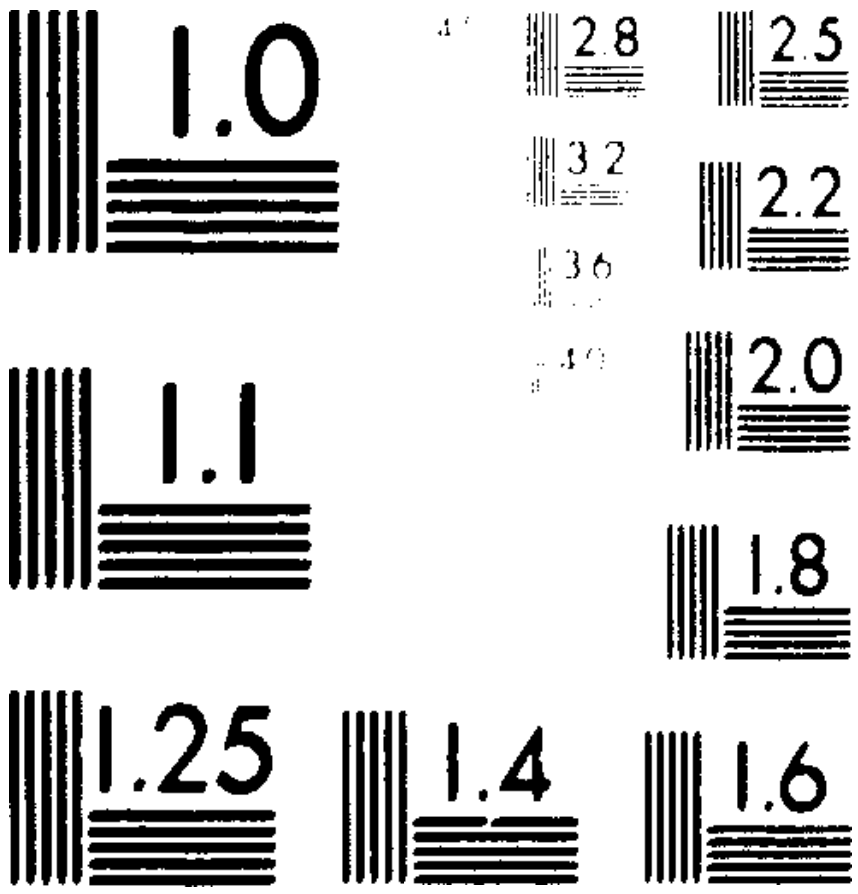

TERMINAL REPORT

OCPI-SMI GARMENTS INDUSTRY, Philippines.

PREPARED BY EVA MARIA NORDBERG
UNIDO ADVISER

10478

1980

PROJECT PROPOSAL
TRAINING AND DEVELOPMENT ASSISTANCE
TO THE GARMENTS INDUSTRY IN THE PHILIPPINES

PROJECT TITLE	QUALITY CONTROL AND PRODUCTIVITY IMPROVEMENT PROGRAMME DP/PHI/77/024/11-01/B/S.S.D.
EXPERT	LIVA MARIA NORDBERG
POST TITLE	EXPERT IN TECHNICAL ASSISTANCE TO SMALL AND MEDIUM SCALE GARMENTS INDUSTRIES
DURATION	3 + 9 WEEKS
DATE	APRIL 8 - MAY 6 AUGUST 1 - SEPTEMBER 30
EXTENSION	SEPTEMBER 1 - NOVEMBER 10

PURPOSE OF THE PROJECT

TO ASSESS THE NEEDS RELATED TO QUALITY AND PRODUCTIVITY IMPROVEMENT IN THE SMALL AND MEDIUM SECTOR OF THE GARMENTS INDUSTRY.

TO DESIGN SUITABLE TRAINING PROGRAMMES AND TO SET UP A PILOT PROJECT.

ACKNOWLEDGEMENT

I wish to express my appreciation to the Ministry of Industry, Mr. Quintin G. Tan, Acting Director of BSWI, Mr. Emmanuel O. Almonte, Executive Director CSWI and to everyone else who assisted me in my work and contributed to the accomplishment of the objectives and the preparation of this report.

I wish to express my special thanks to my counterparts, Ernie Payoyo, Linda Ruvalla and Thelma Alhambra, CSWI for their help and complete cooperation in all aspects of the work during the period of the assignment.

I would also like to thank all the garment manufacturers, trade associations, training institutions and other agencies for their support and valuable cooperation in our work.

EVA MARIA NORDBERG

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OBJECTIVES

Through upgrading and training personnel combined with extensive consultancy service increase the productivity and efficiency of SSI. Through systematic training and transfer of know-how improve the quality of training as well as of products. With support from existing agencies implement such programmes that are vital for the development of SSI.

DUTIES

1. Assessment of the needs related to quality and productivity improvement of the small and medium industries sector of which one target sector is the garments industry.
2. Conduct plant visits to assess the needs of the industry as well as provide on the spot consultancy to the owners of these enterprises.
3. Conduct industry conferences workshops, to be participated in by entrepreneurs in the industry to fully assess the needs of the industry.

INTRODUCTION

Garments is one of the selected industrial areas being focused by the Government for export promotion.

To succeed in this aim the Philippine Government with assistance from UNIDO is developing programmes which will contribute to productivity and quality improvement of the garments industry.

The Garments Industry is relatively young in the Philippines. Export started to grow in 1974 to become an important export sector in 1979-1980 as reflected in the statistical data presented below.

PHILIPPINE EXPORTS OF GARMENTS 1970-1979
F.O.B. VALUE IN US DOLLARS

	TOTAL VALUE IN MILLION DOLLARS
1970	3[illegible],21[illegible],015
1971	35,730,060
1972	3[illegible],799,7[illegible]1
1973	57,9[illegible],[illegible]
1974	9[illegible],126,03[illegible]
1975	1[illegible]7,02[illegible],[illegible]75
1976	1[illegible]4,660,177
1977	2[illegible]9,69[illegible],118
1978	326,3[illegible],57[illegible]
1979	[illegible]6[illegible],219,345

AVERAGE ANNUAL GROWTH RATE [illegible].7%

Source of Basic Data

Foreign Trade Statistics of the Philippines
National Census and Statistics Office

For the first 6 months of 1980, the Philippine export of garments amounted to 292.[illegible] million dollars and is predicted to reach [illegible] million dollars sales by the end of 1980.

INTRODUCTION:

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PHILIPPINE EXPORTS OF GARMENTS 1970-1979
F.O.B. VALUE IN U.S. DOLLARS

	TOTAL VALUE IN MILLION DOLLARS
1970	36,21[illegible],015
1971	35,730,060
1972	38,799,791
1973	57,9[illegible],400
1974	94,126,03[illegible]
1975	107,020,675
1976	134,660,177
1977	269,696,118
1978	326,36[illegible],57[illegible]
1979	[illegible]94,219,365
AVERAGE ANNUAL GROWTH RATE	30.78

Source of Basic Data:

Foreign Trade Statistics of the Philippines
National Census and Statistics Office

For the first 6 months of 1980, the Philippine export of garments amounted to 202.9 million dollars and is predicted to reach 500 million dollars sales by the end of 1980.

EXPORT MARKET -- DOMESTIC MARKET

The export market is very important and vital for the growth of the garments industry. 64% is the approximately percentage of export as compared to the total production of garments in the Philippines. This export is however, dominated by a few well established leading export companies with the capability to satisfy the needs and requirements of more sophisticated foreign markets.

The majority, 80% of garment manufacturers are struggling for their survival competing with each other on the domestic market which represents around 36% of the total production. These category, the Small and Medium Scale Industries (S.M.I.) do attempt various export markets but their exports are mainly trial orders which rarely develops into repeated orders and a more steady market. This is basically due to the absence of product adaptation.

Reference To: Annex 1 for more information about exports.

CSMI - Cooperating Agency

This report concentrates on the Small and Medium Garments Industry which is the thrust of the development efforts of the Philippine Government. The Commission on Small and Medium Industries (CSMI) an inter-government agency within the Ministry of Industry is the coordinating body for the development of the SMI sector.

The CSMI consists of 12 member agencies which have been selected according to the specific areas in which they could provide service to the SMI i.e. training, marketing, technical and financial services, etc.

1. MINISTRY OF INDUSTRY
2. NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY
3. NATIONAL SCIENCE AND DEVELOPMENT BOARD
4. NATIONAL MANPOWER AND YOUTH COUNCIL
5. MINISTRY OF TRADE
6. MINISTRY OF AGRICULTURE
7. MINISTRY OF NATURAL RESOURCES
8. MINISTRY OF LOCAL GOVERNMENT AND COMMUNITY DEVELOPMENT
9. U.P. INSTITUTE FOR SMALL SCALE INDUSTRIES
10. DEVELOPMENT BANK OF THE PHILIPPINES
11. CENTRAL BANK OF THE PHILIPPINES

OTHER SUPPORTING INSTITUTIONS AND ORGANIZATIONS CONNECTED WITH THE INDUSTRIAL DEVELOPMENT IN THE PHILIPPINES

D.A.P. - DEVELOPMENT ACADEMY OF THE PHILIPPINES

Through the Productivity and Development Center, executing agency of the DAP programmes are organized to develop the small and medium scale industries. The garments industry belongs to the group of selected sectors - given priority in the present development plan 1980-1985.

S.B.A.C. - SMALL BUSINESS ADVISORY CENTER

SBAC is the executing agency of the Ministry of Industry for implementation of regional programmes.

A.T.I.B. - APPAREL AND TEXTILE INDUSTRY BOARD

This board has been established by the NMYC, to assist the NMYC in implementing manpower development schemes.

It is a tripartite group composed of representatives from employees, workers and the government.

G.T.E.B. - GARMENT AND TEXTILE EXPORT BOARD

The main (function) responsibilities of G.T.E.B., is the implementation of garments and textile agreements between the Philippines and other countries. GTEB is also the local controlling body for quota allocations and export authorization.

TRADE ASSOCIATIONS REPRESENTING THE GARMENTS INDUSTRY

1. The Garments Business Association of the Philippines
2. The Philippine Association of Embroidery and Apparel
3. The Textile Producers Association of the Philippines
4. The Confederation of the Philippine Exporters.

Meeting and discussions have been organized with all these agencies so as to give information and collect necessary data relative to the objectives and the development program of S I. Any of these agencies should be considered as an existing resource each one with its own specific activities and potentials.

PREVIOUS WORK DONE IN THE SAME FIELD

The Garments Industry being the most labour intensive and job generating sector of the industry has been focused for technical assistance since the mid-seventies.
Foreign expertise working as short-term consultants, business associations and other Philippine agencies have also recommended areas where technical assistance would be of immediate importance to the garments industry in the Philippines.

1972 - 1976 PRODUCTION AND MARKETING OF GARMENTS

Three missions by ABRAHAM GARFINKEL
UNIDO CONSULTANT

1974 STUDY OF THE PERCIEVED PRODUCTION AND PRODUCTIVITY PROBLEMS

OF SELECTED GARMENTS FIRMS IN GREATER METRO MANILA AREA BY CENTER FOR RESEARCH AND COMMUNICATION

1975 STATE OF THE ARTS REVIEW-GARMENTS INDUSTRY BY

THE INDUSTRIAL TECHNOLOGY DEPARTMENT, INSTITUTE FOR SMALL SCALE INDUSTRIES UNIVERSITY OF THE PHILIPPINES

1978 GARMENTS INDUSTRY IN THE PHILIPPINES BY

MISS FELICIDAS U'AÑO
BUREAU OF DOMESTIC TRADE

1978 A SITUATIONER IN THE GARMENTS INDUSTRY IN THE PHILIPPINES BY

RAFAEL CINCO
EMMANUEL HIFF
NENITA RETIRO
SMALL AND MEDIUM-SCALE INDUSTRY SECTOR
INDUSTRY AND UTILITIES STAFF - NEDA

1980 PROMOTION OF TRADE WITHIN SELECTED COUNTRIES IN ASIA

through supply and demand Studies

Summary of Activities

During the total period of 1[illegible] weeks,

The Mission was split in two parts: First 3 weeks was spent on, plant visits to garment manufacturers to identify problems and provide on the spot consultancy.

Meetings with various organizations, institutions and associations to discuss with them the observations and findings as well as possible solutions to the problems.

Reference To: Annex 2 Summary of Problems and Needs Identified in the Small and Medium Garments Industry.

A survey questionnaire was prepared which would provide necessary information and physical data of the garments industry indicating resources problems, areas of training needs, etc. in the various regions.

Reference To: Annex 3 Summary Survey Covering Six Regions.

Second part of the mission has been entirely dedicated to make a complete inventory of existing resources in terms of personnel, equipment, technical know-how, methods of production, skills, training facilities, etc.

Based on observations and findings, training needs have been identified, training programmes adapted to existing resources have been developed.

Consultancy to training institutions, associations and to individual manufacturers has been provided.

Seminar workshops have been organized in Manila and Cebu to meet the needs of quality improvement, product-development, pattern making, standards and sizing.

Reference To: Annex 4 Programme Seminar/Workshop Cebu City September 1980.

Long-term and short-term programme proposals have been outlined in the field of production planning and techniques.

- Training and upgrading of instructors
- Training of production personnel
- Supervisory training
- Upgrading of management skills
- Consultancy service to the industry

SUMMARY OF RECOMMENDATIONS

To implement short-term and long term programmes which would assist the garments industry in keeping-up with the technological development in the trade so as to improve the competitiveness and contribute to the industrial and economical development.

Based on identified problems and needs in the garments industry, these are the short and long-term programmes;

I. Upgrading of existing training programmes related to production of garments

A programme proposal has been made to introduce new methods of training in basic machine operation, skills training and skills upgrading.

Reference To: Annex 5 For Details of Proposal

II. Upgrading of instructors

For the multiplying effect of the mini-project proposal, a 12 weeks preparatory programme has been planned in order to develop new training material and introduce the training methods to instructors in position who are teaching in existing training institutions for garments.

III. To develop new areas of training within existing institutions

Apart from the proposed training of supervisory personnel, the following areas could be developed as an extension of existing programmes and adapted to the needs of the garments industry.

- Product development
- Pattern making basic
- advanced
- special
- Pattern grading
- Specialized product lines
- Inplant training programmes according to product lines

IV. Training of new instructors

This will require longer training including:

- Skills training -advanced
- Garment technology-advanced
- Industrial experience
- Training methodology

Approximately duration of training-three (3) years.

V. To provide consultancy to factory plants

To solve technical problems related to production methods and production techniques.

To upgrade the technical and managerial skills in the plants and to train counterparts.

This would require the services of a foreign expert for a minimum period of 24 months.

Reference To: Annex 6 Long term Project Proposal and Development of a Garment Technology Center.

VI. To provide consultancy to the industry

with emphasis on job analysis, job descriptions, work performance and productivity standards.

This will require an expert in modern methods of time and motion study for a period of 3-6 months.

VII. To organize seminar/workshops

which would focus on the areas identified

- production methods
- production planning
- material economy
- lay out methods
- cutting techniques
- quality control
- cost control
- machine technology
- metric system imperial system
- measurements - size designations
- drafting principles

The role and the interrelation between

- plant manager
- production manager
- sales manager
- general manager
- fashion designer
- pattern designer
- pattern maker
- cutter - supervisor
- sewer - supervisor

VIII. To strengthen the technical and managerial capability of people responsible for quality and productivity improvement in the garments industry the following fellowships are recommended:

Instructors	garment technology training methods production techniques	6 months
Instructors	pattern making pattern grading	6 months
Study tour	industrial programmes related to quality and productivity improvement	3 months
Consultant	inplant management production methods and techniques plant layout, work flow/ job analysis, cost control	6 months
Consultant	inplant management material economy from planning of raw material through methods of layout, cutting and marking techniques, inventory control	6 months

Reference To: Annex 7 for details of experts duties and fellowships.

FINDINGS

IDENTIFICATION OF PROBLEMS

Reference. Technical report including survey questionnaire prepared during first part of the mission. April 14 - May 6, 1980

List of Common Problems expressed in interviews and questionnaire.

Shortage of raw material
Raw material defect
Shortage of skilled labour
Low productivity of workers
Assembly problems
Stitching defects
Material wastage
Cutting defects
Size defects
Size determination
Lack of standard measurements
Pattern drafting
Pattern grading
High unutilized capacity
Inability to meet delivery dates
Untidy finishing
Problems of quality control
Problems of cost control
Price setting

Reference To: Annex 8 Assessment of the Needs in the SMI of the Garments Industry.

CONSULTANCY

Plant visits have been made to assess the needs of the industry and to provide on the spot consultancy.
Some of the problems expressed and discussed during these visits are very representative for the over all problems in the SSI.

Referring some details of the discussions,

1. "At the beginning we produced only 200 pieces/day
Now 1 1/2 years later 300 pieces/day
What should be our optional outrut?".

2. "We realized that material wastage is too high but cannot find the reason to this problem and how to solve it. Perhaps you could help us?".

3. "We have been offered a big order of 60,000 pieces. There is a price limit set by our buyer and with our methods and techniques we are not able to produce this product within the price limit. We would need an outside expertise to assist us in assembly methods and techniques.

4. "We have received complaints that our sizes are too small. Yet we fellow given specifications. How shall we adjust our patterns to solve this problem of fit?"

The problems involved in the above mentioned situations are the following:

1. Productivity standards
   Production methods and techniques
2. Material economy, cutting techniques and planning
3. Production methods - techniques and planning
4. Pattern making and measurements.

IDENTIFICATION OF NEEDS

Following needs have been identified as being common to most SMI and require urgent attention.

1. To set productivity standards and quality standards
2. To train skilled production personnel
3. To improve assembly methods and techniques
4. To apply modern methods and techniques in material economy, layout and cutting
5. To introduce a better system of pattern and pattern grading
6. To prepare measurement standards and size designations for the domestic market as well as common export markets
7. To improve cost control system, quality control system, inventory system.

COMMENTS

RELATED TO PROBLEMS AND NEEDS IDENTIFIED:

RAW MATERIAL

The problem related to locally produced raw material supply to garment manufacturers does not seem to have improved much since early 1979. The main problem common to most garment manufacturers are:

- -high prices compared to imported fabrics
- -irregular supply
- -low quality
- -outdated designs
- -high percentage of shrinkage
- -poor finishings : etc.

Apart from these problems there is a tendency that textile mills prefer to sell to traders buying larger quantities and therefore refuse orders from individual garment manufacturers. This increases the price of garments made from these fabrics making them non-competitive.

PRODUCTIVITY STANDARDS

No productivity standards have been set in the Philippine garments industry. The lack of standards reduces the possibility to measure the efficiency of a worker and a unit of production. The productivity is low in the garments industry and to increase it is very urgent. The effect of any new training programmes and methods improvement cannot be properly measured without having standards to refer to. Lack of productivity standards is a problem mainly in the larger companies.

SKILLED PERSONNEL

The urgent need for skilled workers has been expressed by almost all garment firms. This is also reflected in all previous reports concerning garments. My discussions with people from both industry and various supporting agencies revealed a definition of what is a skilled worker which need to be clarified.

