

**BASIC DESIGN REPORT**  
**FOR**  
**THE STATIONERY FACTORY**  
**IN**  
**THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA**

MARCH 1980

JAPAN INTERNATIONAL COOPERATION AGENCY

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SDS  
80-28



No.

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FOR  
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## ABBREVIATIONS AND CURRENCY EQUIVALENT

SPC: State Printing Corporation  
NPC: National Paper Corporation  
IDB: Industrial Development Board  
BMC: Building Materials Corporation  
CEB: Ceylon Electricity Board  
EPD: Educational Publications Department

\$1.00 = ¥238.4	\$:	United States Dollars
\$1.00 = Rps.14.5	Rps.:	Sri Lankan Rupees
Rps.1 = ¥16.4	¥:	Japanese Yen

According to exchange rates of November 5, 1979

## PREFACE

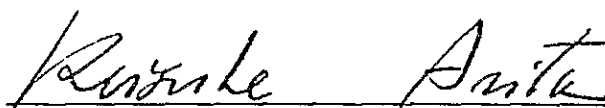
In response to the request of the Government of the Democratic Socialist Republic of Sri Lanka for a grant aid on the Stationery Factory Construction Project, the Government of Japan has decided to take up a survey for its basic designing, and entrusted the Japan International Cooperation Agency (JICA) to conduct the survey.

Recognizing that the Project will contribute not only to the advancement of education but also to the people's livelihood in Sri Lanka, the JICA dispatched a survey team to Sri Lanka from November 6th to 26th, 1979 to collect data and information necessary for the basic designing. The team had intensive consultations with the officials concerned of the Government of the Democratic Socialist Republic of Sri Lanka.

The survey was duly conducted with extensive cooperation of the officials of Sri Lanka. Upon return to Japan, the team made further studies and has finalized the present report.

I hope this report will serve to the development of this Project and to the promotion of friendly relations between our two countries. I wish to express my sincere appreciation to the officials concerned of the Democratic Socialist Republic of Sri Lanka for their close cooperation extended to our survey team.

March 1980

A handwritten signature in black ink, appearing to read 'Keisuke Arita', written over a horizontal line.

Keisuke Arita  
President  
Japan International Cooperation Agency

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## SUMMARY

In Sri Lanka, over 80% of children of school age go to school. The people seem to be interested in their children's education, and the Government makes great effort to create a better educational environment.

They see stationery goods as basic school supplies, but unfortunately, the productivity and the quality of the stationery in Sri Lanka do not meet the local demand.

The Government of Sri Lanka is considering establishing a stationery factories which will promote the development of educational activities in Sri Lanka.

At the request of the Government of Sri Lanka, the Government of Japan has sent a survey team to carry out a basic design survey on the stationery factory construction project (the Project) for 21 days from November 6, 1979 to confirm and discuss the details of the Project.

As a result of the survey and the discussions, the survey team is convinced that the establishment of the notebook factory is useful and necessary for meeting the demands.

The survey team recommends that the Project will be effective toward the development of education in Sri Lanka and formed this basic design.

This report includes basic designs of the notebook factory, the total effect of the Project, and those works which the Government of Sri Lanka will have to carry out in relation to this project.

The new notebook factory will mainly produce exercise books and monitor's exercise books. The factory will produce about one hundred twenty-seven thousand (127,000) gross of 40 pages exercise books per year.

The proposed site for the Project is located on the premises of SPC about 20 miles southeast by east from Colombo.

The survey team believes that this notebook project will not only help the educational development of Sri Lanka, but will also work to strengthen friendly relation between these two countries.

## CHAPTER I. FIELD SURVEY

### 1.1 Background of the Project

In Sri Lanka, over 80% of school age children go to school. The Sri Lankan people are interested in their children's education.

Their Government plans to improve their educational environment. However, the quantity and quality of the stationery presently produced in Sri Lanka does not meet the local demand.

The Government of Sri Lanka is considering the establishment of stationery factories through external cooperation in the development of educational activities, and has requested the aid of the Government of Japan.

## 1.2 The Basic Design Survey

### A. The Basic Design Survey Team

At the request of the Government of Sri Lanka, the Government of Japan has decided to send a survey team to carry out a basic design survey\* for the proposed stationery factory.

The Basic Design Team was organised by the Japan International Cooperation Agency (JICA) and was dispatched to Sri Lanka from November 6 to November 26, 1979.

\* Shigehiko Sugi & Architects Inc. participated in this survey.

**MEMBERS OF THE BASIC DESIGN SURVEY TEAM**

Mr. Kiyoshi Kato . . . . . Team Leader  
Director of Grant Aid & Procurement  
Department  
Japan International Cooperation Agency

Mr. Shigehiko Sugi . . . . . Architecture & Facilities  
Architect  
Shigehiko Sugi & Architects Inc.

Mr. Shinichi Izumi . . . . . Cost Estimation  
Architect  
Shigehiko Sugi & Architects Inc.

Mr. Ryo Obata . . . . . Architecture & Mechanics  
Architect  
Shigehiko Sugi & Architects Inc.

Mr. Fumio Nakamura . . . . . Machinery & Materials  
Director of Engineering Dept.  
Kokuyo Co., Ltd.

Mr. Yusuke Kitamura . . . . . Coordination  
General Affair Dept.  
Japan International Cooperation Agency

## **B. The Objectives of the Team**

1. To study the supply, styles, quality and other details of stationery presently produced in Sri Lanka.
2. To decide which stationery should be produced in this project.
3. To collect data and information necessary for the basic design of the facilities including manufacturing equipment.
4. To hold discussions pertaining to this project with the authorities of Sri Lanka.