A skilled worker is someone mastering the techniques involved in a specific job disregarding the number of techniques. A sewing machine operator in basic skills may be as competent or skilled as someone mastering several techniques. It is the level of competence in one area which determines the skill. The general conception in the Philipnines of what is a skilled machine operator is someone who is able to operate several kind of machines disregarding the level of competence.

ASSEMBLY METHODS AND TECHNIQUES

There are two principal methods of assembling a garment.

A. By sections on inline basis

The garment is devided into a number of sections which are completed separately by operations and assembled in a assembly line system. This method is timesaving and best suitable for mass production. The method may also be applied in small and medium industries with shortage of qualified machine operators. Through repetition of the same operations the machine operator will soon gain confidence and skill in one particular area of garment making. Quality and productivity standards can thus maintained with less qualified workers, Provided competent supervision is available.

B. By Unit Assembly on single operator basis

The entire garment is assembled by one worker. This method requires machine operators who are competent in all techniques and processes required for a specific product line. Whatever method is applied it is extremely important to develop the most efficient, best suitable and time saving techniques in assembling since this has a direct influence on both quality and productivity.

MATERIAL ECONOMY-LAY OUT METHODS AND CUTTING TECHNIQUES

Methods and techniques related to material-saving are not applied in small and medium industries. One reason to this is that training of cutters for the garments industry is totally neglected. Cutters have very poor technical background and rarely any knowledge in garment manufacturing except those with experience from tailoring.

Huge quantities of material is wasted because of the predominat ignorance in material economy, marking and cutting techniques related to mass production of garments. The marking and cutting techniques also have a great affect on the quality of the final product. Poor cutting means deficiency in sewing and assembling. Accuracy and skill in cutting are the fundamental requirements for a final quality product. Apart from ignorance in methods and techniques related to material saving, there is a considerable lack of competence related to planning and combination of orders so as to make optional use of every centimeter.

PATTERN MAKING AND PATTERN GRADING

Patterns are prepred to represent garments of different styles and sizes for the purpose of reproduction and reference. Pattern grading is increasing and decreasing the final master pattern according to specified standards to obtain required sizes. Most SMI manufacturers do not produce patterns of their own. They copy ready made garments changing some details if necessary. Since there is practically no know how in patternmaking, nobody is capable of making necessary analysis and solve problems in fitting, styling and sizing. Even when copying a finished garment it is important to know the principle in pattermaking and control of patterns in order to reproduce a correct copy. Many size deficiences and assembly problems could be avoided if there would be someone knowledgeable in pattern construction to check. Know-How in pattern making would also mean quality improvement and product development. No industry can develop by copying what has been already produced elsewhere.

STANDARD MEASUREMENTS AND-SIZES

There are no standardized sizes in the Philippines. A survey has been conducted and necessary data has been collected but for some technical reason this project has not been followed-up and finalized. In the domestic market today there are all kind of varieties in the same sizes. Size medium may fit a small, extra small or large. There are absolutely no guidelines in sizing and related measurements.

For larger export orders, the manufacturer is mostly provided with measurements and size specifications by the buyer even designs and patterns are usually supplied, but for the domestic market there is no available information. This lack of standard sizes and measurements can be very harmful to those manufacturers attempting new domestic and export markets, especially SMI prodoers. Deficiency in measurements sizing and fit cannot developed into a quality product no matter how nigh is the workmanship.

PRODUCTION METHODS-PRODUCTION-PLANNING-AND-TECHNIQUES

In no other area of the garments industry is the need more urgent than here and in no other area would assistance have a greater impact and effect on both quality and productivity. All three are neglected in the SMI-in the Philippines and the reason to this is lack of information and guidance. What a small scale manufacturer need to know, is how to best organize the workflow and how to control the production processes. For this to be applicable it must be adapted to each individual factory and product line. Visits to larger and better organized factoryplants in order to see how smoothly and beutifully the production is being processed is of no or very little help unless there is a follow-up programme on how to adapt modern methods to individual plants and product lines

Machinery and plant lay out

To select the appropriate machinery is combined with great expenses and need therefore to be properly planned. Specified machinery and machine-attachments must be well-adapted to the type of raw material to be used, to product line and production volume. Many SMI manufacturers are not specialized and do not know in what type of machines to invest. Some have invested in expensive machines for processes where an attachment could serve the same purpose.
SMI producers do need to discuss this matter with someone who is competent to make judgements and to estimate the kind of new machinery needed in a factory. Quality and productivity are closely related to the selection of adequate machinery but to increase the output and the efficiency, it is as important to know how to utilize the machinery.

SYSTEM OF COST CONTROL-QUALITY CONTROL AND INVENTORY CONTROL

The work control is commonly used in the garments industry but there is hardly anything done to implement systems of control in the factories. Conttol of quality may refer to several different aspects of quality.

Quality of construction:

- design related to fabric
- technical reliability of the pattern
- pattern tolerances
- fitting related to style and function

Quality of Production

- Accuracy in cutting and marking
- Grain deviation
- Assembly techniques
- seams, stitches and finishing.

Other Quality aspects

- durability
- washability
- fabric characteristics
- colour fastness
- shrinkage etc. ----------

Quality matters are mainly the responsibility of a supervisor, the only person who could make the necessary in-process examinations, so as to discover in time any mistakes in assembling and minimize defects at the final stage. Supervisors in the Philippine SMI have rarely any technical background or skills in garment manufacturing, they may be graduates from University or industrial engineers without any valid experience from the garments industry. During rush periods when time is pressing and problems are accumulating the supervisor must still be capable of organizing the work, make job analysis, balance the assembly line and solve technical problems.
Supervisors without adequate skills training and industrial background cannot assume production responsibilities to the extent which is necessary in the development pace today.

As a result of previous missions expressed needs and recommendations complemented with contributions from the industry two institutions are running regular training-programmes for the garments industry:

1) T.U.P. Technological University of the Philippines
2) N.M.Y.C. - National Manpower and Youth Council

T.U.P. (Technological University of the Philippines)

COURSE Industrial Machine Operation

EXISTING RESOURCES

- Instructor
- 45 Industrial sewing machines
- 35 Single needle machines
- 10 Special needle machines
- Space available 60m^2 approximately.

No cutting machines
No pressing facilities
No adequate training material

DURATION OF TRAINING

300 hours 5 hours/day
5 days/week during 3 months
Total Approximately 100 trainees/year

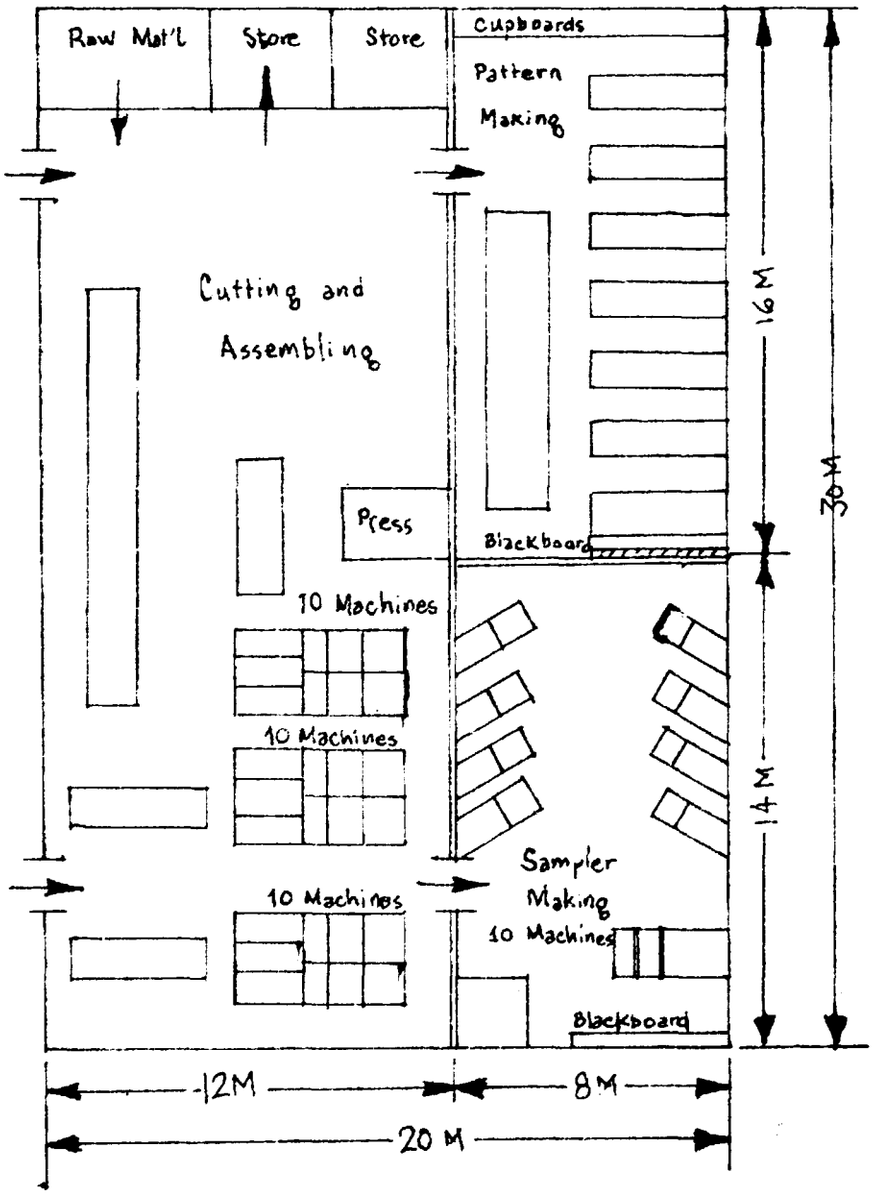
OUTPUT

Due to insufficient space the maximum number of trainees (40) is being limited until working conditions will improve. There are plans for new constructions. Temporary space will be provided in the meantime.

COMMENTS T.U.P

Lack of adequate training material for instruction, modern tools and equipment as well as raw material for exercises and practice hampers improvement of the quality and the effectiveness of the training programmes.
Subcontracting work from industry is accepted when available, but the standards of quality required by the industry is difficult to meet during a training programme.

BASIC PLANT LAYOUT FOR EXPANSION OF TRAINING PROGRAMME IN GARMENT MANUFACTURING AT T.U.P. AREA: 600 M²



Scale: 1 cm : 2M

Subcontracting work from industry is accepted when available but the standards of quality required by the industry is difficult to meet during a short training-programme.

RECOMMENDATIONS

1. To restructure and upgrade existing training programme of T.U.P.
2. To develop new specialized areas of training
3. To provide sufficient of space for expansion and development. 400m^2 is estimated to be an appropriate space for the planned programmes of T.U.P.
4. Additional equipment to improve the quality of training.

N.M.Y.C. Skills Training Division

COURSE Industrial Sewing Machine Operation

EXISTING RESOURCES

- 2 Instructors
- 24 Sewing machines — 20 Single needle, 4 special
- Space available — 90m^2 approx.

No cutting machines tools or other equipment are available
No pressing facilities
No adequate training material

DURATION OF TRAINING

120 hours — 4 hours/day, 5 days/week during 6 weeks

OUTPUT

20 trainees/group during 6 weeks
5 groups/year - 120 trainees
2x6 " - 240 trainees.

COMMENTS

240 trained machine operators/year in basic skills only, is a drop in the ocean compared to the great demand of workers especially in Metro Manila area. Apart from that the demand of higher skills is even greater.

RECOMMENDATIONS

M.M.Y.C.

1. To upgrade the existing training and the training programme of MMYC to a more advanced level and to extend the training to cover all processes of production and garment manufacturing.
2. To transfer basic training (machine control and stitching) to the factory plants so as to train more workers and to adapt the training to the needs of the industry ie·machines, products, quality etc.

ANNEXE I

ANNEX I: REPORT ON TEXTILE AND GARMENTS INDUSTRIES

GARMENT FIRMS INCREASE SALES

Quota restrictions, the worldwide economic recession and higher production costs did not dampen the sales and profits of many of the country's top garment makers, data culled from the firms' 1979 financial statements showed.

The aggregate sales of the 18 biggest manufacturers zoomed up by 47.93%, to P955.72 million last year from P646.05 million in 1978. Their combined net income likewise jumped to P27.56 million from P20.27 million; while total assets grew by 46.37%, from P487.23 million to P713.16 million in 1979.

The impressive performance of the 18 industry leaders confirms the growing acceptability of Philippine-made garments abroad as well as the feasibility of diversification in items and market. The majority of the garment firms draw the greater part of their income from export receipts.

NEW STRATEGIES. The overall rosy picture notwithstanding, the garment industry is thinking of new market approaches to assure the continuing acceptance of its products in the domestic and international markets.

The gist of the strategy, according to the position paper issued by the Garments Business Association of the Philippines (GBAP) lies in technological innovations, greater productivity, and massive marketing and promotions campaign to open new quota-free markets (like the Middle East) and to diversify export products from the quotabound critical items to quota-free-non-critical items.

The shift in strategy, the GBAP paper continues, is necessary to offset the negative effects of present day conditions such as inflation global recession, the energy crisis, rising cost and taxes, and quota restrictions, particularly in the European Economic Community (EEC) and the United States, the industry's major markets.

GARMENT-TEXTILE WAR? The domestic situation of the industry, characterized by price spirals in production inputs like raw materials, supplies and accessories, services and labor, is actually made more difficult by the misunderstanding or non-cooperation between the textile and the garment industries.

Ideally, these two should be twin industries, where fabrics for garments are supplied wholely by the local textile mills.

But as Rufino M. Reyes, incumbent president of the GBAP laments, textile industry statistic attest to the fact that the fabric makers have not kept pace with the growth of the garments industry.

"Statistics depict, quite sadly also, the garments industry's practical dependence on and sudsidy of imported fabrics ranging up to 80% of its requirements for export purposes, thereby diminishing to that extent the actual of what both our textile and garment industries have exported for the given period", Reyes added.

Textile manufacturers are one with the garment makers in tracing the root cause of the problem to the obsolescent machinery and technology currently in use in the country's textile mills. Industry leaders reveal, however, that one of the most potent competitors of the textile mills is the "rampant smuggling" of imported fabrics utilized by the garment makers. (See related story.)

TRADE SHOW. Faced with these realities, the garment industry is be being supported by various sectors in promoting its products. One such support activity is the forthcoming Fashion Fiesta Manila, an international trade show which will display tha many garment products available in the country in one locale, the Philippine Plaza Organized by Dantrade, a buyer representative based in Manila, the trade fair is expected to bring in about a thousand garment buyers representing various big markets in different parts of the world.

GARMENT EXPORTS HIT $401.99m

Regular exporters include manufacturers who use local textile materials or imported fabrics under the Board of Investments (BOI) bonded warehouse arrangement, and garment exporters located at export processing zones. Embroidery board operators, on the other hand, are those usually with foreign principals abroad, authorized to operate under the Embroidery Law (R.A.A 3137) - which provides for the duty-free importation of fabrics on consignment for eventual re-export as finished products. Since the products of regular exporters use more local inputs, they are considered to have a higher value added than the exports of embroidery operators.

REGULAR EXPORTERS. Sales made by regular exporters went up 35.72% last year from 1978's total of $159.948 million. Regular export sales last year accounted for 5 % of the country's total garment exports, comparing favorably to the 48.95% contribution made by the same sector in 1978.

Data from the National Census and Statistics Office (NCSO) showed that the top items supplied by regular exprters were outer garments (of textile fabric, not knitted or crocheted) for men and boys which earned $56.274 million last year. Exports in this category posted a 36.04% increase from the 1978 level of $41.366 million.

The second largest category for regular exporters last year was knitted or crocheted undergarments, which brought in $47.397 million-64.24% higher than 1978's $28.859 million.

Knitted or crocheted outer garments and other articles (not elastic or rubberized) the third largest export item with sales totaling $44.291 million in 1979 up 8.96% from $ 40.659 million in 1978.

The fourth largest category was outer garments (other than knitted or crocheted) for women, girls, and infants, Export of this type last year reached $38.702 million, 19.01% higher than 1978's $32.504 million.

EMBROIDERY BOARD OPERATORS. Sales made by embroidery board operators climed 10.93% last year from $166.765 million in 1978. Exports of this sector accounted for the remaining 46% of total garment exports in 1979. As the sales of regular exporters grew at the faster pace, the embroidery board operators' share of total garment exports dropped from 51.05% in 1978 to 46% last year.

GLOVES AND MITTENS were the largest export item for embroidery board operators last year, hitting a value of $55.534 million or a slight 8.67% higher than $51.105 million in 1978.

Dropping off slightly by 4.77% from 1978 levels were sales children's wear which was the embroidery board operators second largest

export last year. Exports of children's wear totalled $50.204 million in 1979, $2,513 million less than 1978's sales of $52.717 million 1978.

The third largest category in terms of sales last year for the the embroidery board operators was women's wear. Exports in this category went up 18.87% from $22.468 million in 1978 to $26.708 million in 1979.

MEN'S Wear the fourth largest export from this sector grew 49.82% from $16.984 million in 1978 to $25.457 million last year.

BRASSIERS sales posted a modest 7.8% gain from $19.577 million in 1978 to $21.124 million 1979, making this category the fifth largest export for embroidery board operators.

PROBLEMS. Notwithstanding its creditable performance last year, the country's garment export sector is still confronted with problems that hamper its growth. One of the most often cited by Philippine garment exporters is that of "protectionist" quotas set by the country's major markets. Under the quota system, industrialized countries like the US and members of the European Economic Community (EEC) impose limits on the amount of the certain exports entering their countries.

The system of quotas was arrived at through various bilateral trade agreements entered into by the Philippine government and the countires concerned, and is meantto achieve a "voluntary export restraint to protect existing industries in importing countries. The Garment and Textile Export BBoard (GTEB), in turn, allocates quotas to local garment exporters based on their previous performance.

Because the country's garment exports to major market at pegged at certain levels by quotas, other strategies have been adopted to increase exports. One of these is to export to counties without quota restrictions, while another involves diversifying into the product line that are not covered by quota agreements.

Trade Minister Luis ... Villafonte noted that garment items not subjected to quota restrictions, accounted for 46.7% of the country's garments exports last year. The trade minister added that the problems encountered by quota items which made up 53.3% of total exports last year underscore the need to further diversify to non-quota or "non-critical" markets and product lines.

Critical items are those subject to quota, such as shirts, blouses and jeans. Non-critical items, on the other hand, are those not subject to quotas, like dresses, sweaters, cardigans, etc.

Another problem cited by garment exporters is the inability of the local textile industry to supply the sector's raw material requirements. GEAP secretary general Aragon noted, for example,

that in 1979, the local textile industry only supplied about 20% of garment exporters' raw material requirements. The remaining 80% was supplied through imports from Hong Kong, Taiwan, the US, and other sources.

In one dialogue between the textile and garment indsutries held recently, GTEA President Rufino A. Reyes said: "The garment industry has been utilizing as much locally produced textile materials our local textile mills can supply whose quality would be acceptable to our buyers at competitive pricing and fixed delivery schedules".

Reyes traced the local textile industry's inability to supply exporters requirements to the obselencent technology and equipment used by may textile millers, and cited the need for modernization.

Higher production costs - particularly rising labor cost - are lso a concern of the garment industry, a highly labor-intensive activity. Some gamment exporters, in fact, have a sought a detrment of the latest wage increase granted this August. Aragon explain that since garments orders, as well as the prices for those are agree upon in advance, hiked production costs not taken into account when the orders were accepted would reduce the exporters' profit margins.

PROSPECTS. Despite these problems, the outlook for the country's garment exports is far from dim. Using the same strategies of market and product diversification, garment exporters expect 1980 to be an even better year for the industry sector. Indicative of a favorable export performance this year is the GTZB report which noted that the garment exports has already reached $202.9 million during the first half of 1980, and could reach the industry target of $500 million during the peak months of October to December.

SOURCE: Business Day - September 25, 1980
Special Report on
Textile And Garments Industries

ANNEXE 2

Annex 2

PROJECT PHI/77/004 QUALITY CONTROL AND PRODUCTIVITY IMPROVEMENT PROGRAMME

EXPERT EVA MARIA NORDBERG GARMENT TECHNOLOGIST

DATE 29 September 1980

Summary of problems and needs identified in the Small and Medium Garments Industry in the Philippines

1. Productivity is often referred to as a major problem in the industry.

In order to measure the productivity it is necessary to identify productivity as related to the effective performance of an individual or a group.

This efficiency may be medium, high, very high or very low. Disregarding the intensity and the ability of the worker it is important to find a standard corresponding to the average performance. This will be considered as 100% output.

The productivity is then based on this and measured in relation to this standard.

If the individual performance of a worker is estimated to exceed the work standards with 20%, this is indicated as 120% output. If the performance is 10% below the workstandards it is indicated as 90% output.

To estimate the performance is the most important and difficult part in measuring the productivity. It demands solid know-how and long experience of the person setting the standards.

Comment

Many of those complaining about low productivity in the Philippine garments industry very often refer to the comparative output in quantity with no reference to any reliable standards of work or efficiency. Only when such standard have been established will it be possible to give valid information.

Other common problems and needs expressed by the manufacturers themselves and/or observed during plant visits

2. Shortage of skilled production personnel
   - machine operators
   - cutters
   - supervisors

To be skilled means to master the techniques involved in a job or a profession. A worker may be very little - medium or highly skilled depending on personal aptitude and up to which level he or she has been trained.

Apart from identifying the skills needed, it is important to identify the level of competence required by the industry so as to find competent people and/or organize training-programmes accordingly.

The shortage of skilled personnel is very much a problem of inadequate trade-oriented training of instructors and supervisors.

3. Raw material supply

Assuming that the raw material is available then it may be a question of production planning. If not, it is an uncontrollable factor from the part of the garment manufacturers depending on the local production.

4. Material - economy
Layout - techniques
Cutting

Material wastage has been expressed as a very basic problem by almost all manufacturers interviewed. This statement is supported by observations made in the factories during plant visits.

Methods and techniques related to material saving are not applied in small and medium industries. The reason to this is ignorance of the person who is responsible for production planning, layout and cutting. This ignorance may cause great losses and reduce the competitiveness of the company and the products.

5. Production planning involves methods of operation, organization and time schedule considering available resources, such as;

- machinery
- personnel and equipment
- raw material supply
- storage etc.

Knowledge about the market, the production capacity and cost control are indispensable. The production planning consists of several important functions dependent on each other and coordinated in such a way so as to deliver in time the quantity and the quality required of every product. Methods of work must be adapted to quality specifications and price.

Frequent fashion changes, specific of the garments industry, makes planning extra important. Production planning is neglected among SMI in the Philippines. The reason to this may be the general conception that management is divorced from technical, know-how and experience. It is also a question of organization and control as well as detailed knowledge about the capacity.

6. Assembly methods and techniques

The manufacturing of garments consists of assembling various pieces and trimmings. This may be done by:

I - Unit Assembly

The entire garment is assembled by one worker.

II - Sectionized assembly

The garment is divided into sections or operations and assembled by several workers on a assembly line.

Whatever method is selected there must be a system of assembling adapted to style-time and machinery. In small factories it is the responsibility of the supervisor to give instructions on how to assemble various garments so as to save time and maintain the standard of quality specified.

In larger factories producing bigger quantities of the same product it is important to develop further the assembly methods and - techniques in order to reduce the costs and improve the quality.

The main problem im most SMI is the variety of designs and the limited quantities produced, which is an obstacle to methods - and quality improvement and to develop simplified assembly techniques.

Quality Control

There are several kinds of quality only in garments related to:

- function
- durability
- washability
- fitting
- fashion
- colour fastness
- fabric characteristics, etc.

It is important to differentiate between:

A. Quality of garment construction

Design and production adapted to fitting requirements and technical reliability. It is also important to adapt styles and patterns to fabric and machinery.

B. Quality of garment production

- control of hand ling layout and cutting techniques.

- Accuracy in cutting, marking, assembling. The quality of assembly techniques stitching and finishing must therefore be selected and adapted according to costs.

  Quality conciousness and craftmanship can be developed but cannot be taught.

Quality standards may be established but the control must be done by people who are quality conscious and critical.

Supervisors are those primarily responsible for quality control in the plants. It is very essential that supervisor are well trained in all aspects of garment manufacturing so as to acquire the necessary skills for supervisory positions.

Pattermaking and pattern grading

A pattern is a flat piece of paper given shapes and dimensions so as to when joined it will become 3-dimensional and fit a body size.

Patterns are prepared to represent garments of different styles and sizes for the purpose of reproduction and reference.

A pattern designer is a combination of a craftsman - a technician and a designer. From sketches, fotogr phs and/or personal ideas the pattern designer must be able to develop a reliable pattern for a garment which has to fit well, be attractive, easy to produce and saleable.

Pattern grading is increasing and decreasing the final master pattern according to specified standards to obtain required sizes.

The majority of SMI do not produce their own patterns. They copy finished garments by disassembling and reproducing a method which is not reliable, does not improve the quality or the methods and in definite threat against product development.

Conclusions and Recommendations:

To participate technically in the development of the garments industry through a systematic training programme and upgrading of personnel in the industry. Know-how will thus be produced and accumulated. Through extensive training adapted to the needs in the industry, this know-how will contribute gradually to the development.

Training is a very important factor for improvement of productivity and quality.

Training is skill development.

Training is investment.

ANNEXE 3

Garments Industry
Summary Survey

Total number of respondents for Regions I,III,IV,V,VII,XI-11?
Number of Subcontractors - 17
Number of Knitters - 7

Product Line

ladies wear	50
men's wear	37
ladies and men's wear	17
children's wear	65
underwear	11
lingeries	3
knitted sweater	2

Production Personnel

Supervisor	214
cutter	494
sewer	3505
finisher	402
knitter	231
linker	209
pattern maker	6
waxer	6
embroiderer	50

Employees Needed

machine operator	64
pattern maker	22
finisher	7
designer	18
embroiderer	3
knitter	1
cutter	1

New Techniques are Demonstrated by:

owner/manager	93
supervisor	39
production manager	1
pattern maker	1
sample maker	1
technician	2
designer	1
cutter	2

Common Defect Found in the Finished Product

Material defect	59
size defect	49
untidy finishing	52

Methods Used In Pattern Production

direct cutting	27
ready made pattern	19
provided by customer	37
develop the style	42
pattern out of disassembled garments	11

Methods Used in Laying out Fabric

manual	95
manual with roller	97
authomatic	2

Methods Used In Transferring Pattern

direct on cloth	77
use of perforate paper	19

Points of Reference Are Transferred by

drill marking	12
thread	2
chalk or pencil	75

Do you conform to recognized sizing system

Yes	94
No	5

Size Designations Applied

US standard	24
British standard	5
XS XL	17
individual body measurements	2

Intervals of Grading Are Worked Out From

standard measurement	41
self develop interval	17
specified by buyer	23

PROBLEM AREAS

Market Problem / Region	I	III	IV	V	VII	XI
- collection of receivables	2	1		1		3
- poor access to vital market information	3				2	2
- price setting		3	2	3		
- poor terms of payment			3	2	1	1
- inability to meet delivery dates		3				
- stiff competition	1	2	1			
TECHNICAL/PRODUCTION PROBLEM						
- shortage of local raw materials	1	1	3	2	3	1
- high unutilized capacity	2	3	2	1		2
- problems related to quality control	3		1	3		
- too much materials wastage		2				
- inadequate cost estimating procedures						
- poor production planning					1	3
FINANCIAL PROBLEM						
- lack of working capital and failure to meet receivables	2	2	1	1	2	1
- inefficient cost control procedures	3					
- undercapitalization	1	1	3	2		2
- difficulty of getting finances from banks		3	2		3	3
- inappropriate allocation of working capital				3		
- lack of budgetting system				3		
MANAGEMENT/LABOR PROBLEM						
- difficulty in attracting skilled labor	3	1	1	1	3	1
- excessive labor turnover		2	3			3
- inadequate administrative system						3
- family oriented problems						2
- low productivity of workers	1	3	2	2	1	3
- too centralized decision making	2			3	2	

SUMMARY

Market Problem	Financial Problem
Ranking	Ranking
1 collection of receivables	1 lack of working capital & failure to meet receivables
2 poor terms of payment	2 undercapitalization
3 stiff competion	3 difficulty of getting finances from banks

Tech./Production Problem	Management/Labor Problem
Ranking	Ranking
1 shortage of local raw material	1 difficulty in attracting skilled labor
2 high unutilized capacity	2 low productivity of workers
3 problems related to quality control	3 too centralized decision making

ANNEXE 4

Annexe 4

PROJECT	PHI/77/004 QUALITY CONTROL AND PRODUCTIVITY IMPROVEMENT PROGRAMME
EXPERT	EVA NORDBERG GARMENT TECHNOLOGIST

= =

Cebu	8 - 11 September 1980
Seminar/ Workshop For	Cutters, Pattermakers, Designers in the Garment Industry

SUBJECT Standard measurements related to

- production of patterns
- sizes
- grading

OBJECTIVES

- To introduce a sizing system for production of ladies garments
- principles of drafting
- principles of grading
- construction of a standard block patten to be used as reference for patternmaking and pattern-grading

The Seminar-Workshop organized by the CSMI-Ministry of Industry and UNIDO is part of their productivity and quality improvement programme. It is intended to be the model for a pilot programme which could be duplicated in other regions. It is also a part of a more extensive long-term programme of which some subjects have been selected for implementation as short-term programmes.

This programme is based on results from a survey-question-naire which was prepared during a preparatory phase of this mission and sent to all registered garment manufacturers for feed back.

In order to disseminate as much as possible these standards and system of drafting, two technical counterparts were invited for briefing in beforehand, Mrs. Ynchausti, U.P., Miss Bayaras, TU.P. During the seminar both of them assisted in providing individual guidance to the participants.

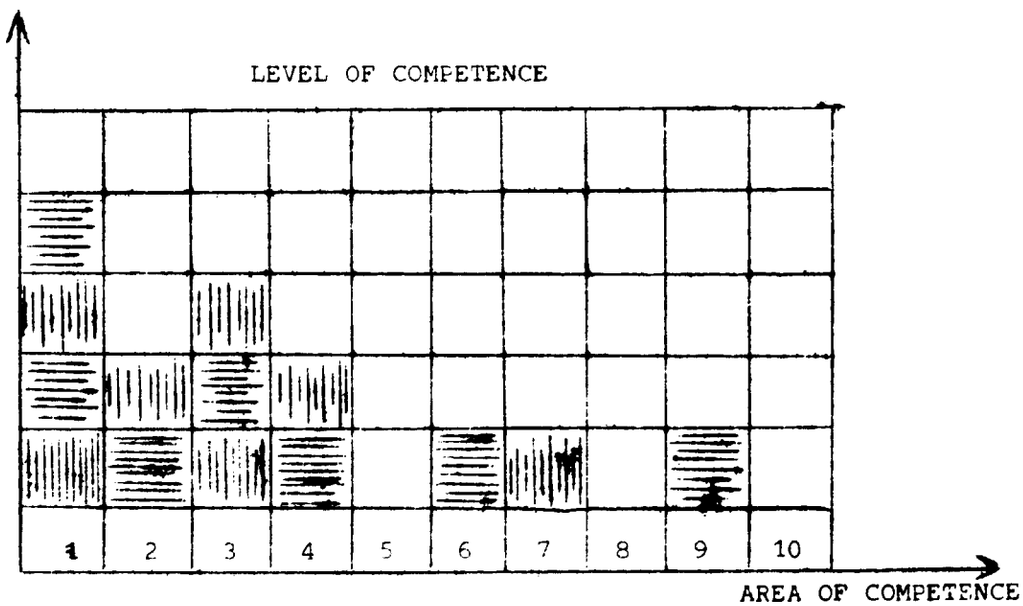
Small Business Advisory Center-Cebu made all necessary preparations and practical arrangements on the spot in collaboration with Cebu Garments Business Association.

National Manpower Youth Council Region VII, Cebu offered their training center and some facilities for the program.

Attached to this report, please find programme handouts, diagrams and explanatory notes.

Modules - Patternmaking

1. Measurements and dimensions of a human body
2. Metric System - Imperial System
3. Figure types
4. Body measurement procedure
5. Labelling
6. Standard measuring points for drafting
7. Allowances for fit and ease in garments
8. Calculation for construction
9. Principles of drafting, patterndrafting
10. Principles of grading, patterngrading



Findings

As indicated in the diagram above, there are only 5 areas out of 10 where some background knowledge could be identified.

Sixty percent of the programme was new to the majority of participants.

The response from the participating garment manufacturers in Cebu was very positive.

The feedback based on the evaluation papers filled in by all participants gave the following indications:

1. Very informative workshop. A follow-up training program should be conducted.

2. One-week workshop is not enough, its should be extended.

3. Similar programs should again be conducted.

Comments

1. The seminar in Cebu City on measurements related to patternmaking sizes and grading has identified and proved a very great need for further training and upgrading in this subject.

2. Basic background knowledge in patternmaking is very weak.

3. The level of competence is too differentiated within the group making this kind of workshop-seminar difficult to handle. As a result those with p background knowledge do not get the optimum benefit.

Recommendations

1. To organize basic programmes in

   - the metric system
   - calculation
   - principles of measuring
   - principles of drafting

This kind of programme does not require any subject know-how and could easily be implemented by SBAC and regional institutions such as NMYC as supporting programme and would give to garment manufacturers, patternmakers and cutters the necessary background on which to build upgrading programmes related to the production of patterns.

2. To collaborate with the existing training institutions, NMYC and Cebu College of Arts and Trade so as to upgrade their instructors and improve their training programmes.

The Cebu Trade School offers training courses in garment manufacturing including patternmaking and cutting. NMYC in Cebu organizes within their training programme in garment manufacturing also training in patternmaking.

These two institutions should participate in upgrading programmes for the garments industry so as to keep up with the development in the trade.

3. To organize a follow-up programme in Cebu on how to apply the standards introduced in the production of garments.

A 4-day seminar can only be a forum for information regarding methods and techniques in a specific subject.

It may create the feeling of dissatisfaction if not followed-up by a training - or upgrading programme in one or several aspects related to the subject. Such a follow-up programme should emphasize on practical application of the learning elements in order to give a beneficial effect.

4. To group participants according to:

- area of knowledge
- level of competence

Considering the nature of the programme, experience, technidal and educational background it would be advisable to limit the number of participants to maximum 15 and unite in one group those with similar background and competence.

5. I also strongly recommend that a 4-day programme, 5 hours/day should have at least 2 lecturers or more to be more effective and to break the monotony of listening to only one lecturer.

W O R K S H O P

SUBJECT

STANDARD MEASUREMENTS RELATED TO:

- production of patterns
- sizes
- grading

OBJECTIVES

1. To introduce a sizing system for production of ladies garments
2. Principles of drafting, principles of grading
3. Construction of a standard block pattern to be used as reference for pattern making and pattern grading

DURATION	4 Days X 5 Hours/Day	20 Hours
NUMBER OF PARTICIPANTS	Maximum	20 persons

PARTICIPANTS ARE REQUESTED TO BRING:

- pattern paper 4 metters
- tailors square large size metric
- set square small metric
- pencil sharpener
- eraser
- scissors medium size

You are also requested to bring the standard measurements for ladies wear that are bring applied for production of patterns and sizing in the factory you represent.

SIZING SYSTEM

The sizing system for Ladies wear is based on following basic data:

BODY LENGTH - BUST - WAIST - HIP

WAIST - FIGURE TYPE

BODY LENGTH

The system consists of several lengty cathegories which vary depending on country and people.

Example:	SWEDEN	160 - 168 CM.	164 ± 4
	FRANCE	152 - 160 CM.	156 ± 4
	GERMANY	[illegible] 168 CM.	164 ± 4
	USA	164 - 172 CM.	168 ± 4
	PHILIPPINES	152 - 160 CM.	156 ± 4

BUST WIDTH

The most important basic data for sizing and contruction of uppergarments. Common size intervals are 4-6 cm. As less the intervals the wider range of sizes available. As bigger the interval as more difficult to find appropriate sizing and fitting.

HIP WIDTH

The system is based on three figure types B C D depending on the relation between hip measurement and bust measurement.

SIZE	S		M		L	
BUST	76	80	84	88	92	
HIP FIGURE C	87	90	93	96	99	COMMON
HIP FIGURE B : - 6						SLIM
HIP FIGURE D : + 6						STOUT
WAIST OPTIONAL						

SIZE DESIGNATION OF CLOTHES

THE INTERNATIONAL STANDARD ORGANIZATION I.S.O. DEALS ONLY WITH THE SIZE DESIGNATION OF CLOTHING AND IS NOT CONCERNED WITH SIZING SYSTEMS AS SUCH.

THE PRIMARY AIM OF INTERNATIONAL STANDARDS IS THE ESTABLISHMENT OF A SIZE DESIGNATION-SYSTEM THAT INDICATES THE BODY SIZE OF THE PERSON THAT A GARMENT IS INTENDED TO FIT.

THE SIZE DESIGNATION SYSTEM IS BASED ON BODY AND NOT GARMENT MEASUREMENTS. CHOICE OF GARMENT MEASUREMENTS IS NORMALLY LEFT TO THE DESIGNER AND THE MANUFACTURER WHO ARE CONCERNED WITH STYLE, CUT AND OTHER FASHION ELEMENTS AND WHO MUST BE ABLE TO MAKE GOOD JUDGEMENTS OF APPROPRIATE ALLOWANCES FOR VARIOUS KINDS OF GARMENTS.

DIFINITIONS AND BODYMEASUREMENT PROCEDURE

IN THE SIZE DESIGNATION OF CLOTHES, STANDARD MEASUREMENTS WILL DEFINE A BODYSIZE AND SPECIFY A STANDARD PROCEDURE FOR MEASURING THE BODY.

CONTROL DIMENSIONS

THOSE BODYMEASUREMENTS, IN CENTIMETERS ON WHICH A SIZING SYSTEM IS BUILT AND THAT ARE USED TO ASSIGN AN APPROPRIATELY SIZED GARMENT TO A WEARER.

STANDARD MEASUREMENTS - SIZES

STANDARDS ADAPTED TO THE MARKET MUST BE REPRESENTED BY A SIZING SYSTEM CORRESPONDING TO MEASUREMENTS REFERED TO AS IDENTIFICATION-MEASUREMENTS.