### 1.3 Summary of Discussions

The survey team held a series of discussions with the Sri Lankan Government authorities concerned. These authorities included Government sponsored corporations and agencies. Results of these discussions may be found in the minutes which were signed by Mr. Sarath Amunugama, Secretary of the Ministry of State of Sri Lanka, and Mr. Kiyoshi Kato, Leader of the Japanese Survey Team.

The Major points of the discussions were:

- (1) No. 1 priority stationery items are exercise books and monitor's exercise books. The manufacturing of field books, scribbling pads, graph books, and drawing books are requested, if they can be manufactured with the same machinery.

No. 2 priority stationery items are pencils with soft and hard leads. The project for manufacturing coloured pencils was omitted.

The fact that specialized know-how is required to manufacture the lead was discussed, and Sri Lankan authorities requested the manufacturing system to produce the whole pencil inclusive of the slat and inner lead stick.

Erasers were omitted, because the local private sector is manufacturing enough erasers to meet the local demand.

The request for crayons and rulers was omitted.

- (2) Annual production was proposed as follows:

Exercise book, and monitor's exercise book: 125,000 gross/year (average 40 pages exercise book)

Pencil: 100,000 gross/year

- (3) Originally the notebook factory would have been controlled and managed by SPC under the Ministry of State, and the pencil and eraser factory by IDB-MISA, and

two separate sites were proposed for each factory.

However, to save construction costs, management expenses and unnecessary confusion in the promotion of this project, the survey team recommended that one organization controls both the notebook factory and the pencil and eraser factory. The executive organization of this project is the Ministry of State.

- (4) The type of machinery should not be fully automated. It should be an intermediate type of machinery specified to meet the local demand.
- (5) The raw materials should be supplied locally as much as possible.
- (6) Buildings  
Office, factory, storage for raw materials and a 1/2 month's stock of supply products  
Cafeteria and Toilet for workers  
Guardhouses at three points
- (7) The products of the new factory will be sold at marginal profit.
- (8) It is desirable to train local counterparts abroad.
- (9) There is no need to fear that the private sector will be affected by this project.
- (10) The Government of Sri Lanka will have certain responsibilities in relation to this project.

Please refer to APPENDIX: "Minutes of Discussion" for details.



#### 1.4 Dispatch of the Survey Team to Explain THE DRAFT BASIC DESIGN REPORT

The survey team was dispatched:

- (1) To explain THE DRAFT BASIC DESIGN REPORT based on the first design survey and to get the approval of it by the Sri Lankan Government authorities concerned.
- (2) To inform the final decision of the Japanese Government such as the grant aid will be provided only for the establishment of the notebook factory which produces both exercise books and monitor's exercise books, but not for the establishment of the pencil factory which was also requested originally.

During five days from February 19, 1980, the survey team had a series of discussions with the Sri Lankan Government authorities concerned, and did further survey for the confirmation.

The Sri Lankan Government authorities concerned agreed to drop the pencil manufacturing project, and approved THE DRAFT BASIC DESIGN REPORT, subject to minor modification and changes. The details of the discussions and the modification were summed up into the "Confirmation of the Discussions" which was signed by Mr. Sarath Amunugama, Secretary of the Ministry of State, and Mr. Kiyoshi Kato, Team Leader of the Japanese survey team likewise the Minutes of the last conference. For the details please refer APPENDIX: "Confirmation of the Discussions".

The following "Basic Design" for the notebook factory was made through the discussions with the Sri Lankan Government authorities concerned.

## CHAPTER 2. SCOPE OF THE PROJECT

### 2.1 Outline of the Project

A notebook factory that will produce both the exercise book and the monitor's exercise book will be established.

In Sri Lanka, the exercise book is used by younger students and the monitor's exercise book is used by older students and adults. Three hundred seventy-five thousand (375,000) gross of notebooks per year are presently being produced. One third of those notebooks are produced in Government owned factories, and the rest are produced in privately owned factories.

Paper is supplied to both factories by NPC., and the finished products are delivered to NPC and are distributed through several dealers.

Sri Lankan authorities reported that five hundred thousand (500,000) gross per year of exercise books and monitor's exercise books are presently in demand in their country. However, there is a supply shortage of one hundred twenty-five thousand (125,000) gross of notebooks per year.

The total population of Sri Lanka is fourteen million (14,000,000), and the student population is three million two hundred thousand (3,200,000).

This means that the annual consumption of notebooks is 5 volumes per year per person, and 22.5 volumes per year per student. The annual consumption per person in Sri Lanka is a little more than that in Japan, 6 volumes per year. However, the quantity of notebooks which they are going to produce seems to be adequate, since stationery items, books, photo copiers, televisions, and notebooks are so scarce in Sri Lanka.

Most of the notebooks in Sri Lanka are presently produced at the Valachchenai

factory and at the other privately owned factory that have semi-automatic machines.

In conclusion, the annual production of the new factory, at one hundred twenty five thousand (125,000) gross per year of notebooks of 40 pages each, should be adequate to supply the demand.

## **2.2 Executive Organization**

The factory will be under the direct supervision of SPC under the Ministry of State, and the site of the factory will be located on the premises of the SPC-printing factory.

To execute this project smoothly, the Government of Sri Lanka will be requested to obtain necessary personnel for the operation of the factory, prepare the ground for construction, and to allocate the required budget, and other relevant measures.

## CHAPTER 3. BASIC DESIGN

### 3.1 Design Principles

The factory should be designed considering the following local conditions:

- (1) The manufacturing machinery should be an intermediate type somewhere between a fully automated machine and a single function machine.

Sri Lankan circumstances necessitate such machinery to expand employment and coincide with local ability.