SWEDEN

SIZE	16	17	18	19	20
LENGTH	164±4	164±4	164±4	164±4	164±4
BUST	76	80	84	88	92
HIP	81 87 93	84 90 96	87 93 99	90 96 102	93 99 105
WAIST	59 61 64	62 64 67	65 67 70	68 70 73	72 74 77

FRANCE					
SIZE					
LENGTH	156±4	156±4	156±4	156±4	156±4
BUST	76	80	84	88	92
HIP	76 80 86	78 84 90	82 88 94	66 92 98	90 96 102
WAIST					

GERMANY					
SIZE					
LENGTH	164±4	164±4	164±4	164±4	164±4
BUST	76	80	84	88	92
HIP	76 82 88	80 86 92	84 90 96	88 94 100	92 98 104
WAIST					

U.S.A.					
SIZE	6	8	10	12	14
LENGTH	168±4	168±4	168±4	168±4	168±4
BUST	77	80	83	86	89
HIP	78 82 84	81 85 89	84 88 92	87 91 95	90 94 98
WAIST					

STANDARD MEASUREMENTS - DRAFTING

Standard measuring points and body measurements to be observed when drafting a standard block-pattern foundation.

	S		M		L
Bustwidth	76	80	84	88	92
Hip	87	90	93	96	99
Waist	61	64	67	70	74
Int. seam (slacks)	73	73	73	73	73
Hip (SHALL)	80	83	86	89	92
Depth of armhole	19.8	20.2	20.6	21.0	21.4
Neck to waist (back)	38.8	39.0	39.2	39.4	39.6
Across back	33.0	33.8	34.6	35.4	36.6
Neck Width	34.75	35.5	35.25	37.0	37.75
Shoulder	12.2	12.4	12.6	12.8	13.0
Arm Length	56.6	56.8	57.0	57.2	57.4
Arm width	24.0	25.0	26.0	27.0	28.0
Wrist	15.0	15.5	16.0	15.6	17.0
Bust level	31.7	32.6	33.5	34.4	35.3
Neck to Waist (front)	48.9	49.8	50.3	51.0	51.7
Bustdart	4.75	5.5	6.25	7.0	7.75
Crotch	24.4	24.8	25.2	25.6	26.0
Ext. seam (slacks)	74.6	74.4	74.2	74.0	73.8
Armhole	39	40	41	42	43

STANDARD MEASUREMENTS - SIZES

Name and address of factory

Market:

SIZE					
BUST					
HIP					
WAIST					
INT. SEAM (SLACKS)					
HIP (SMALL)					
DEPTH OF ARMHOLE					
NECK TO WAIST (BACK)					
ACROSS BACK					
NECK WIDTH					
SHOULDER					
ARM LENGTH					
ARM WIDTH					
WRIST					
BUST LEVEL					
NECK TO WAIST (FRONT)					
BUSTDART					
CROTCH					
EXT. SEAM (SLACKS)					
ARMHOLE					

DEVELOPMENT AND GRADING OF THE STANDARD BLOCK PATTERN

In the mass production of garments samples are made in a certain size which after having been carefully tested must be graded to required sizes i.e., increased and decreased according to standard body measurements to obtain larger and smaller sizes without change in fit, balance or proportion. It must be done accurately. Small errors unnoticed when only one size is graded create problems when many sizes are required.

There are several methods of grading a pattern but common to all methods of grading is the basic body measurements of each size and the differences thus observed indicating the data for grading. Any deficiency in the calculation of measurements for grading affects the whole pattern throughout the sizes with fitting problems as a result.

PATTERN GRADING

DIFFERENCES IN MM FOR GRADING OF STANDARD BLOCK PATTERN

FOUNDATION FOR LADIES WEAR

	16	17	18	19	20
BUST WIDTH	40	40	40	40	
HIP WIDTH	30	30	30	30	
WAIST WIDTH	30	30	30	30	
INT. SEAM (SLACKS)	-	-	-	-	
HIP	30	30	30	30	
DEPTH OF ARMHOLE	4	4	4	4	
NECK TO WAIST (BACK)	2	2	2	2	
ACROSS BACK	8	8	8	10	
NECK WIDTH	7.5	7.5	7.5	7.5	
SHOULDER	2	2	2	2	
ARM LENGTH	2	2	2	2	
ARM WIDTH	10	10	10	10	
WRIST	5	5	5	5	
BUST LEVEL	9	9	9	9	
NECK TO WAIST (FRONT)	7	7	7	7	
BUSTDART	7.5	7.5	7.5	7.5	
CROTCH	4	4	4	4	
EXT. SEAM (SLACKS)	-2	-2	-2	-2	
ARMHOLE	10	10	10	10	

METHOD OF GRADING

Use of block pattern within the same group of the sizes to be graded. Copy the pattern leaving sufficient space around the pattern piece to grade the largest size.

In this method the bustline, the depth of crown-line and the hip line are kept constant as shown in diagram. The grading is then done above and beneath these lines.

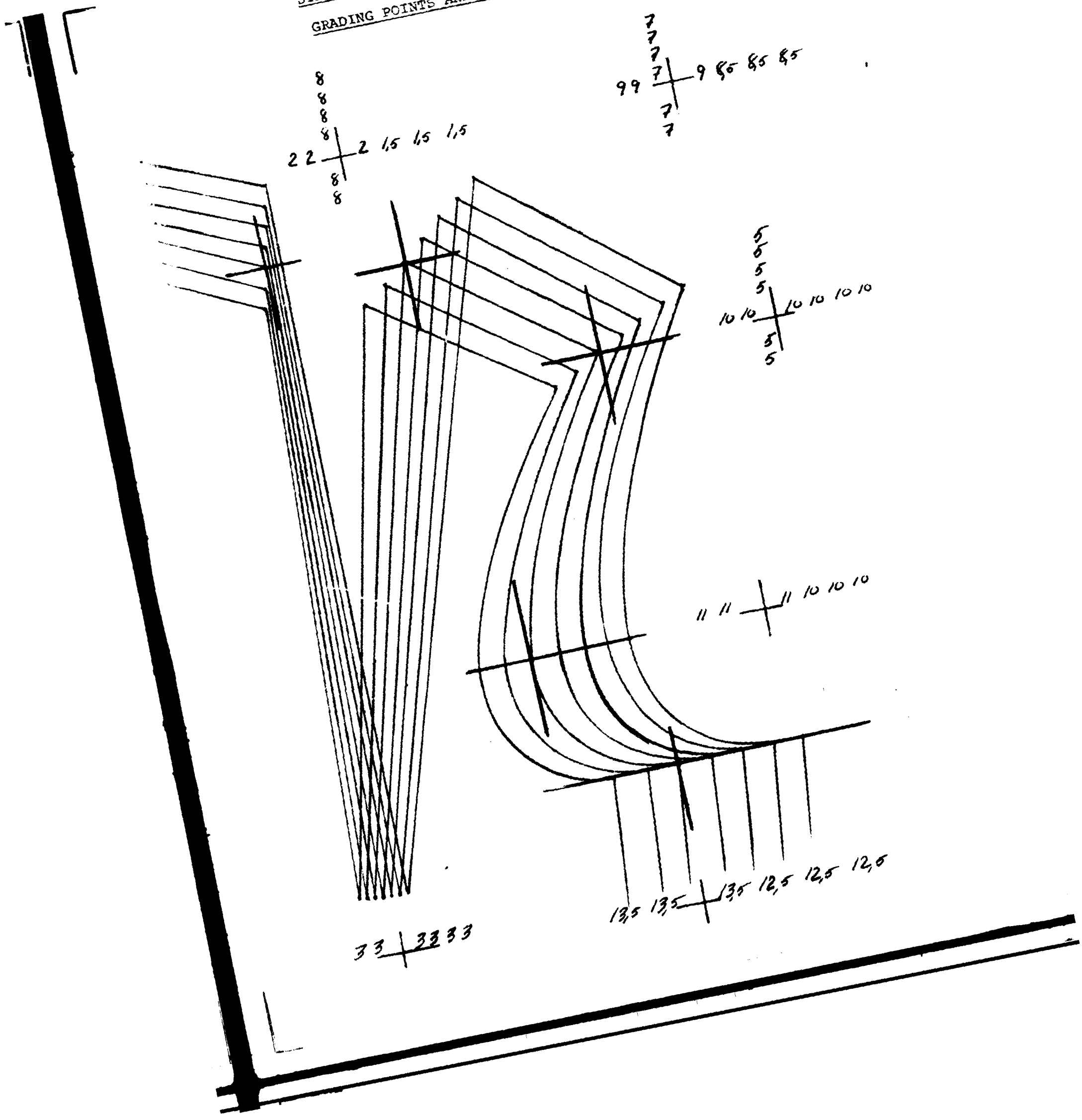
Before establishing the grading points, a grading chart must be prepared indicating the differences in Millimeters between each size to be graded. These differences are calculated from the standard body measurement chart.

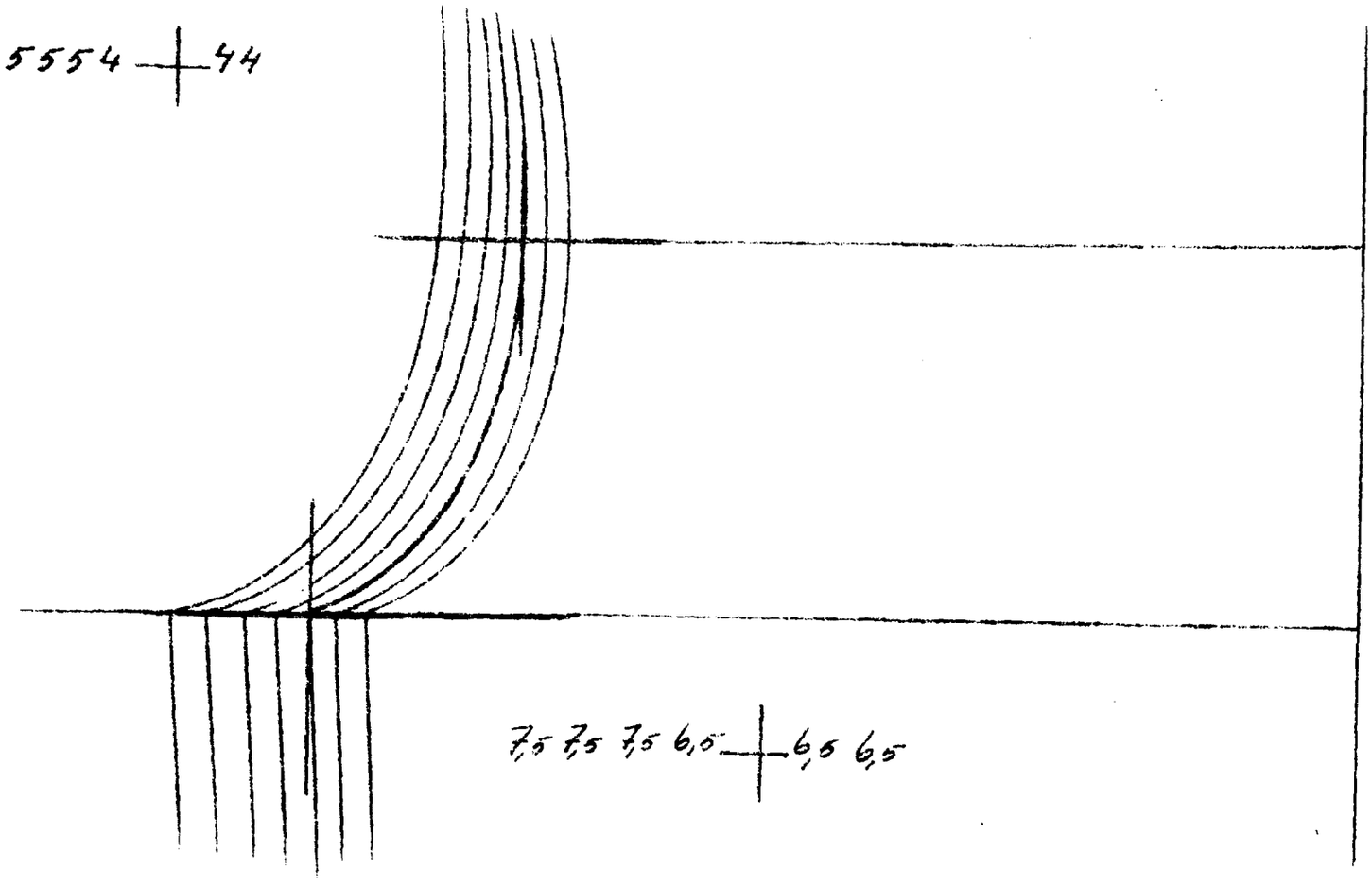
At every grading point square vertical and horizontal lines at 90°. The grading differences are then measured on these lines.

Draw a diagonal line from the original pattern to the extreme points of largest and smallest size. The intermediate sizes will be established where this line touches the squared grading lines. The final measurements must be checked carefully to conform to given specifications of the appropriate sizes.

STANDARD FOUNDATION ID 160 - 84 - 67

GRADING POINTS AND DATA FOR GRADING

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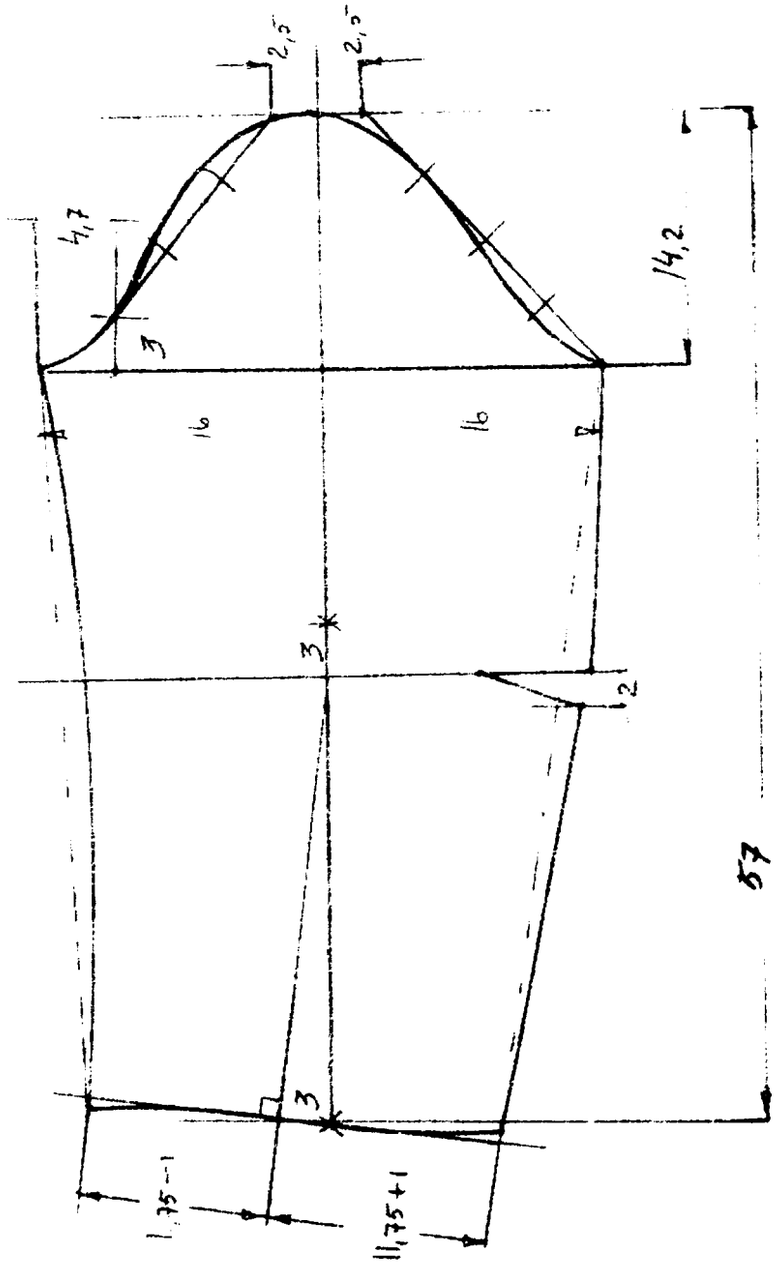
STANDARD FOUNDATION SLEEVE BLOCK

DD 160 - 84 - 67 SIZE 18



STANDARD FOUNDATION BODICE BLOCK

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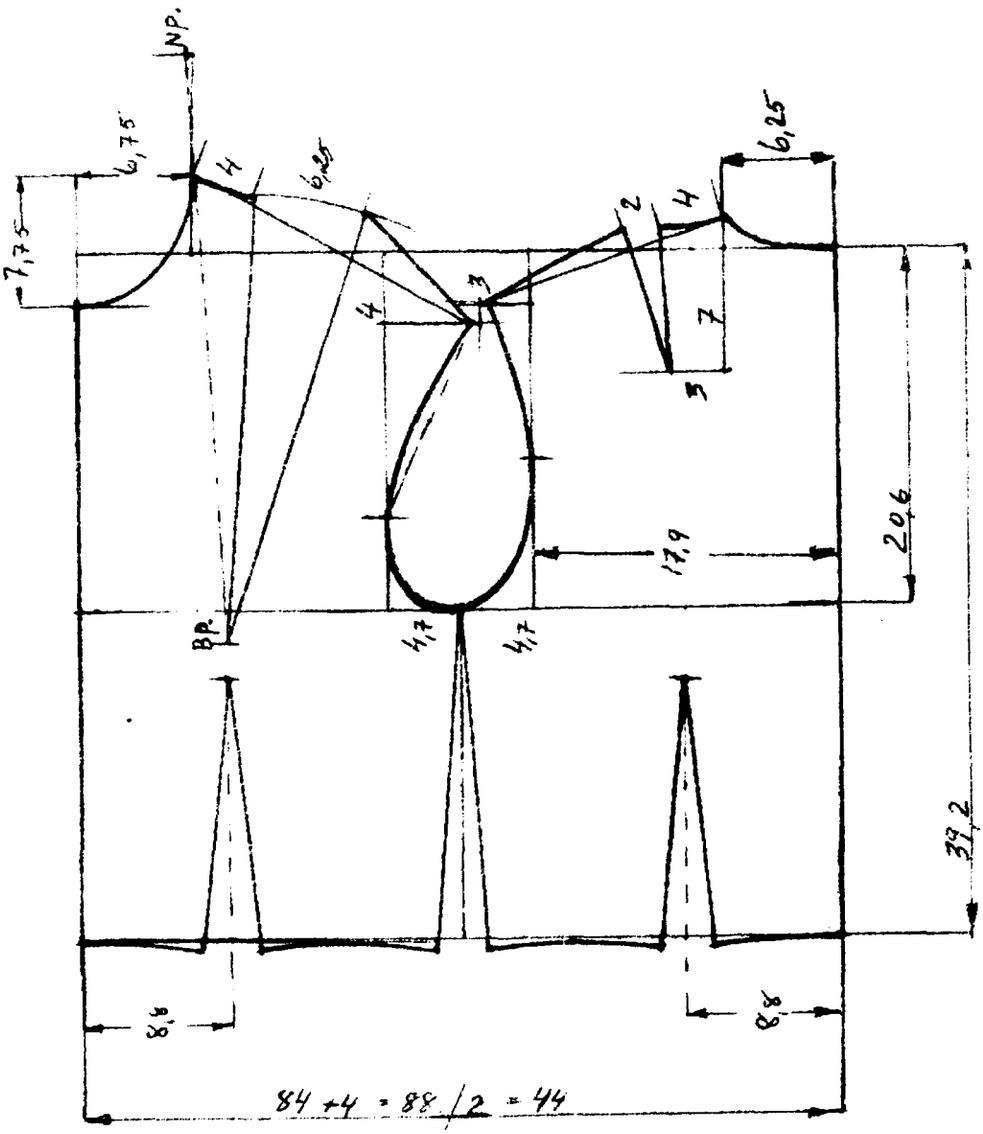

STANDARD FOUNDATION SKIRT BLOCK

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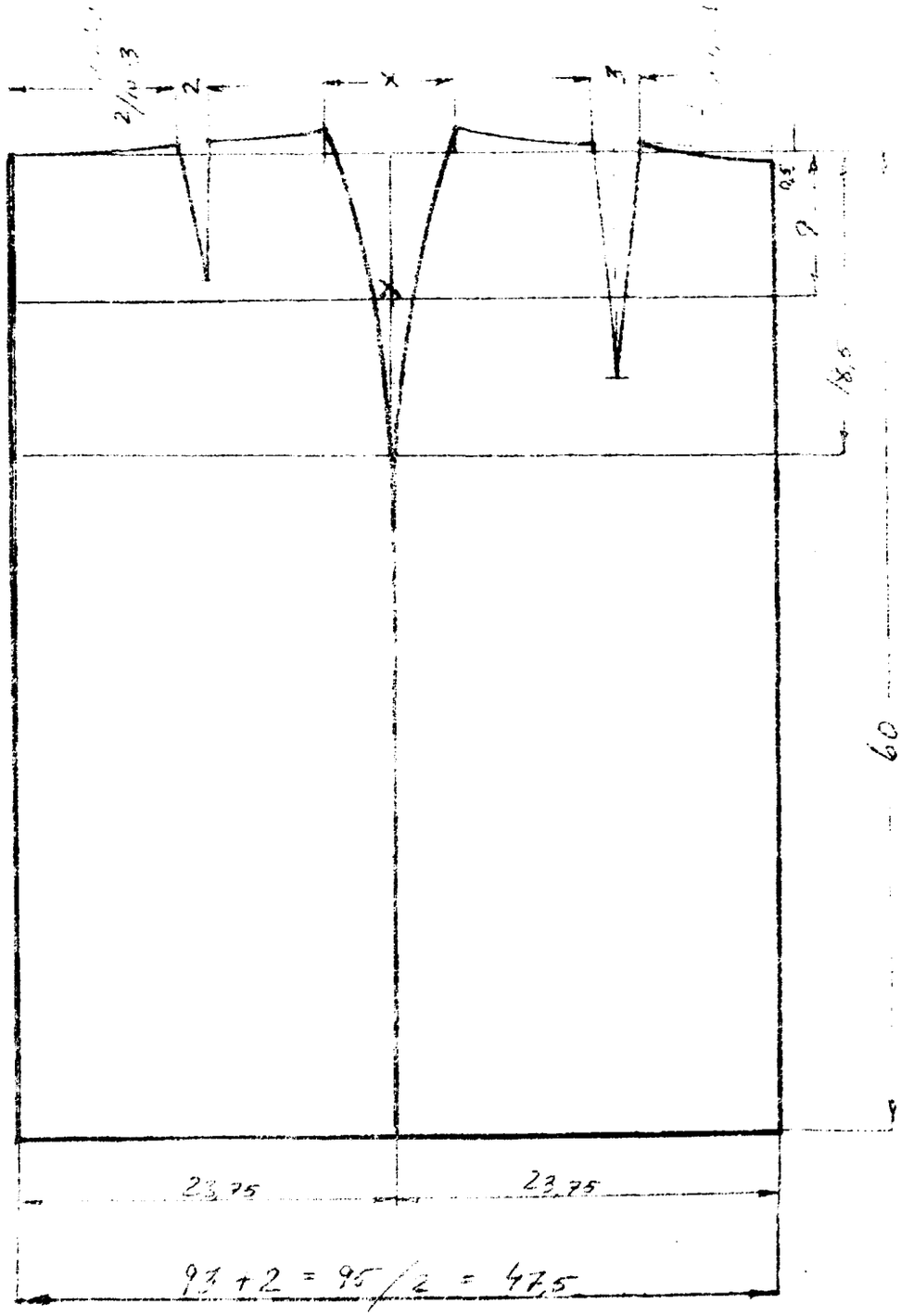


ANNEXE 5

ANNEXE 5
Including 2 Minutes of meetings regarding programme proposal

PROGRAMME - PROPOSAL

TRAINING OF PRODUCTION PERSONNEL

INSTRUCTORS AND SUPERVISOR

Expansion of existing traning programme for the garments industry at NMYC training center.

The project is part of a Technical Assistance Programme in Quality Control and Productivity Improvement planned and projected with the Ministry of Industry, Commission on Small and Medium Industries.

PROJECT DESCRIPTION

The proposed programme is based on the existing training programme at NMYC, now limited to basic machine operators for the garments industry in the Philippines.
The fundamental aim should be a training basically oriented to skill development and closely related to the workshop floor with complementary theoretical training.

The main objectives

1. To upgrade machine operators and to train supervisors in more advanced garment manufacturing processes,
2. To train cutters and supervisors in cutting.
3. To develop systematic training programmes in machine operating intended for in-plant training.
   - To give supervisors the necessary input in methods of training so as to organize and adapt the training to specific needs in the industry.
4. To upgrade instructors of various training institutions including NMYC regional centers to secure continuity and to prepare adequate training material and teaching aids.
5. To develop the existing training programme into a better functioning training- and production unit producing articles which are:
   - representative for the garments industry
   - suitable for the purpose of training
   - saleable.

Such a unit would be planned so as to provide for expansion and growth along with the capacity of the NMYC programme.

It could well become self supporting within a relatively short period of time if well planned and properly supervised.

It is essential that training methods - materials and equipment are linked together with experience and needs of the SMI so as to relate the planning and organization of the training with the development pace and new trends in the industry.

It is also important that modern machinery being used for training should be of high standard, comparatively modern and well maintained.
In the proposed training programme of 22 weeks duration, the main objective is to provide the industry with qualified supervisors and trainors.
After having participated in a 22 weeks training programme the trainees will know:

SUPERVISORS IN CUTTING

- planning and accuracy in laying-out
- how to minimize material wastage
- combination of fabrics
- combination of sizes
- joining and over lapping
- pattern tolerances
- grain deviation
- techniques in cutting working and bundling

SUPERVISORS IN SEWING

- planning of assembly line
- preparation of work procedures
- preparation of operation sheets for sewing instruction
- to set quality specifications
- to make job analysis
- to judge work and job performance
- to demostrate new techniques
- to train new workers.

See the following page for the schematic diagram of the training programmes

SUMMARY OF SUGGESTED TRAINING PROGRAMMES FOR PRODUCTION PERSONNEL

CATEGORY OF PERSONNEL	DURATION OF TRAINING IN NUMBER OF DAYS - WEEKS															
	RELATED THEORY															
	BASIC M/C LINE OPERATION	ASSEMBLY IN LINE BASIS	ASSEMBLY SINGLE OPERATION	SEWING TECHNOLOGY	MACHINE TECHNOLOGY	MATERIAL ECONOMY	DRAFTING TECHNIQUES	PATTERN MAKING	BASIC CUTTING	CALCULATION	PRODUCTION PLANNING	PRODUCTION TECHNIQUES	QUALITY CONTROL	COST CONTROL	TOTAL NUMBER OF DAYS	- WEEKS
MACHINE OPERATOR SEMI SKILLED															40	8
MACHINE OPERATOR SKILLED															80	16
SUPERVISORS SEWING															110	22
SUPERVISORS CUTTING															110	22
CUTTERS															40	8

QUALIFICATIONS FOR
ADMISSION

A. Supervisor for Sewing

1. Must be presently employed as machine operator
2. Must have a two-year experience in the garment trade.
3. Must be a high school graduate
4. Must be a potential supervisor/trainor

B. Supervisor for Cutting

1. Must be presently employed as cutter
2. Must have a two-year experience in the garment trade
3. Must be a high school graduate
4. Must be a potential supervisor/trainor

OUTLINE OF COURSE SYLABUSES

UPGRADING OF INSTRUCTORS WORKING IN NAYC TRAINING CENTERS AND IN OTHER TRAINING INSTITUTIONS FOR GARMENTS

	12 WEEKS
	60 DAYS
	430 HOURRS
BASIC MACHINE OPERATION	5 DAYS
MACHINE-AND	
SEWING TECHNOLOGY	5
ASSEMBLY ON INLINE BASIS	10
ASSEMBLY ON SINGLE OPERATOR BASIS	10
DRAFTING TECHNIQUES	2
PATTERN MAKING	10
CALCULATION	7
MATERIAL ECONOMY	3
BASIC CUTTING	5
PRODUCTION METHODS	7
PLANNING	7
TECHNIQUES	5
WORK-AND TIME STUDY	2

During the 12 weeks programme the instructors will be introduced to the methods of training and will also participate in the development of adequate training material and teaching aids.

TRAINING

SKILLED MACHINE OPERATORS

	16 WEEKS
	80 DAYS
	640 HOURS
BASIC MACHINE OPERATION	5 DAYS
MACHINE-AND	
SEWING TECHNOLOGY	2
ASSEMBLY ON INLINE BASIS	30
ASSEMBLY ON SINGLE OPERATOR BASIS	30
DRAFTING TECHNIQUES	2
PATTERN MAKING	5
CALCULATION	
MATERIAL ECONOMY	3
QUALITY CONTROL	2

SEMI SKILLED MACHINE OPERATORS

	8 WEEKS
	40 DAYS
	320 HOURS
BASIC MACHINE OPERATION	5 DAYS
MACHINE-AND	
SEWING TECHNOLOGY	2
ASSEMBLY ON INLINE BASIS	30
ASSEMBLY ON SINGLE OPERATORS BASIS	3

CUTTERS

	8 WEEKS
	40 DAYS
	320 HOURS
BASIC MACHINE OPERATION	5 DAYS
MACHINE - AND	
SEWING TECHNOLOGY	7
DRAFTING TECHNIQUES	2
PATTERN MAKING	5
CALCULATION	7
MATERIAL ECONOMY	3
BASIC CUTTING	20
CUTTING TECHNIQUES	3

SKILLS UPGRADING

SUPERVISORS SEWING

6 WEEKS
30 DAYS
240 HOURS

PRODUCTION METHODS
PRODUCTION PLANNING
PREPARATION OF JOB DESCRIPTIONS
PREPARATION OF JOB WORK PROCEDURES
PREPARATION OF JOB OPERATION SHEETS
ORGANIZATION
METHODS OF MEASURING PERFORMANCE
QUALITY CONTROL
COST CONTROL
HUMAN RELATIONS
PROJECT WORK

PRODUCTION METHODS AND PLANNING
ORGANIZATION OF ASSEMBLY LINE

SKILLS UPGRADING

SUPERVISORS - CUTTING

6 WEEKS
30 DAYS
240 HOURS

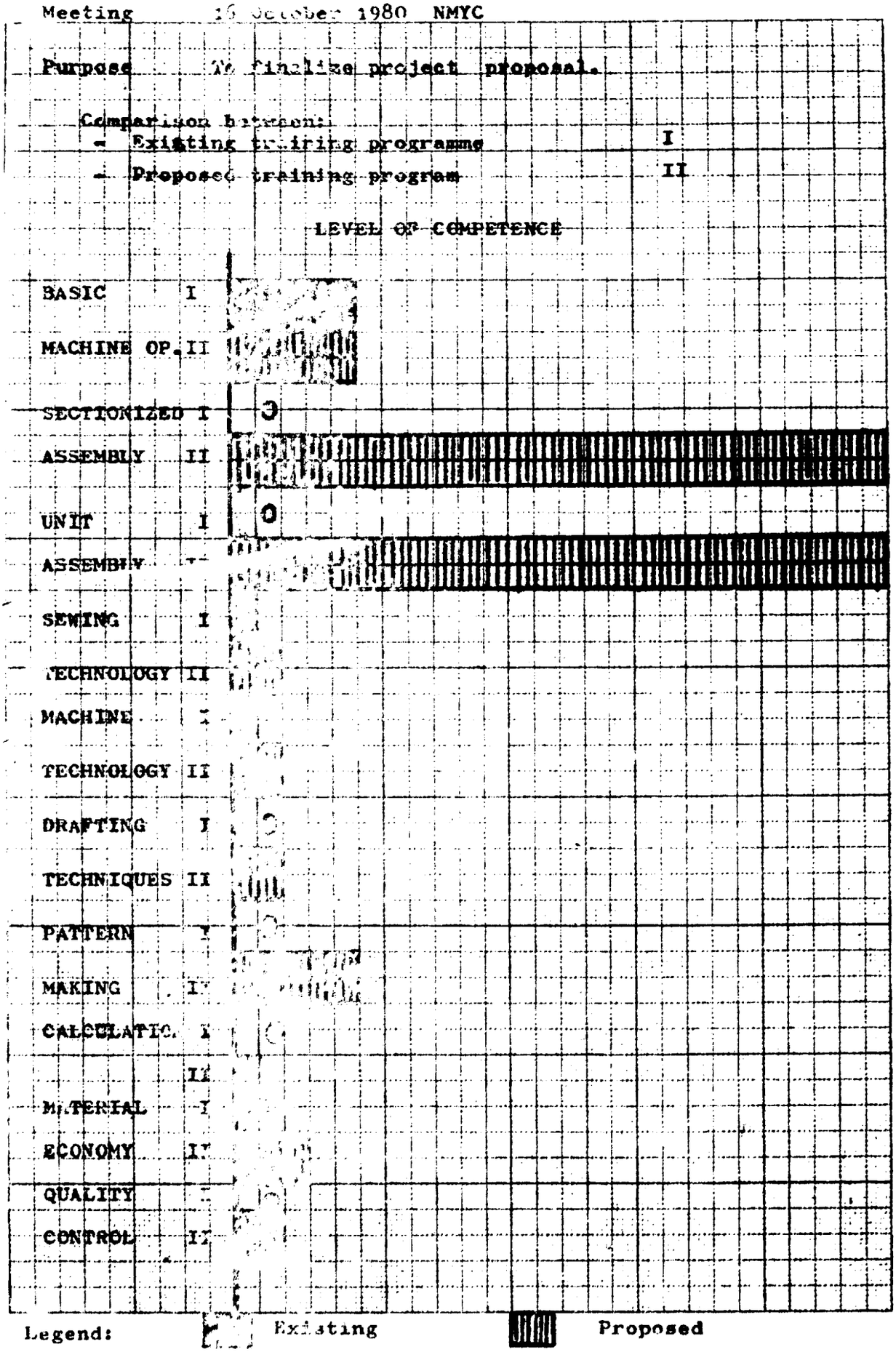
PRODUCTION PLANNING
METHODS IMPROVEMENT
TECHNIQUES
COMBINATION OF SIZES
COMBINATION OF FABRICS
WORKING PROCEDURES
OPERATION SHEETS
QUALITY CONTROL
COST CONTROL
HUMAN RELATIONS
PROJECT WORK

DRAFTING
PLANNING OF ORDER SIZES
LAYOUT AND CUTTING

Meeting 16 October 1980 NMYC

Purpose To finalize project proposal.

Comparison between:
- Existing training programme I
- Proposed training program II



TRAINING AND UPGRADING OF PRODUCTION PERSONNEL INSTRUCTORS AND SUPERVISORS

1 Foreign Expert in Garment Technology and Teaching Methodology

4 NMYC
2 TUP
2 UP
2 TRC

Minimum Educational Backgrounds
High School Level

Minimum Educational background - High School level

Upgrading of Instructors
12 weeks
60 days
12 weeks
480 hours

Training Skilled Machine Operators
16 weeks
80 days
16 weeks
640 hours

Skills Upgrading Mach. Op. 6 weeks
30 days
6 weeks
240 hours

Finalizing Training Materials
6 weeks
30 days

Follow-up Field Work

Staff Requirement

2 Instructors NMYC Manila

2 Technical Counterparts

1 Curriculum Development Officer, NMYC
To assist the expert throughout the period of assignment with job analysis, preparation of training materials and teaching aids.