- (2) Raw material needed to manufacture the notebooks should be supplied locally in Sri Lanka as much as possible.
- (3) Stationery items to be produced include exercise books and monitor's exercise books. In the future a change in the size of the notebook may need to be considered.
- (4) The proposed site of the factory is located in the premises of SPC factory, and the factory will be under SPC's supervision.

However, Sri Lankan authorities have requested a separation between the facilities and the management of the new factory from those of the existing factories.

- (5) The productivity of the factory has to be enough to make up for the present shortage.

At the same time the extension of the factory area in the future to meet the increase of the demand with the growing population of the students has to be considered.

- (6) The factory has to be designed functionally and also has to have an attractive look because it is a grant aid cooperation.
  
- (7) Ideally the facilities and machinery will be completed and installed so that manufacturing may begin upon completion of construction.

## 3.2 Site

### A. Location:

The proposed site is located about 20 miles southeast by east from Colombo, and on the premises of SPC.

### B. Site:

The Site area is about 4.6 acres (190,000 m<sup>2</sup>).

The Printing factory of SPC is located on a gentle sloping hill (about 70 ~ 126 feet above the sea level).

The ground level around the existing factories is about 100 feet above the sea level.

An open type prison camp and its farm which is located on the premises of SPC can be moved out without any problem.

The recommended location for the factory is the site by the maingate, between Migoda-Panaluwa Road which runs across SPC site and the existing factories.

The reasons are as follows:

- (1) The Sri Lankan government plans to separate the control and management of the new factory from the existing ones.

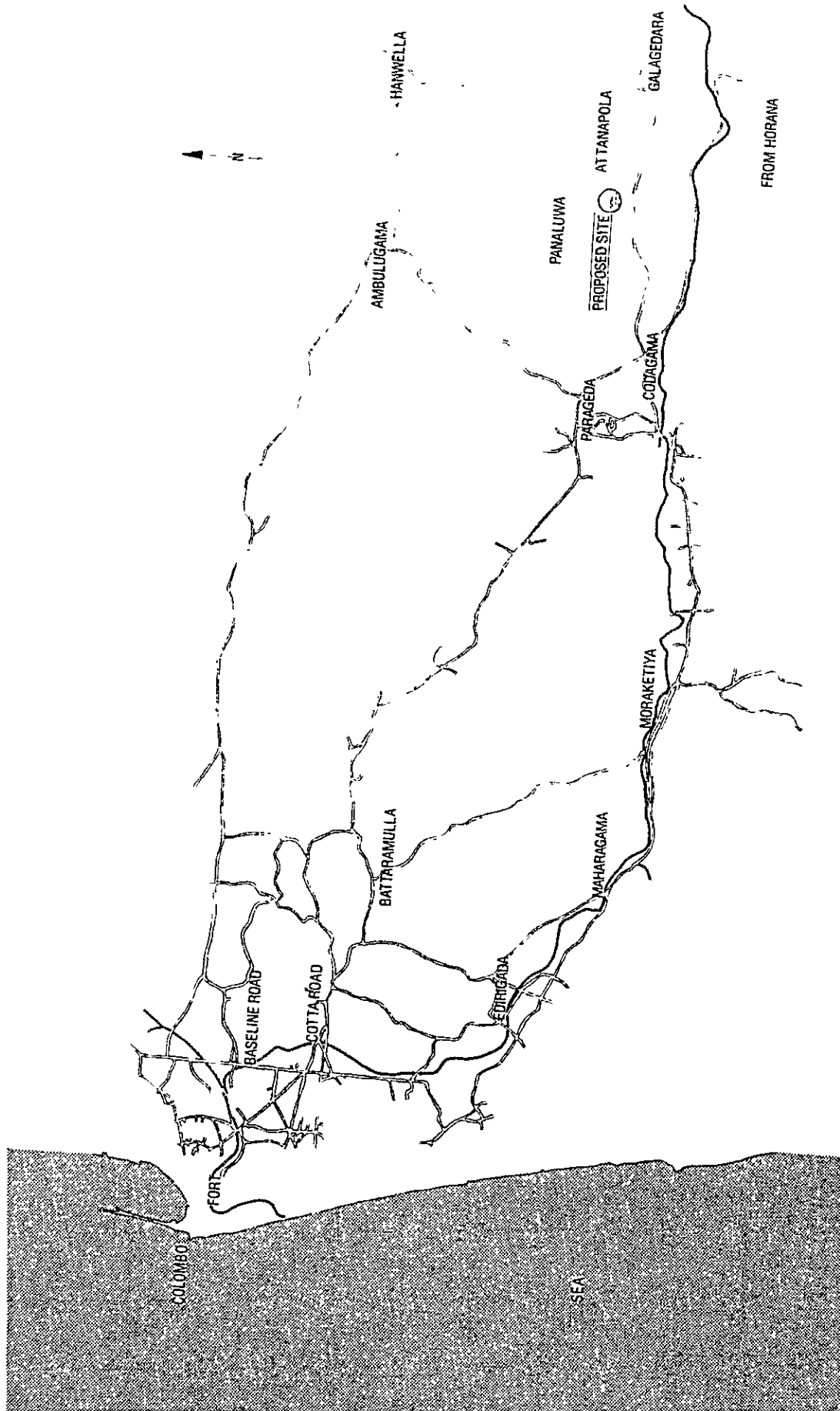
The locational separation between the existing factories and the new factory can be done by choosing this site.

- (2) Looking from the maingate, the visual effect of the location and the level of this site is comparatively good.

- (3) By cutting down and leveling the ground of this site which is now 100 ~ 126 feet above the sea level, we can get firm ground.  
Recommendable ground level is about 110 feet above the sea level.