Upgrading cutters
8 weeks
40 days

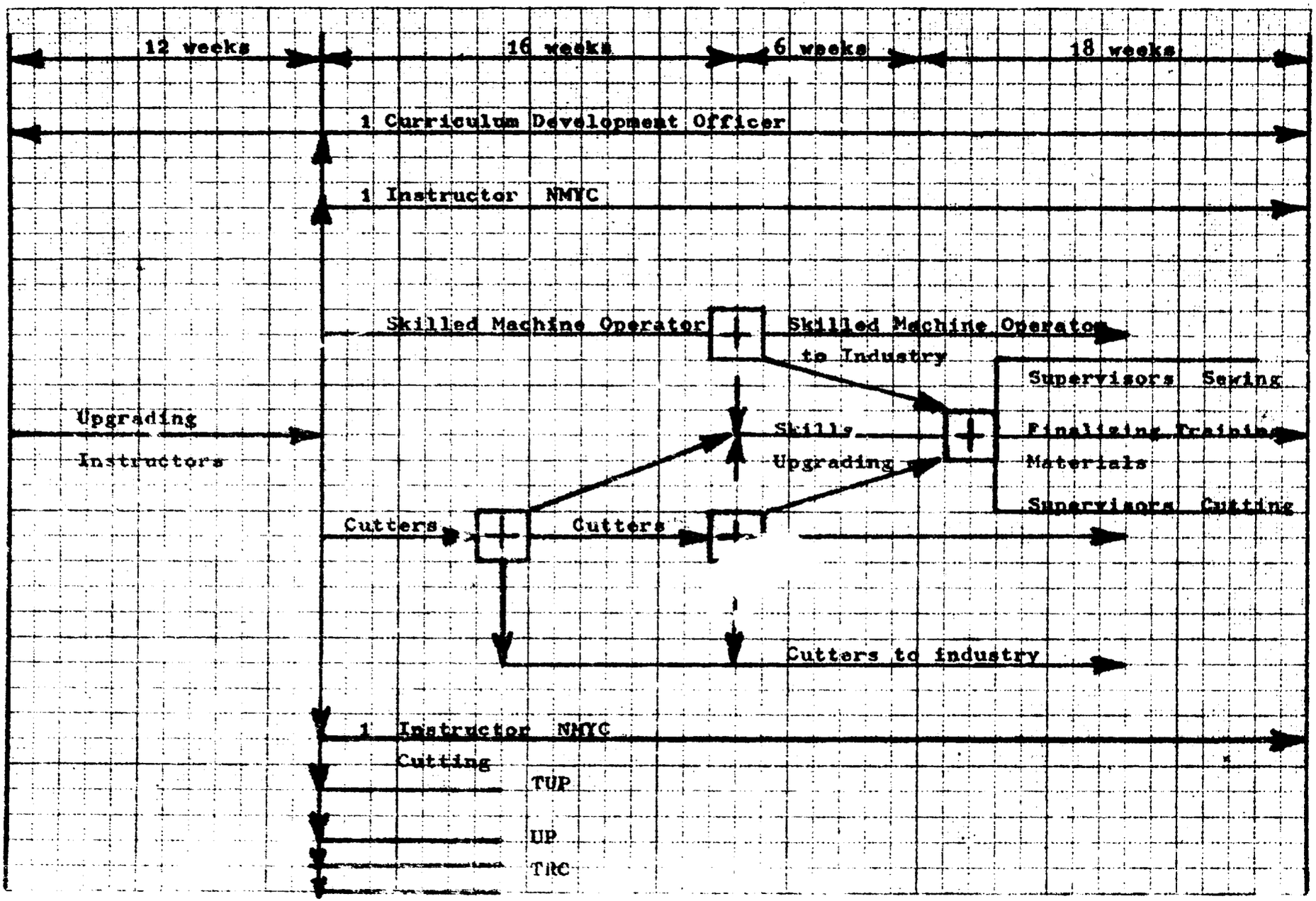
Upgrading cutters
8 weeks
40 days

Cutters from garments industry

Skills Upgrading cutters
6 weeks
30 days

Minimum educational background- High School level

Follow-up Field Work



SCHEMATIC DIAGRAM OF THE TRAINING PROGRAM

3. Facilities Needed:

1. Building

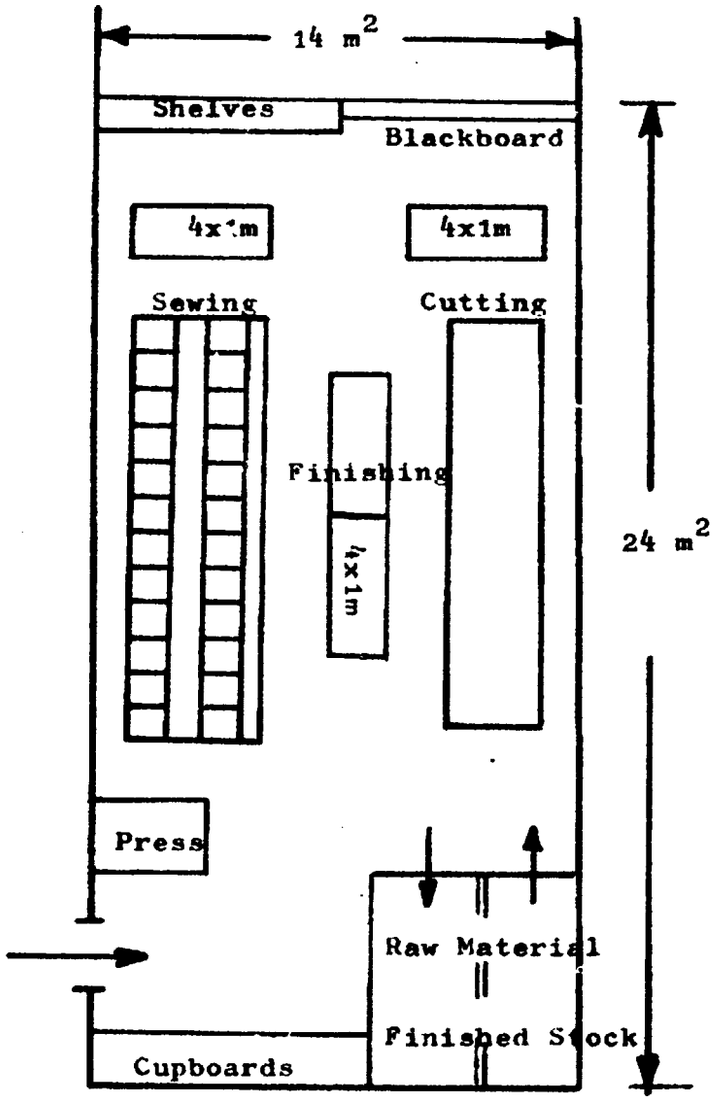
Ideally, the floor area should measure at least 400 sq. meter to accomodate the machines for sewing and cutting. The building should be provided by MYC.

2. Machinery and Equipment

Cutting	Number
Straight Knife	2
Circular Knife	2
Hand Shears	4
Scissors	10
Marking Drill	1
Notchers	2
Clips	50
Cloth clamps	
Miscellaneous	
Cutting table	1
Steam Press	1
Hand irons	4
Steam irons	2
Pressing table	2

Sewing	
Single needle lockstitch	24
Single needle chainstitch	2
Overlock 3-thread	2
Overlock safety stitch	2
Buttonhole	1
Button sewer	1
Blind hemmer	1

Basic Plant Layout for Training of Production Personnel in Garment Manufacturing at NMYC Training Center



Scale: 1cm:2m

24 sewing machines

1 cutting table 10 x 1.60 m

2 side tables

all along production line

4 working tables 4 x 1.10 m

24 machine chairs

24 staple chairs

cupboards - shelves - store rooms

pressing - table, blackboard

lavatory

PROJECT : PHI/77/004 QUALITY CONTROL AND PRODUCTIVITY IMPROVEMENT PROGRAMME

EXPERT : EVA MARIA NORDBERG
GARMENT TECHNOLOGIST

MEETING : MMYC/ATIB/MI

DATE : 23 OCTOBER 1980

MEETING : GBAP./MI

DATE : 24 OCTOBER 1980

PURPOSE OF MEETING

- To discuss with the Apparel and Textile Industry Board (ATIB) and the Garments Business Association of the Philippines (GBAP), the proposed training programme intended to be undertaken by MMYC.

- To ascertain the participation of the industry and determine the nature and the scope of such participation regarding the proposed training programme.

The programme was presented by UNIDO Expert in garment technology Ms. EVA NORDBERG.
After thorough discussion about programme objectives - content and duration, the commitment of the industry concerning certain aspect of the training programme was declared.

1. Sponsorship of the trainee ie. full salary will be paid during period of training
2. Provision of the necessary raw material required during the same period of training.

Mr. DIZON Chairman of the board made the proposition that a paper should be prepared so as to give detailed instruction about the programme proposal to all members of the ATIB.

Since there would be a regular meeting of GBAP members set the following day Mr. Dizon showed this to an excellent opportunity to inform and to get their reaction on the proposed programme.

Discussing the programme and the expected participation of the industry in terms of sponsorship, and raw material supply all members responded positively.
Some quiries were raised with regards to:

1) The duration of the training which some of the members considered to be too long.
   After having been properly informed about content of the programme and expected output in terms of trained personnel, their competence and their usefulness to the industry, all members approved of the programme.

2) The benefit of training
   The employees are doubtful whether after having completed the 5 months training, The trainee might leave the company and train a competitor for a few pesos more.

3) Full time Training which may unset the usual routine in the factory plant.
   Many producers would prefer the training to be part time only so as to avail of their services, while they are being trained. This was strongly objected since both activities would suffer from such an arrangement.
   Following suggestion was made: to examine the possibility of organizing the proposed training programme at the NMYC training center in Pasig instead of Taguig in order to make it more accessible to people working in the trade. A great number of garment factories are situated in Pasig and it is evident that a training center in that area would be more justified.

PROJECT: PHI/77/004 QUALITY CONTROL AND PRODUCTIVITY IMPROVEMENT PROGRAMME

EXPERT : EVA MARIA NORDBERG
GARMENT TECHNOLOGIST

MEETING: 25 September 1980

NMYC : Office of Manpower Skills Development

MI : Commission on Small and Medium Scale Industries

Purpose of the Meeting

a) To discuss plans, policies and available resources of NMYC
b) To present our suggestions for project proposal and programme implementation

Participants of the Meeting

National Manpower and Youth Council
- M. Maribbay
- M. Cruz
- M. Regondola
- M. Maglalang
- Ms. Muñoz

Ministry of Industry
- M. Payoyo
- Ms. Huvalla
- Ms. Alhambra

U N I D O
- Ms. Nordberg

Referring to our visits to factory plants, various training institutions and programmes, a summary of observations and conclusions was presented so as to serve as basis for our discussion. (See attached summary)

Mr. Payoyo, Programme Coordinator, informed the group about the programme of CSSI, the UNIDO assitance and the work done so far related to productivity and quality improvement. A brief outline of the projected plan for the garments industry and how NMYC could assist in its implementation was given.

The discussion emphasized on the identified needs in the garments industry and related training requirements.

Mr. Paribbay, Executive Director, gave an informative introduction describing:

- the role of NMYC
- objective and available resources
- projected programmes and plans related to skills development

Mr. Jose Cruz gave a description of the present situation regarding the training programmes of NMYC including garments and the level of competence of the instructors.

Findings and Conclusions

Since NMYC is a government agency there is a law saying that all instructors must have the civil service eligibility.

This may be applied for when having an academic degree. Someone without such a degree is not qualified to apply.

As a consequence of this law, NMYC cannot appoint as instructor, somebody with the necessary advanced skills and job experience unless this person also holds an academic degree and this combination is very unlikely to be found.

This means also that skills development will be very seriously hampered as long as this law remains valid. The most vital in any transfer of know-how is the the proficiency and the ability to perform.

The instructors of NMYC are qualified instructors without specific trade orientation. A proposition was, however, made to NMYC to participate in the skills development part of the programme.

Main objectives of the programmes:

1. To increase the capacity of existing workshop
2. To improve the quality and effectiveness of the training
3. To improve methods of training and develop suitable training material and aids.
4. To develop new areas of training to meet the needs of the garments industry.

Mr. Paribbay welcomed the proposal and made the suggestion that a committee be formed to write a project proposal.

The Committee

Ministry of Industry

- Minda Huvalla
- Thelma Alhambra

U N I D O

- Eva Maria Nordberg

N P Y C

- Pete Reyes
- Violeta Muñoz
- Sally Rodriguez

The ATIB (Apparel and Textile Industry Board) will assist through industry groups for advise on training programmes.

Next committee meeting was set to September 30 at 9:30 a.m.

ANNEXE 5

Annexe 6

LONG-TERM PROGRAM

The Development of a Garments Technology Center

The objective of this center is to improve the quality and increase productivity of the Philippine, garments firms in order to compete with the growing export market.

The center aims to service the needs of the garments industry from the first stage of receiving orders up to the final delivery of the product.

Specifically the functions of the center would be on:

1. development in the field of production planning techniques
2. development of training programmes
3. consultancy services to the industry
4. training of production personnel
5. upgrading of management skills
6. training of people with higher formal education so as to prepare them for different responsibilities, in the garments industry, i.e. economists, technician, administrators, etc.

Strategies for Implementation

1. The center would be under the direct supervision of a lead agency with the cooperation of the supporting agencies. The roles of each participating agency must be drawn out at the beginning.
2. Initial Manpower requirement would be:

   Two (2) Foreign Experts specialized in:

   a) Production Planning and Techniques

   b) Garment Technology & Training Methodology

   c) Productivity Standards

Four (4) local counterparts

1 overall coordinator and planner

1 training officer

2 engineers for Production Techniques

The two (2) foreign experts and four (4) counterparts is a complete team that complement each other in assessing plant level problems. This team would later expand to include those people sent for fellowship abroad.

3. The team would concentrate on a few factories only at the beginning, and diagnose the whole production and management unit. Problems are identified and response programs are designed and implemented on individual plant. This direct plant level approach is an effective means to solve plant level problems which vary from factory to factory. This approach not only helps the individual plants solve on the spot problems but also develop the level of expertise of local counterparts who in the later stage of the program would become local experts and train technical people who would be willing to join the garments technology center.

Time Table of the Project

(see attached schematic diagram).

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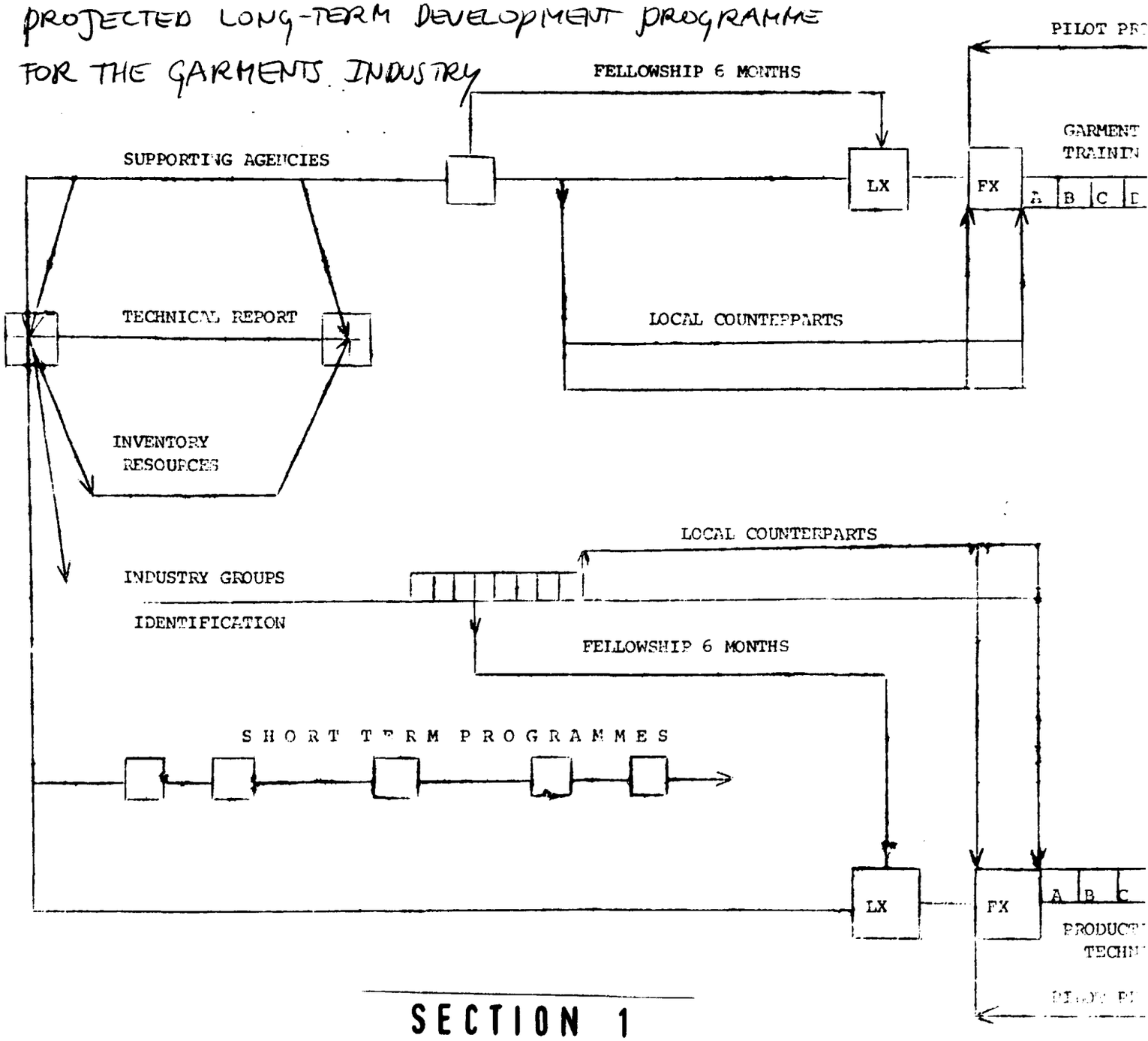
PROJECTED LONG-TERM DEVELOPMENT PROGRAMME FOR THE GARMENTS INDUSTRY



SECTION 1

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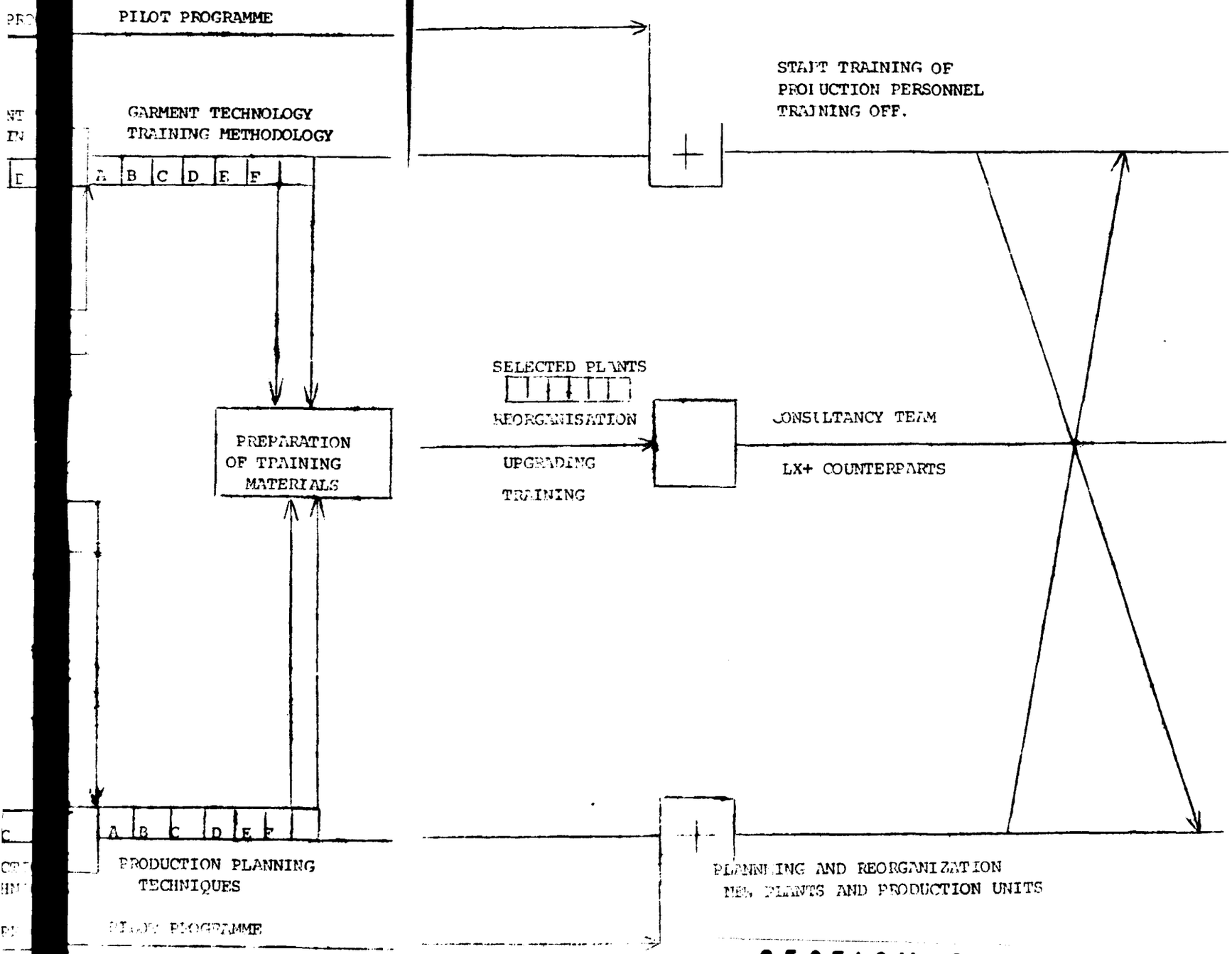

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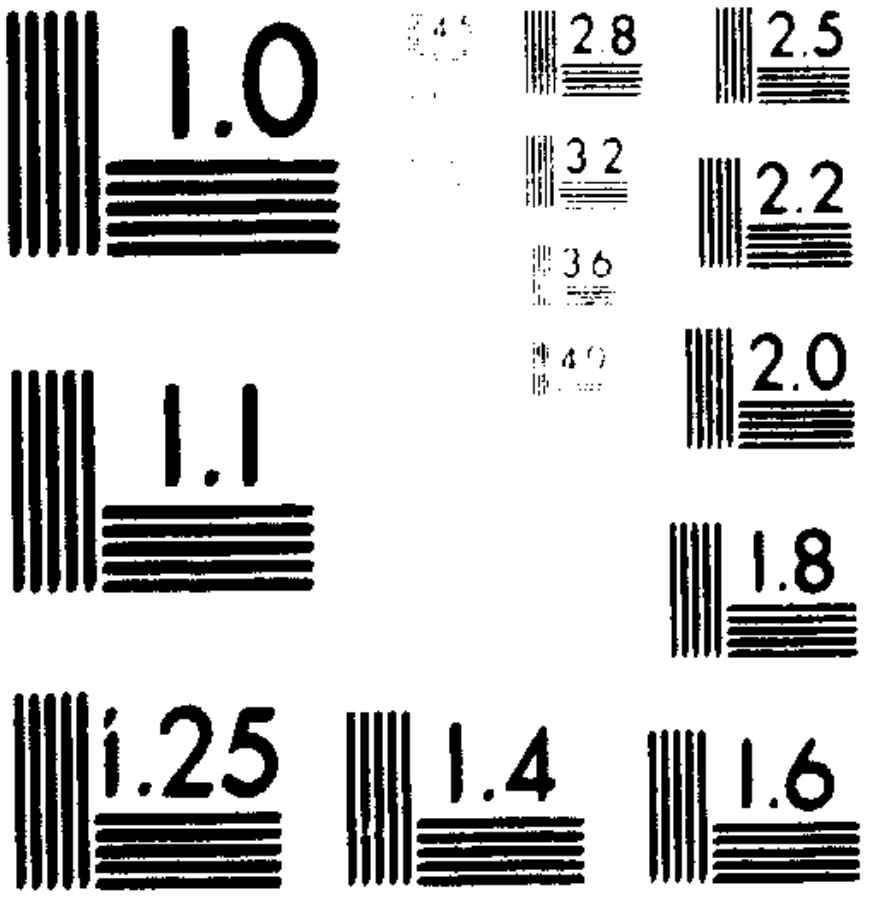

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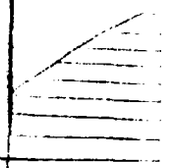
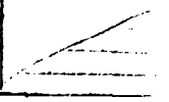
MAY DEVELOP INTO A CENTER COVERING
ALL ACTIVITIES RELATED TO
GARMENT MANUFACTURING
PRODUCTION PLANNING
TRAINING OF PERSONNEL
CONSULTANCY
INFORMATION
RESEARCH

Development
of CENTER



MAY DEVELOP INTO A CONTINUOUS
PROGRAMME FOR REORGANIZATION
AND RATIONALISATION IN THE GARMENTS
INDUSTRY

Development
of INDUSTRY



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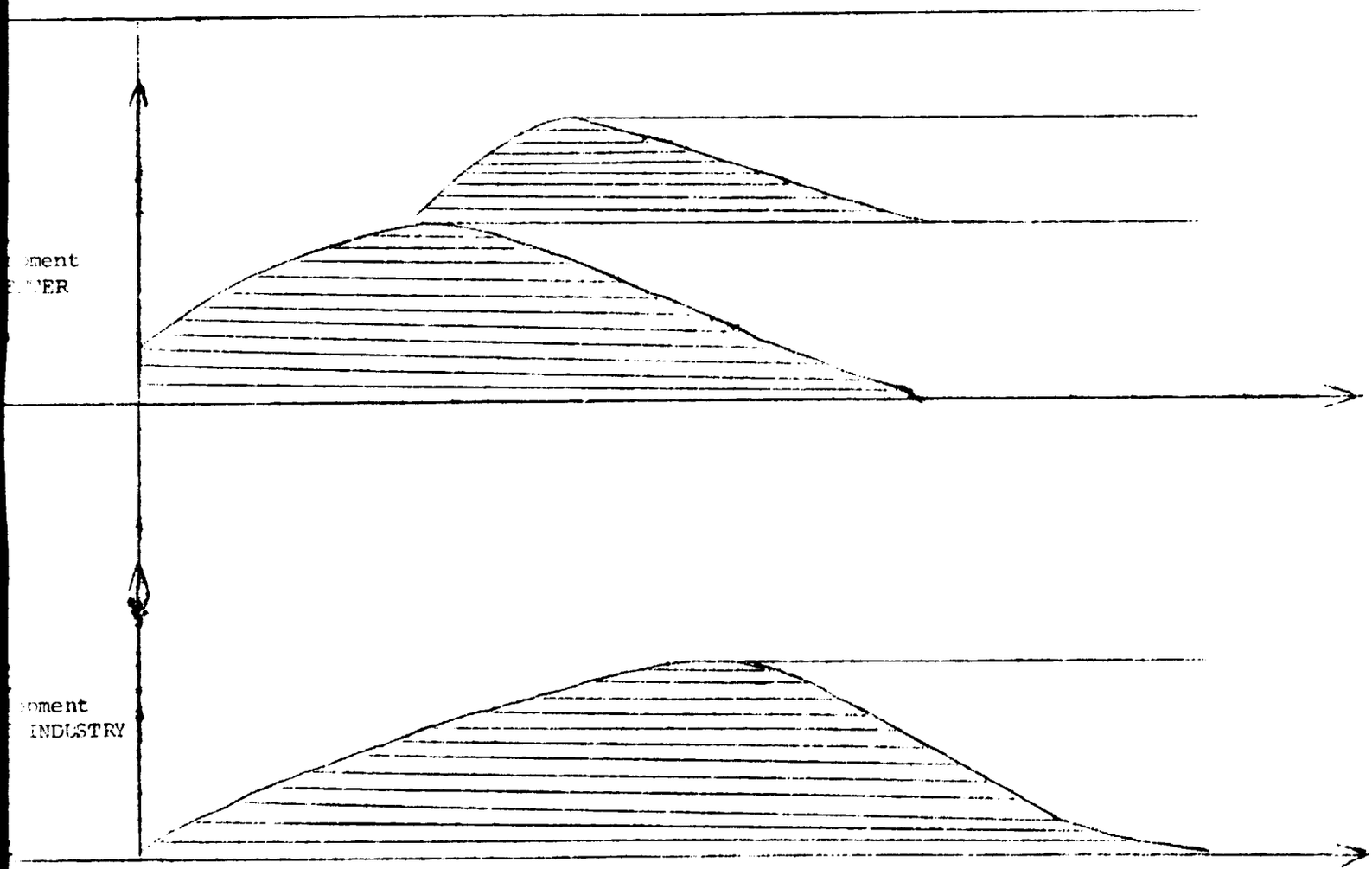

THE SHADOWED FIGURES INDICATE HOW FOREIGN INFLUENCE REDUCES
AND THE LOCAL KNOW-HOW AND EXPERTISE GRADUALLY INCREASES.

SECTION 4

[redacted]

ANNEXE 7

Two foreign experts are required during an initial period of two years.

Expert in garment technology and training methodology

Period of assignment one year with possibility of extension.

- Main duties
- To upgrade and improve existing training programme MMYC
- To assist MMYC in planning and organizing new training programmes
- To introduce new methods of training
- To develop training material and teaching aids
- To train and upgrade supervisors and cutters
- To develop new areas of training
- To train counterparts.

Expert in Production Planning

- Methods and Techniques

Period of Assignment 1 year with possibility of extension

Main Duties

Assess the needs related to quality and productivity improvement in a number of selected garment firms.

Make complete inventory of machinery and other equipment.

Examine throughly - existing methods of production and other facilities in order to reorganized the plants and introduce modern methods and techniques. Any suggestion must be adapted to existing level of competence and skill in the factory plant.

The objective is to plan well-functioning working places and working conditions in these selected plants.

Upgrading existing production personnel supervisory personnel and management.

Follow up of results.

Instructor — Garment Technology

Training methods and production techniques

Duration — Six months

Qualifications — Garment instructor with good general and technical education of secondary level. Minimum 3 years working experience in garment manufacturing

Training — In all fundamental processes of garment manufacturing, advanced methods of training and use of modern training material and teaching aids.

To work as part of training in a garment factory.

Job experience should be emphasized on:

- production planning
- cutting - and assembly techniques.

Duties after training

- To plan and organize systematic training and upgrading programmes of production personnel for the garments industry.
- To give lectures and share (the experience gained) with NMYC regional centers, other training institutions and industrial groups in the Philippines.
- To participate actively in the practical and theoretical training programmes of NMYC.

Instructor

Pattern making

Pattern grading

Duration 6 months

Qualifications - Garment instructor with good general and technical education at secondary level minimum of 3 years working experience in garments.

Training in all processes and techniques related to pattern design and pattern making including measurements and size specifications, pattern grading, cutting and fitting, processes of manufacturing and costing.

To work, as part of training in a garment factory.

Job experience should be emphasized on production of patterns and cutting techniques.

Duties after training

- To plan and organize training and upgrading programmes in pattern making, pattern grading, and cutting
- To give lectures in these subjects and to develop training material for different level and different product lines.

Instructor — Inplant training
Machine technology

Duration — 3 months

Qualifications — Garment instructor with good general and technical education at secondary level. Minimum 3 years working experience in garments.

Training — In sewing machine operation advanced level.

- to study various kind of systematic in plant and upgrading programmes for the garments industry.
- to participate actively in such programme
- to collect information about modern machinery and equipment used in the garments industry.

Duties after training

- To plan and organize inplant training programmes in the garments industry, in basic machine operation and programmes adapted to different product lines.
- To give advise and assist other training institutions in setting-up similar programmes.

Consultant: Inplant management
Material economy

Duration: 6 months

Qualifications: Industrial engineer with minimum 3 years of experience from the garment industry.

Training: In all fundamental processes from raw material through planning of production layout, cutting, and marking techniques, inventory and cost control.

Textile technology and extensive knowledge about processes and handling of raw material.

Pattern drafting and basic pattern making including measurements and sizing.

Duties after training.

- To assist in the T-A programme for quality and productivity improvement in the garments industry in the Philippines.
- Specialized in the area of material economy and cutting, the consultant will assist the factory plants in solving problems related to material wastage. He/She will also be expected to conduct seminar/workshops so as to share knowledge and experience.

MI - Inplant management

Consultant : Production methods and techniques

Duration : 6 months

Qualifications : Industrial engineer with minimum 3 years of experience from the garments industry.

Training : in all fundamental processes of garments manufacturing
- garment construction
- garment technology
- production techniques
- material economy
- Layout - cutting techniques
- production methods and
- production techniques
- Coordination of planning and production processes

Duties after training

To participate as a MI-consultant in a Technical Assistance programme aiming at an improvement of quality and productivity in the garments industry in the Philippines.

The MI-consultant will be expected to provide consultancy services and give practical advice to garment manufacturers in matters related to all production processes:

- production methods
- production planning
- production techniques
- quality improvement
- productivity improvement

To increase the efficiency and the competitiveness in the industry.

ANNEXE 9

Annexe 8

ASSESSMENT OF THE NEEDS
RELATED TO QUALITY AND PRODUCTIVITY IMPROVEMENT
OF THE SMALL AND MEDIUM INDUSTRIES SECTOR
OF THE GARMENTS INDUSTRY

TECHNICAL REPORT

PREPARED FOR THE GOVERNMENT OF THE PHILIPPINES

BY

EVA MARIA NORDBERG

EXPERT IN TECHNICAL ASSISTANCE TO

SMALL AND MEDIUM SCALE GARMENTS INDUSTRIES

DUTY STATION	MANILA
PROJECT	IP/PHI/77/004/11-01/0/31.3.D
Date	. May 1980

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INTRODUCTION

As part of the over all programme to develop the small and medium scale industries in the Philippines, the garments industry is one of the largest and most labor intensive sectors and could thus make an important contribution to the economic development and industrialization in the country. This report reflects the work done during a period of three (3) weeks from 16 April to May 2, 1980. Informations and observations were collected from interviews and discussions with people in the industry, in government agencies and other organizations.

Attached to this report you will find a list of garment manufacturers where plant visits have been made and who have participated very willingly in the survey by providing us with useful informations. A questionnaire is also attached which is the outcome of this part of mission and the base for a follow-up survey that will be carried out during an intermediate period before the second part of the mission can be completed. The questionnaire will provide more detailed information and necessary data for the follow-up period of eight (8) weeks when training programmes and a pilot project is to be planned.

II. OVERVIEW

There are several cathegories of SMI. They are the following:

1. 100% export oriented factories or subcontractors of which some receive assistance from their foreign buyers in solving production problems, marketing and possibly also standard and quality problems.
2. Factories producing both for export and the domestic market with too diversified production line and small order sizes to develop new methods which could improve their productivity.
3. Small entrepreneurs working mainly as subcontractors for the larger and better organized factories in the Philippines.
4. Cottage industries producing low-priced garments for domestic market but also subcontracting work for export, especially embroidery.
5. Home producers which are usually small tailorshops or dress shops making garments for walk-in customers. This cathegory is the largest in all of them.

It is estimated that 90% of the garments manufactured in the Philippines is produced by small and medium-scale industries (SMI).

It is also in this category where you will find the subcontractors for already large local or foreign manufacturers which somehow help the small ones increase their productivity and improve their standards.

It is therefore necessary that the programs aimed at improving productivity and quality should in my opinion concentrate in this group in order to build-up and strengthen their position in the industry. This of course is if the garment industry is considered to be important for future development.

Although there are many problems in common for all SMI. there may be different solutions to solve the problems depending on each individual factory, its resources and capability.

III. FINDINGS

These are only partial findings which were collected from the very limited number of plant visits and discussions made in Manila and Cebu 16-26 of April 1980. Only when the questionnaires have been filled in by a larger number of manufacturers throughout the country will it be possible to know whether these findings are representative of the whole industry.

A. SHORTAGE OF SKILLED PRODUCTION PERSONNEL -

This is generally considered to be one of the major problems and the reason for low productivity according to the opinion expressed by various factories.

B. RAW MATERIAL SUPPLY -

This is a problem for most of the small manufacturers dependent on locally produced fabrics. This problem does not apply to larger exporting factories having the facility of a bonded warehouse. The quality of locally produced fabrics is inferior causing problems for the manufacturers to meet quality standards.

C. PRODUCTION PLANNING AND CONTROL -

To make any improvements in productivity planning is vital. It is very important for a manufacturer to know the capacity of the factory so as to adapt and fit-in orders well in advance for prompt delivery. It is also important to know how to make use of this capacity to 100% if possible and this can only be done with good planning.

D. PRODUCTION PLANNING -

This covers every step from raw material supply, storage, production of patterns, layout cutting, making distribution, organ-

ization of assembly line, methods of marking, finishing, pressing, quality control and standards.

Production planning and control is hardly practiced in small and medium garments industries.

The general conception of P.P.C. among S.M.I. - manufacturers is that it is simply meeting the orders required without any organized system.

E. ASSEMBLY TECHNIQUES -

Before a garment is being put into production, an analysis is to be made on how to assemble it according to specifications in a minimum of time but still maintaining the standards of quality set. This should be made for every new style followed by a job sheet for production where assembly techniques are described in detail.

Very few among the SMI-manufacturers we have met were aware of assembly techniques as one of their problems. Most of them relate such problems of productivity to machine operating which is due mainly to their lack of technical background and experience.

The more a manufacturer can concentrate on certain kind of product (Specialization) the better he or she is in a position

to develop new methods and simplified assembly techniques. This is also one of the most important ways towards quality improvement.

F. EQUIPMENT -

Tools and accessories is an area in need of thorough analysis and improvement. Maintainance seems to be neglected which reduces the capacity and lifetime of tools and machines.

Proper guidance should also be provided to small and medium scale producers in the selection of adequate machinery and appropriate tools. Many small manufacturers are using outdated accessories because nothing else is available in the market. This affects of course the quality of their products.

G. PATTERN MAKING AND GRADING -

Independent producers of standard garments and fashion garments are in need of both training and technical assistance to improve their patterns and develop new products.

Larger export oriented producers working as subcontractors are generally provided with graded patterns according to

set specifications and do not need to develop their own patterns.

A standardized well made pattern is more likely to develop into a high quality product since quality refers not only to workmanship but also to measurements, cutting and fit of garment.

GRADING is how to make bigger and smaller sizes by enlarging and reducing a pattern according to specified standards. Few garment manufacturers in the Philippines know how to grade patterns, apart from that, there are no set standards in the country on which to base the data for grading.

H. QUALITY CONTROL -

This is the term used to guarantee that certain set standards are being satisfied.

Common standards may be determined by a standard committeee in the trade. Other standards related to the production (making and finishing) are more or less dictated by the buyers and the market. These standards are checked by quality control inspectors in the plants. Even though the conception of quality control is established and its importance generally understood, there is a lot of poor quality garments in the market. The reason to that may be that consumers are not quality concious or not prepared to pay the higher price for better quality.

The producer must be aware of quality requirements in different markets both domestic and foreign markets. The best way is to examine imported products and thus improve the quality. It is very important that people responsible for the production are quality concious and critical.

This is not always the case. Quality control should be done at several stages throughout the production. It is usually don only at the very end when the garment is finished which is too late.

I. MANAGEMENT -

Many of the problems related to productivity depend on the management rather than on labor efficiency, machinery or lack of incentives.

Many of the so called production managers have very little or no previous experience on garment manufacturing. Theoritically, they may be qualified in management but they dont have any practical experience or technical know-how in the trade. As a result, they are not able to assist in solving related problems or even to discover these problems and make basic analysis.

In small and medium scale factories it is very important that the management is familiar to various aspects of garment manufacturing and production planning. If not, he or she will not

be able to keep control, the immediate result would be both productivity and quality will be affected.

IV RECOMMENDATIONS

A programme which will aim at satisfying the needs in the small and medium garments sector is recommended. The garments industry is characterized by a number of small manufacturers who successively develop from being small home producers to graduate to factory level within a very short period of time. Such a fast changing process requires great efforts of adaptation from all categories of personnel including management.

1. OBJECTIVE OF THE PROPOSED WORK PROGRAM:

To develop and improve methods and techniques through direct technical assistance and training in the Garment Industry.