The Map of the Proposed Site



### **3.3 Method of Production**

#### **A. Manufacturing System**

Please refer the following three pages for the detail of the production line and the specification of machineries.

There are two different bookbinding styles for the exercise book and the monitor's exercise book.

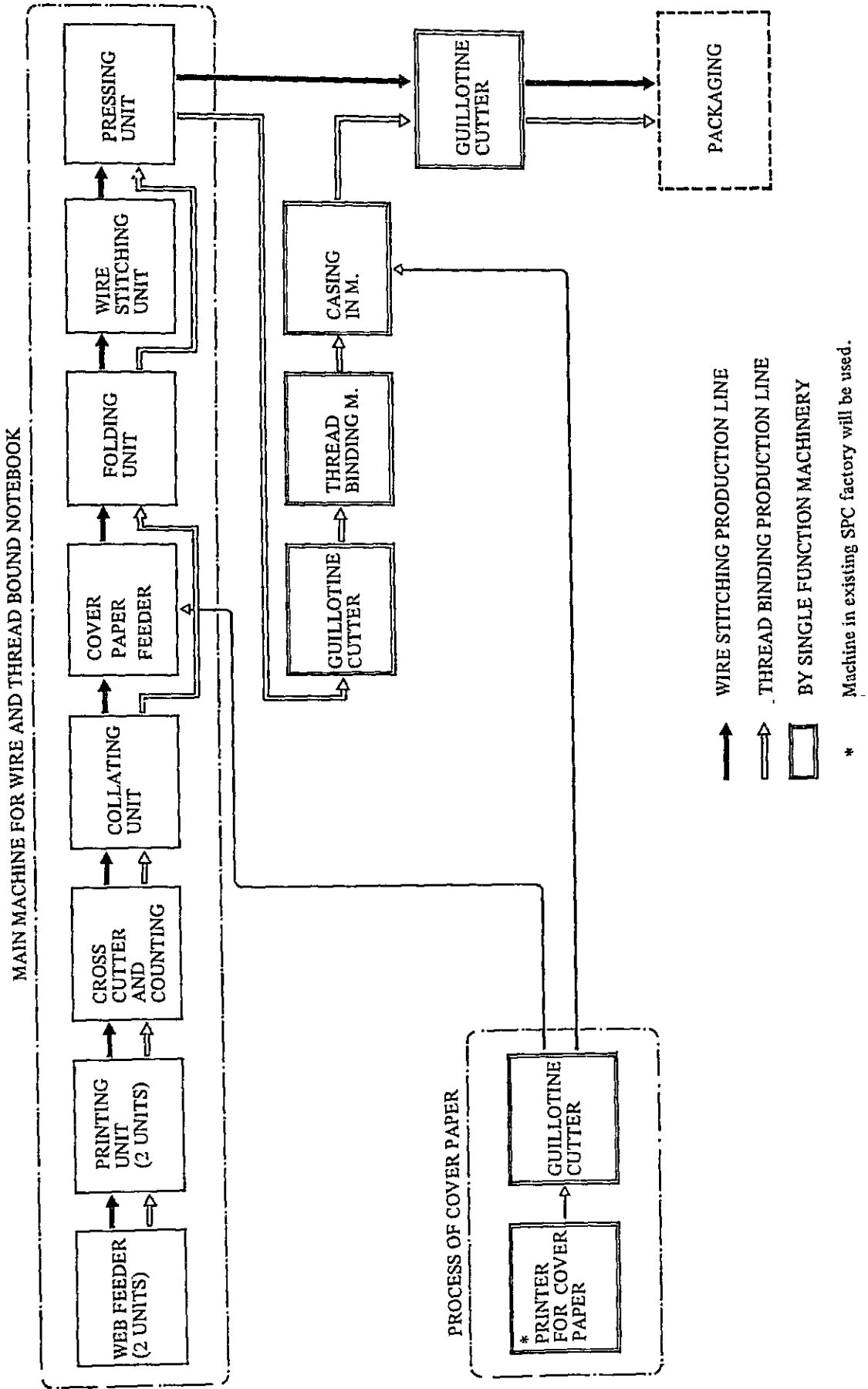
##### **(1) Wirestitched style**

This is set on one line, and the whole procedure to delivery is done by the fully automated machinery. Only the guillotine cutting is done by the single function machinery.

##### **(2) Threadbound style**

The whole procedure from the threadbinding to the last is done by the single function machinery.

**SEMI AUTOMATIC PROCESSING OF NOTEBOOK**



**SPECIFICATION**

**1. MAIN MACHINE**

(1) Process

WEB FEEDER (2 units) ~ PRINTING (2 units) ~ CROSS CUTTER & COUNTING UNIT ~ COLLATING UNIT ~ COVER PAPER FEEDER ~ FOLDING UNIT ~ WIRE-STITCHING UNIT ~ PRESSING UNIT ~ DELIVERY

(2) Specification

Web paper width      790 mm (4 up), 2 web  
 Cross cut length      330 mm  
 Printing speed        150 m/min.  
 Binding speed         45 blocks/min.

Output

Wire binding	40P . . . . .	61,000 volumes/8H	75 m/min., 45 blocks/min., 70%
Wire binding	80P . . . . .	56,700 volumes/8H	150 m/min., 45 blocks/min., 65%
Wire binding	120P . . . . .	37,800 volumes/8H	150 m/min., 30 blocks/min., 65%

(Half finished products at delivery 4 up/block)

Thread binding                      15,200 blocks/8H (40P, 4 up)

Operators . . . . . 4 persons

**2. THREAD BINDING MACHINE                      2 SETS**

(1) Process

FEEDER (HAND FEED BY 2 PERSONS) ~ THREAD BINDING ~ DELIVERY

(2) Specification

Binding length                      420 mm (max.), 2 up  
 Number of thread binding        9 line (max.)  
 Binding speed                      50 blocks/min.