2. OUTLINE OF PROGRAMME:

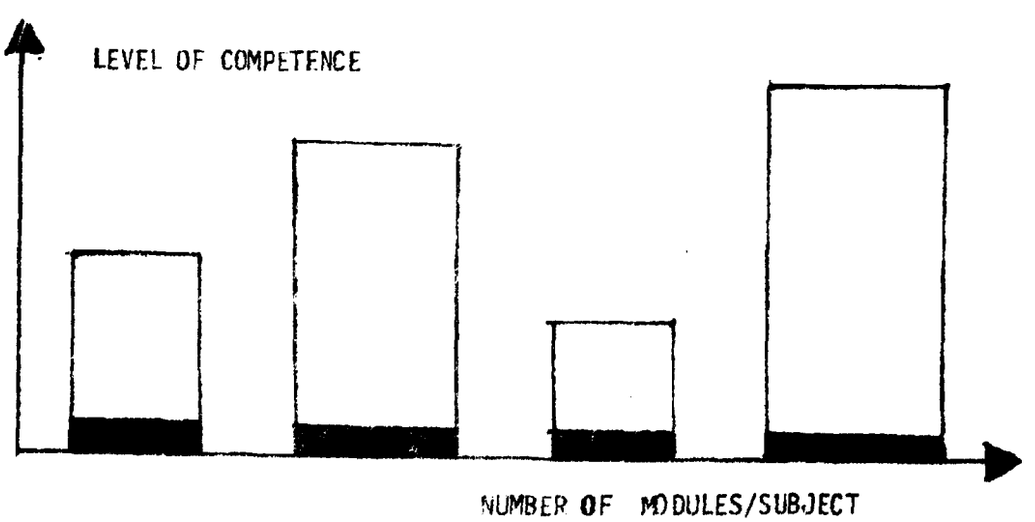
To solve some of the problems in the industry it would be recommendable to organize a few selected activities in areas which are common to several manufacturers and which could be carried out in the form of workshops, demonstrations and discussions.

This might also stimulate participants to cooperate and exchange other points of view and perhaps to also come-up with new ideas and suggestions of common interest which could be benefecial to all. Activities of such kind may well develop into a more organized programme provided there is a strong need for it.

When the needs of the industry has been completely assessed, then it is already possible at the following stage to select a couple of subjects where many manufacturers feel a strong need for improvement and would be more than willing to participate and to give full support.

In some subjects it may be sufficient with general information only at that stage. In other subjects more input may be required to increase the competerce in one particular area.

To give general information and advice related to existing problems, we will indicate the subject on which to emphasize and also the level of competence required. (See illustration below).



We are then in a better position to judge and determine the real needs of individual manufacturers and to assist them either directly to solve specific problems on plant level or through a systematic training programme which should also be adapted to the specific needs of the industry.

3. THE NEED FOR TRAINING OF PRODUCTION PERSONNEL

Training is a very important factor for improvement of productivity and quality.

In garment manufacturing some of the immediate reasons for conducting training are the following:

1) The large groups of machine operators need systematic training since even minor improvements give valuable effect.
2) Quality improvement in all operations is necessary
3) Need of key workers and reserve personnel who could be assigned to any operation when necessary.
4) When introducing new methods and/or machinery, training is inevitable.
5) Big turn-over of personnel is costly and can be reduced with training.
6) Training results to skill development and could be a factor and a reason to job satisfaction.

4. THE NEED FOR MANAGEMENT TRAINING:

With the rapid growth of small production units to larger size, it is difficult for the owner-manager to effectively handle all aspects of the business and production operations without a proper knowledge on a systematized approach.
This could only be done through techno-managerial training where the managers are not only taught to up-grade their management skills but also to help them find out the proper solutions to the technical problems.

5. NECESSARY PREPARATIONS

In order to accelerate in the beginning, necessary data must be collected, (A questionnaire has been prepared for that purpose). This data will be the base in which to decide on content, technical level, find shape of the programme and how to carry it through'
Apart from that;

- Long term and short term objectives must be settled.
- Training material and - aids must be prepared
- Time schedule and cost calculations to be done
- Infrastructure to be planned and coordinated
- Inventory of the following resources must be examined.
    a. personnel
    b. machinery

c. equipment

d. methods

e. technical know-how

f. market prices etc.

6. PERSONNEL REQUIREMENT

The optimum effect would be obtained in a team of minimum two (2) people with experience from garment manufacturing and training (one technician and one instructor) could be available to work with the programme from the very beginning With the support from the following existing agencies such as CSMI. Department of Industry, The Productivity and Development Center, National Manpower and Youth Council (NMYC), which are the basic prerequisites for transfering know how any programme for the development of the garment industry could easily be carried out

7. FUTURE DEVELOPMENT

In order to be prepared for new garments establishments in the SMI sector the programmes should in addition to imrovement of quality and productivity among existing factories, also look into future development and needs in the trade. This could be done in a joint programmes within existing training institutions or with a mobile team that could assist new plants to organize production units, give on - the - job training and upgrading along with the

development pace With such a development, the programme will have a much more comprehensive effect. This would also require input of foreign expertise during a shorter period of time in order to train local counterparts in the industry.

Simultaneously it would be of very great importance to send someone abroad for advanced training in management and marketing which should be strictly related to the garments industry.

VI. CONCLUSIONS

To participate technically and adminstratively in the building-up of production units in the garments industry mainly through training and upgrading of personnel.

The know-how will thus be transferred to contribute gradually to the development of the Garments Industry in the Philippines.

A technical assistance programme as outlined would facilitate this process.

2 April 1980

EVA MARIA NORDBERG

Annex I

Firms Visited

Manila Area

1. Eppie's Garments - a large manufacturers of lingeries and ladies underwear. 85% of its product are for export.
2. Jenny's Garments - Its production line includes men's sport jackets, lingeries and ladie's blouses, mostly for export.
3. Phil. Integrated exporters - a cooperative of garment firms producting acrylic wear, denim pants, embroidery, sports wear lingeries & brassieres, mostly for export.
4. Cinderella - a firm specializing in children's dresses although they also make some high fashion ladies wear.

Cebu:

1. Mary Jane Lingeries - is a firm engaged in production of ladies and children's underwear and lingeries, Most of their products are for local market.
2. Loalde - is engage in production of limited volume of high-fashion ladies wear and men's wear for local market.
3. Clarisse Garments - mostly produce crocheted ladies blouses and dresses which are all for export market.
4. Marcia Garments - This firm produces ladies and children's wear mostly on job-order basis for export market.

5. Edge Apparel - A new firm producing limited volume of ladies and men's wear on high-fashion style for local market.
6. College Town Garments - is engaged in high fashion garments for ladies wear. The firm is catering to the local market.
7. Cebu Trade House - is producing cotton knit T-shirt for men and women for local market.

Institutions Visited

1. National Manpower and Youth Council (NMYC)
   A government institution in charge of training programs for skil. Development for the whole country.
2. NMYC Regional Center for Region VII - (Cebu)

Meetings held with:

1. Textile and Apparel Industry Board which is semi-government office in charge of developing programs for the industry.

2. Cebu Garments Manufacturers and Productivity Association- Meeting was held to discuss industry level problems confronting the area.

Survey Questionnaire

1 COMPANY BACKGROUND

1. Name of firm _____

2. Name of owner or contact person _____

3. Type of business (Pls. check)

☐ Single Proprietorship ☐ Corporation

☐ Partnership

4. Address of firm _____

_____

5. Product lines

	Approximate % of Total Sales
☐ Ladies Wear	_____
☐ Men's Wear	_____
☐ Lingeries	_____
☐ Children's Dresses	_____
☐ Undergarments	_____
Others (Pls. Specify) _____	_____
_____	_____
	100%

6. On what year was your company established? _____

7. Please indicate approximate Peso values for each of the following:

ASSET TYPE	NOW	As of End of 1977	As of End of 1976
Machinery and equipment			
Building			
Total Assets			

8. How many production shift do you operate?

☐ One shifts ☐ Three shift

☐ Two shifts

II. Market Aspect

1. Please indicate approximate Peso values for total sales in.

- Expected total sales for January to December 1980 _____
- January to April 1980 _____
- January - December 1979 _____
- January - December 1978 _____

2. Of the total production, what percentage is sold to:

Metro Manila _____

Outside Metro Manila _____

Exporters/Export Manufacturers _____

Directly to other Countries _____

100%

3. To what countries have you exported so far? (last export year)

	Name of Country	Approximate % of Total exports
1.	_____	_____
2.	_____	_____
3.	_____	_____

100%

4. Where there occassions when you had to reject an order?

☐ YES ☐ NO

5. If yes, what were the reasons for rejecting the order?

(Rank the following according to frequency experienced 1 for most frequent reason, 2 for second most freguent reason etc.)

Frequency Ranking

☐ Problem on working capital _____

☐ The order size was too large to be handled by the production set up ____

☐ The order size was too small ____

☐ Disagreement in selling price ____

☐ The production set up could not meet the quality specifications imposed by the buyer ____

☐ Special raw materials were unavailable ____

Other reasons _____ ____

Pls. specify _____ ____

6. How many salesmen do you have?

On a strictly commission basis? _____

On a strictly salary basis? _____

On a salary/commission basis? _____

III. Personnel Aspect

1. How many personnel in your plant are employed?

a. as supervisors _____

b. in cutting operations _____

c. in sewing operations _____

d. in finishing operations _____

e. in packing operations _____

f. in selling & administrative _____

g. other areas (Pls. specify) _____

_____ _____

TOTAL NUMBER OF EMPLOYEES _____

2, How many of your production workers are paid

By piece _____

On a daily wage basis _____

On a monthly wage basis _____

TOTAL NO. OF PRODUCTION WORKERS

3. Which among the following types of employees does your company need at present?

- ☐ machine operators
- ☐ pattern makers
- ☐ finisher
- ☐ designer
- ☐ others pls. specify _____

_____

4. What is your policy in hiring new workers?

- ☐ Those with zero knowledge and have them trained in your factory
- ☐ Those newly trained from vocational or training institutions
- ☐ Experienced workers from other firms

5. How do you think could you still improve the efficiency of your workers?

- ☐ by improving your in-plant training methods.
- ☐ by giving higher salaries and other benefits
- ☐ by introducing methods of production
- ☐ by proper production planning and work scheduling

6. What type of training does your company need at present?

(Pls. rank the training needs according to their importance to to your operations; 1 for most important, & 2 for 2nd most important,etc.

	Priority Ranking
☐ A seminar/workshop on how to implement on the job training	_____
☐ supervisory training	_____
☐ marketing management	_____
☐ production management	_____
☐ financial management _____	_____
	_____
☐ Others _____	_____
(Pls. Specify _____	_____
_____	_____

IV Manufacturing Aspect

1. What approximately, is your average daily (8 hours) output and maximum daily capacity for your product lines

Product line (enumerate)	Average daily output (in pieces)	Maximum daily capacity (in pieces)
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

2. What approximately, is your standard time per unit on the following products:

(in minutes)

a. shirt _____

b. blouse _____

c. chilren's dresses _____

3. How many flat machines do you have? _____ units

Special machines _____ units

4. What is the type of your production activity?

☐ assembly line

☐ one worker finishing the whole piece

☐ combination of the two

5. What are the usual causes for delayed delivery of your products

(Please rank the reasons according to the frequency of occurence. 1 for the most frequent, 2 for the 2nd most frequent)

Frequency Ranking

☐ inavailability of raw material _____

☐ failure of workers to meet production deadline _____

☐ mixed-up production scheduling _____

☐ other reasons (pls. specify) _____ _____

_____ _____

6. How do you control process schedules?

☐ no fixed production control system

☐ rough scheduling

☐ man-hour distribution and utilization rates of facilities

☐ other pls. specify_____

7. What is the total work area in your firm? _____sq. meters.

V. Raw Material Selection

1. Approximately what percentages of the fabrics you use are.

	%
locally made?	_____
imported?	_____
	100%

2. What is your primary consideration in choosing the fabric for your product?

☐ the price

q ☐ depending on what suits the product line and style

☐ depending on what is in fashion

☐ depending on what is readily available

☐ Other considerations(Pls. specify)_____

_____

3. Which among the following quality control methods do you employ on your fabric before cutting it?

☐ visual inspection

☐ test of shrinkage

☐ cleaning the fabric

☐ examine width measurements to check on the uniformity of sizes

☐ others (pls. specify) _____

_____

4. What problems do you usually encounter with your raw materials?

☐ fading

☐ unevenness of weave

☐ irregular width dimensions

☐ shrinkage

☐ uneven shades

☐ others, (pls. specify) _____

_____

VI Financial Aspect

1. Annual Gross Sales (PFSOS)

1977 _____

1978 _____

1979 _____

2. How do you calculate the cost for your products

☐ mentally

☐ based on past experience

☐ by a full-time costs estimator

☐ standardized cost method

☐ other cost techniques (specify) _____

_____

VII Management Aspect

1. Who sets the quality standards of your firm?

☐ owner-manager

☐ supervisor

☐ buyer

☐ others, (pls. specify) _____

_____

2. Who is in charge of the distribution of jobs to the workers in assembling the garment?

☐ owner-manager ☐ Supervisor

☐ others, (pls. specify) _____

3. Who organizes the job sequencing for production?

☐ owner-manager ☐ supervisor.

☐ others(pls. specify) _____

4. Who is responsible for judging workmanship against standards of quality?

☐ owner-manager ☐ supervisor

☐ others, (pls. specify) _____

5. Who inspects job performance and prepare job specifications?

☐ owner-manager ☐ supervisor

☐ others, (pls. specify) _____

6. Who demonstrates new operational techniques?

☐ owner-manager ☐ supervisor

☐ others, (pls. specify) _____

7. Is your factory a subcontractor?

☐ YES

☐ NO

☐ still planning to

8. If you are a subcontractor,Pls. indicate approximate % of value of subcontracted work to total cost of production _____%.

9. What operations are you subcontracting?

☐ assembling

☐ embroidery

☐ others, (pls. specify) _____

10. Indicate your most important factory objective

☐ maintenance and development of the market share for principal products both in local and export market

☐ cost reduction through rationalization of facilities and man-hour saving

☐ improve the level of quality

☐ increase the amount of orders received

☐ others, (pls. specify) _____

11. Do you have other business which you also manage aside from your garment factory?

☐ NO

☐ YES, if yes (Pls. specify) _____

III Technical Aspect

1. What is the most common defect found after the final inspection of the product is made?

   ☐ material defect (permanent stains, uneveness of shades etc.)

   ☐ size defects

   ☐ untidy finishings

   ☐ others, (pls. specify) _____

2. How do you check machines for maintenance?

   ☐ no fixed maintenance plan

   ☐ periodic check up of machines

   ☐ according to operation manual of the machine.

3. What methods are you using in your pattern production?

   ☐ direct cutting of style or no pattern ie. measurement is done direct on the fabric.

   ☐ use of commercial or ready-made patterns

   ☐ make a pattern out of a disassembled ready-made garments

   ☐ specifications provided by customer either in form of measurements or sample garments

   ☐ develop the style from basic standard pattern

   ☐ others, (pls. specify) _____

4. What methods do you use in laying out the fabric?

   ☐ manual only

   ☐ manual with roller

   ☐ automatic spreading machine

   ☐ others, (pls specify) _____

   _____

5. What method do you use in transfering the pattern on the fabric?

   ☐ drafting of pattern directly on the cloth

   ☐ use of perforated paper layout with powder

   ☐ others, (pls. specify) _____

   _____

6. How do you transfer points of reference from the pattern through the layers of fabric to be cut?

☐ drill marking

☐ thread

☐ chalk or pencil marking

☐ others,(pls. specify) _____

_____

7. When do you transfer points of reference?

☐ before cutting

☐ after cutting before sorting

☐ after sorting separate pieces

☐ Others, (Pls. specify) _____

_____

8. Do you conform to a recognized sizing system?

☐ YES ☐ NO

9. Which size designation do you apply for ladies wear?

☐ US standard (sizes 8 - 10 - 12 - 14 - 16 - 18 - 20)

☐ British standards (sizes 30- 32 - 34 - 36 - 38 - 40 - 42)

☐ European standards (sizes 32 - 34 - 36 - 38 - 40 - 42 - 44)

☐ Sizes XS, S, MS, M, L, XL

☐ Other systems, (pls. specify) (write down every size)

_____

10. Please fill in the measurements that you use for each size:

NOTE: The measurements should be net body measurements with no allowances for fit or fashion. Measurements should be in centimeters

SIZES →							
A. Ladies Wear							
Bust							
Waist							
Hip							

SIZES →							
Neck to Waist							
Across Back							
Neckwidth							
Shoulder							
Arm Length							
Arm Width							
Wrist							
External Seam							
Internal Seam							
Crotch							
Hem Width							

If you are not using this system please indicate the system you are applying,

	SIZES →							
B.	Men's Wear							
	Collar							
	Base of neck							
	Chest Width							
	Hip							
	Neck to waist							
	Across back							
	Shoulder							
	Arm Length							
	Wrist							
	External Seam							
	Internal Seam							

If you are not using this system please indicate the system you are applying.

C. Children's Wear

Age Group								10	11	12
Total body length										
Bust										
Waist										
Hips										
Across the back										
Arm length										
Neck Width										
Neck to Waist										
External Seam										
Internal Seam										

If you are not using this system, please indicate the system you are applying.

11. How do you work out the intervals for grading

☐ from standard measurement

☐ from self-developed intervals e.g. 1 1/2 inches smaller or 1 1/2 inches bigger than the medium size and so on.

☐ from a given specification by customers

☐ others, (Pls. specify)

12. Please indicate the different grading differences that you use related to bust width (in centimeters)

extra small _____

small _____

medium _____

large _____

Extra large _____

Double X _____

Others, (Pls. specify)

13. Do you encounter these problems in stitching? please check

☐ thread breakage

☐ stitching inaccuracy

☐ tension

☐ other, (pls.specify) _____

14. What problems do you encounter in the following:

☐ assembly of collars

☐ Pls. specify _____

_____

☐ assembly of pockets

Pls. specify _____

_____

☐ in hemming

Pls. specify _____

_____

☐ other problems on assembly - please specify

_____

_____

_____

IX Problems Areas

Which among the problems enumerated do you encounter in continuing your business. (Check which relate to your firm.) Rank the answers according to their frequency of occurence 1 for most frequent reason 2 for the second most frequent reason etc.

	Ranking
☐ unsystematic sales efforts	_____
☐ poor accress to vital market information (i.e., export market information	_____
☐ inability to adapt product to export local market requirements	_____
☐ problems of price setting	_____
☐ inability to meet delivery dates	_____
☐ poor terms of payment	_____
☐ stiff competition	_____

- ☐ collection of receivables _____
- ☐ others, (pls. specify) _____

2. Technical/Production Problems

- ☐ shortage of local raw material _____
- ☐ poor production planning and control _____
- ☐ inadequate cost estimating procedures _____
- ☐ too much material crastage _____
- ☐ high unutilized capacity _____
- ☐ problems related to quality control _____
- ☐ poor plant layout _____
- ☐ others, (Pls. specify) _____ _____

3. Financial Problems

- ☐ difficulty of getting finances from the banks _____
- ☐ inefficient cost control procedures _____
- ☐ under capitalization _____
- ☐ inapproximate allocation of working capital _____
- ☐ lack of working capital and failure to meet acount receivables _____
- ☐ lack -of budgeting system _____
- ☐ others, (pls. specify) _____ _____

4. Management/LaborerPProblems

- ☐ too centralized decision making system _____
- ☐ inadequate administration system _____
- ☐ family-oriented problems _____
- ☐ difficulty in coping up with the growth of the firm _____
- ☐ difficulty in attracting skilled labor _____
- ☐ poor skills training practices _____
- ☐ excessive laborer turnover _____
- ☐ low productivity of workers _____
- ☐ others, (pls. specify) _____ _____