Output (2 sets total)

\* Faculty with main machine 118.5%

160P . . . . .	16,800 volumes/8H	50 blocks/min., 70% 4 blocks/volume
200P . . . . .	13,400 volumes/8H	50 blocks/min., 70% 5 blocks/volume



## **B. Production Scale**

Please refer to the chart on the next page to see the productivity of machinery to be used.

After the completion of the factory and the training of new staff, the faculty of the machinery becomes 70%. When this is achieved, about one hundred twenty seven thousand (127,000) gross of forty pages exercise books can be produced annually (three hundred working days per year).

This should be enough to make up for the present shortage in Sri Lanka, one hundred twenty five thousand (125,000) gross per year.

**PRODUCTION SCALE**

8 Working Hours/Day  
300 Working Days/Year

Items	Pages	Bookbinding Style	Productivity		
			Volume/Day	Gross/Year	Average 40 Pages Notebook Gross/Year
Exercise Book	40	Wirestitched	61,000	About 127,000	About 127,000
	80	Wirestitched	56,700	" 118,000	" 236,000
Monitor's Exercise Book	100	Wirestitched	45,400	" 95,000	" 236,000
	120	Wirestitched	37,800	" 79,000	" 236,000
	160	Threadbound	11,500	" 24,000	" 96,000
	200	Threadbound	11,500	" 24,000	" 120,000
	240	Threadbound	10,100	" 21,000	" 127,000

### C. Raw Materials

To manufacture a notebook, paper for cover, web, printing ink, wire for wire-stitching, thread for threadbinding, glue, and package material are needed as raw materials.

Paper will be supplied from Valachchenai Paper Mill and Embilipitiya Paper Mill of NPC.

Wire to be used in fully automated machinery is required to be of comparatively good quality. They would be better to be imported for a while.

(SPC factory, which is located next to the site of the new factory, imports wire from England.)



#### D. Personnel Plan

Personnel needed for manufacturing notebooks are as follows.

(1) For the manufacturing of the wirestitched notebook

Machinery for wire and thread bound notebook . . . . .	About 4 persons
Printing machine for cover paper . . . . .	About 1 person
Guillotine cutter for cover paper . . . . .	:
Guillotine cutter for finishing . . . . .	About 3 persons
Packaging . . . . .	About 12 persons
Carrying materials and products . . . . .	About 2 persons

(2) For manufacturing thread bound notebook  
(addition to the personnel above)

Threadbinding machinery . . . . .	About 6 persons
Casing in machinery . . . . .	About 2 persons
Total . . . . .	About 30 persons



\* Estimate example for manufacturing exercise book of average 40 pages.

**Material Costs**

a. Web (60g/m<sup>2</sup>, Rps.11/kg, 8% loss)  
 $0.195\text{m} \times 0.16\text{m} \times 20\text{s} \times 0.06\text{kg/m}^2 \times 1.08 \times 11 = 0.45 \text{ Rps/volume}$

b. Cover paper (125g/m<sup>2</sup>, Rps.11/kg, 8% loss)  
 $0.34\text{m} \times 0.2\text{m} \times 0.125\text{kg/m}^2 \times 1.08 \times 11 = 0.10 \text{ Rps/volume}$

c. Secondary material (5% of major material)  
 $(0.45 + 0.10) \times 0.05 = 0.03 \text{ Rps/volume}$

Sub Total ..... 0.58 Rps/volume

**Personnel expences (Rps.700/man-month, 25 days/month)**

$22 \text{ men} \times 700 \text{ Rps.} \div 25 \text{ days} \div 61,000 \text{ volumes} = 0.01 \text{ Rps/volume}$   
(wirestitched notebook)

**Electricity charge (capacity 100 KVA, 25 days/month)**

a. Basic rate  
 $8 \text{ Rps/KVA} \times 100 \text{ KVA} \div 25 \text{ days} \div 61,000 \text{ volumes} = 0.00052$

b. Power rate (70% consumption of capacity)  
 $70 \text{ kW} \times 8\text{H} = 560 \text{ kWh}$

Sub Total ..... 0.002 Rps/volume

Total ..... 0.592 Rps/volume

### 3.4 Building Design

#### A. Facilities and Size

Factory : Production line, raw materials warehouse, finished product warehouse, (capacity of 1/2 month's products stock), repair room, office, cafeteria, etc.

Toilet, etc.

TOTAL Area : About 1,300 m<sup>2</sup>

## B. Ground Leveling Plan

It is best to cut the ground of the site down to the same level as the rest of the site (100 feet above the sea) to use SPC site most efficiently.

However considering the construction cost and the difficulty to level or move the government owned Migoda-Panaluwa Road across the site, to level the ground of the site at 110 feet above the sea is recommendable.

Since the ground is comparatively firm, the inclination can be left without a retaining wall.

### C. Block Plan

The existing factories are laid out in a straight line and are creating a distinctive atmosphere with the natural environment.

Considering the main factor mentioned above and the shape of the site, it was decided to lay out the new factory inside and parallel to the existing factories.

People are led to the factory site through the existing main gate, and approach the front door by walking up the slope.

The office is located in front so that it will be easy to supervise the shipment and the arrival of goods, and the movement of people.

#### D. Architectural Plan

The extension of the factory in the future is planned toward the north.

Office, repair room, and the raw materials warehouse are laid out on the approach side of the building.

If the production line needs to be extended, the products warehouse will be remodeled into a manufacturing area, and the new products warehouse will be built as an extension.

In the factory area, two production lines are needed for two different bookbinding styles. These two lines need to relate to each other, therefore those lines are laid out in parallel.

When building the office as a living area, the local climate of high temperature and humidity, and Sri Lanka's traditional life style need to be considered.

Eaves are effective for rain and solar protection.

In the products warehouse, two layer stock system using pallets will be utilized for the efficient use of space.

## E. Material and Structural Plan

Steel is recommended for the main beam structure:

- (1) The price of cement in Sri Lanka is expensive (double of the price in Japan).
- (2) Supply of raw materials such as coarse aggregate, sand, and cement is insufficient.
- (3) It is preferable to use materials which enable us to cut down the construction period.
- (4) Long span is required for such usage of the building.

### Factory

#### Structure

Beam	:	Steel
Pillar	:	Concrete
Foundation	:	Concrete
Slab	:	Concrete
Wall	:	Plaster, steel trowel finish over brick laying
Sash, door	:	Wooden
Roof	:	Corrugated asbestos cement sheet
Ceiling	:	Office only, painted plywood

### Toilet, etc.

Structure	:	Brick laying, roof wooden truss
Foundation	:	Concrete
Slab	:	Concrete
Wall	:	Plaster, steel trowel finish over brick laying
Sash, door	:	Wooden
Roof	:	Corrugated asbestos cement sheet
Ceiling	:	---



## F. Machinery Plan

The machinery and equipment which are indispensable to start production will be supplied as far as circumstances permit.

### (1) Manufacturing machinery and facilities

a. MAIN MACHINE FOR WIRE AND THREAD BOUND NOTEBOOK . . .	1
b. * PRINTER FOR COVER PAPER . . . . .	1
c. THREAD BINDING MACHINE . . . . .	2
d. CASING IN MACHINE . . . . .	1
e. GUILLOTINE CUTTER . . . . .	3
f. EQUIPMENT . . . . .	1
g. PRODUCTION OF SYSTEM NYLON RELIEF PLATE . . . . .	1
h. SPARE PARTS . . . . .	1
i. OTHERS . . . . .	1

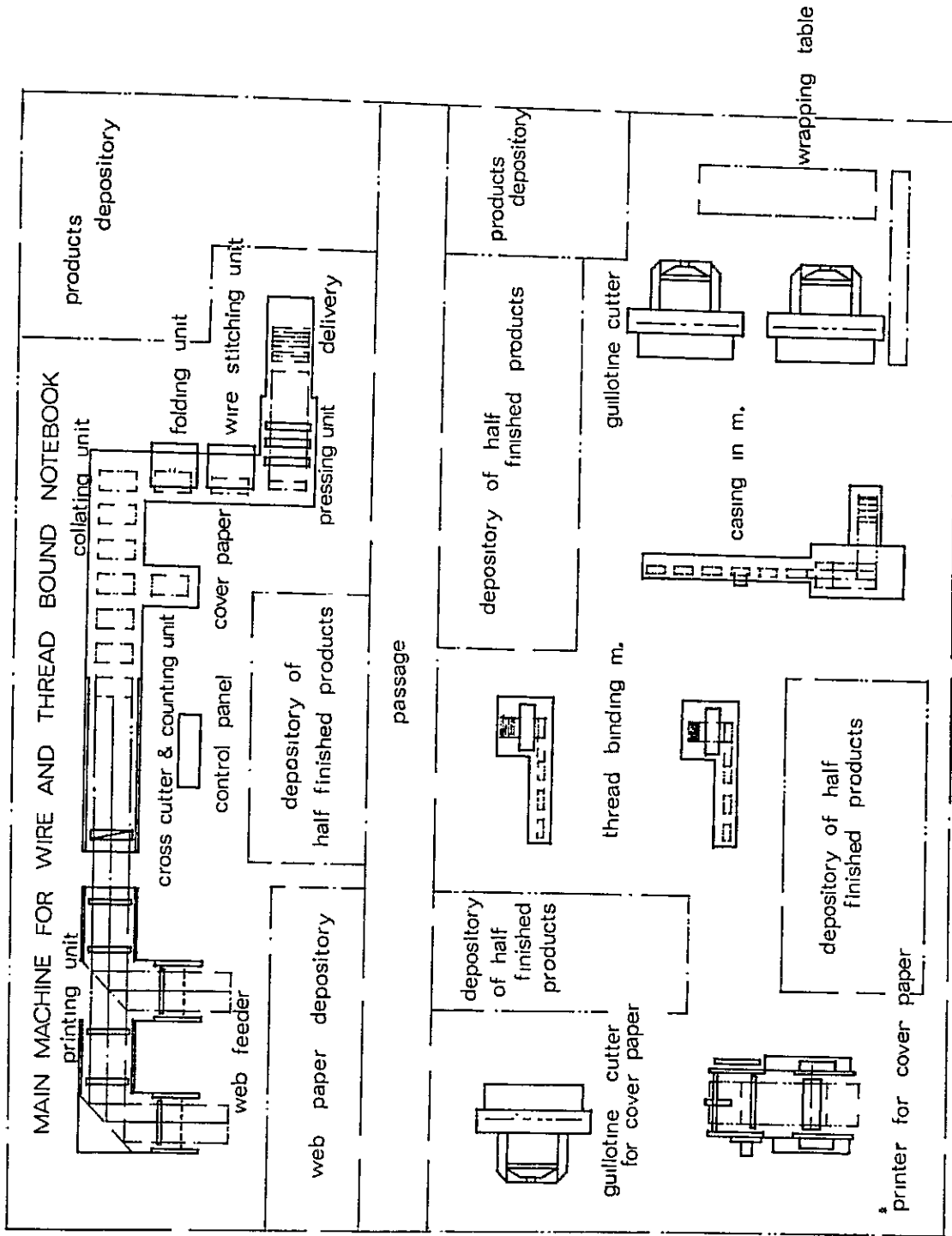
### (2) Transportation Machinery

a. FORK LIFT TRUCK (BATTERY) . . . . .	1
b. PALLET TRUCK (BATTERY) . . . . .	1
c. HAND PALLET TRUCK . . . . .	2
d. SKIT . . . . .	50
e. PALLET . . . . .	140
f. OTHERS	

### (3) Others

\* Machine in existing SPC factory will be used.

**MACHINERY LAYOUT**



\* Machine in existing SPC factory will be used.

## G. Ventilation Plan

Ventilation will be from natural sources.

The office and some particular areas will be equipped with ceiling fans.

## H. Water Supply and Drainage Plan

### (1) Water supply

Water can be supplied from the well located in SPC site across Migoda-Panaluwa Road.

- a. Depth of well : 11.01 m, 9"
- b. Discharge : 732 gal/H

### (2) Drainage

Drainage will be saturated into the ground.

## H. Electrical Equipment Plan

### (1) Power Feeder

The total consumption of the factory site is estimated at about 140KVA taking load factor into account.

### (2) Power

Power supply in the factory is designed as follows:

- a. Main wiring for motor and lighting : 3 phases, 4 lines  
440/240V, 50Hz
- b. Motor circuit : 3 phases, 3 lines  
440V, 220V, 50Hz
- c. Lighting outlet circuit : 1 phase, 2 lines  
240V, 110V, 50Hz

Power load will be controlled by power controlling board, and lighting outlet will be controlled by lighting distribution board.

600V vinyl insulated wire protected with metal tube will be used for wiring.

### (3) Lighting Fixtures

Illumination in general will be provided with fluorescent lighting fixtures supplemented with incandescent lighting fixtures.

Fluorescent lighting fixtures over 40W will be high power factor ones.

A generator will be provided for in case of power outage.

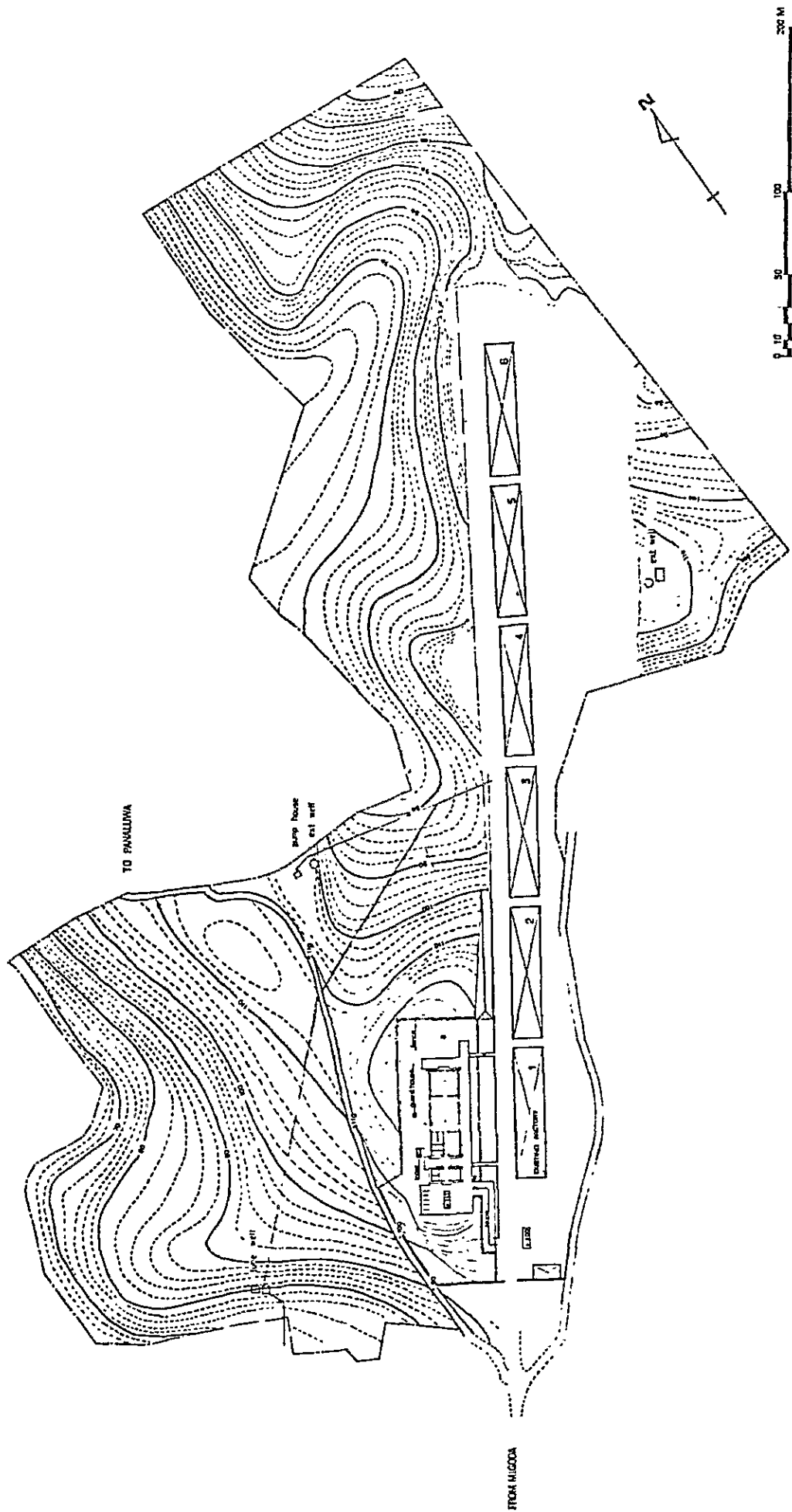
(If the budget permits.)

### (4) Telephone conduit

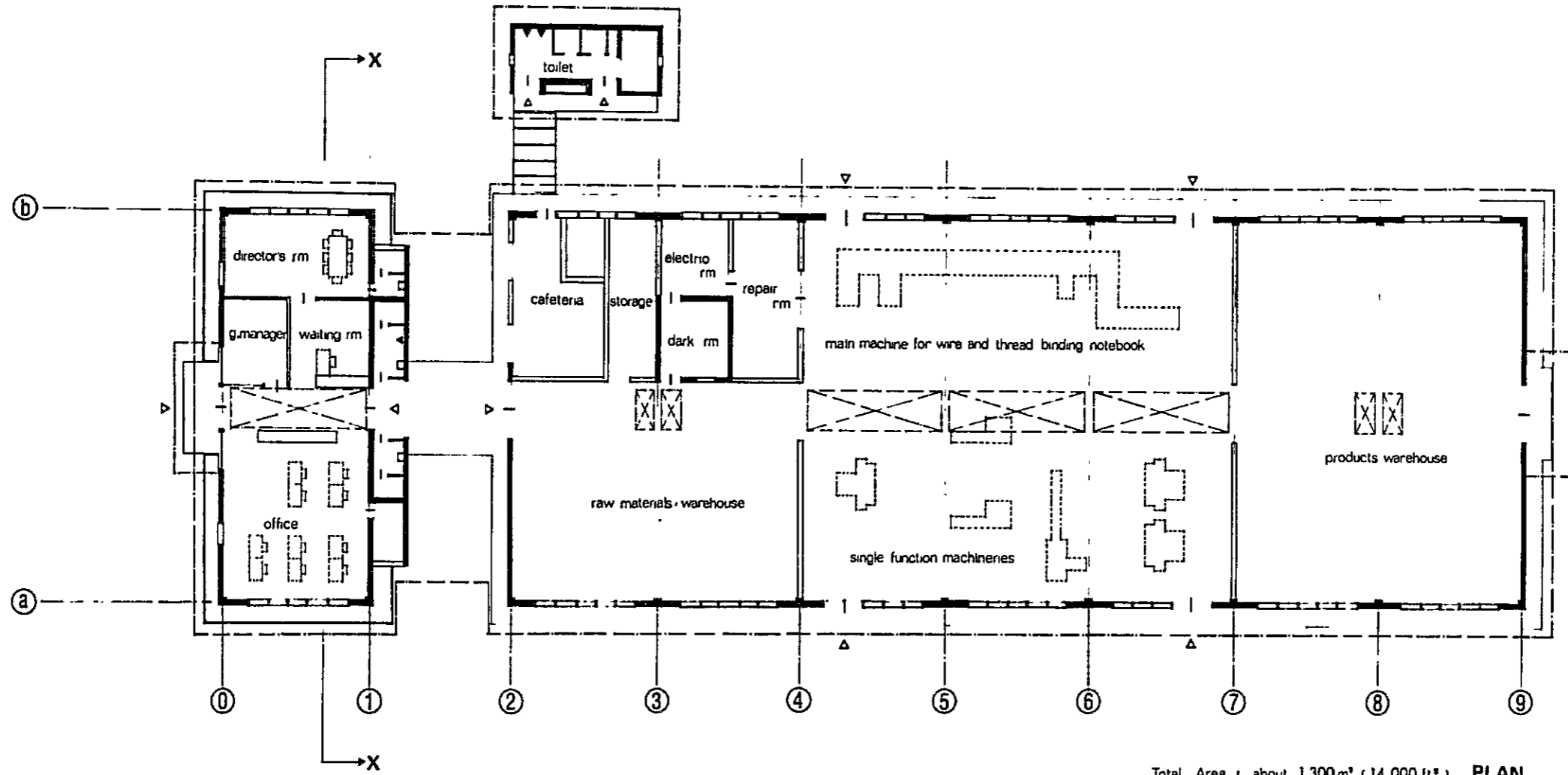
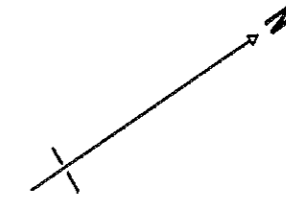
A telephone drop is needed for the office.

Two receivers but no telephone exchange will be provided.

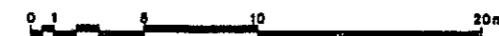
[ I. BASIC DESIGN DRAWINGS BLOCK PLAN ]



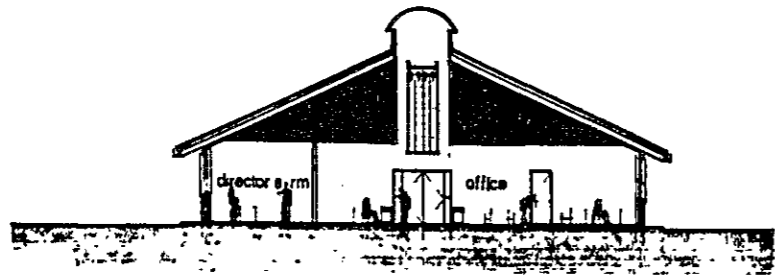
PLAN



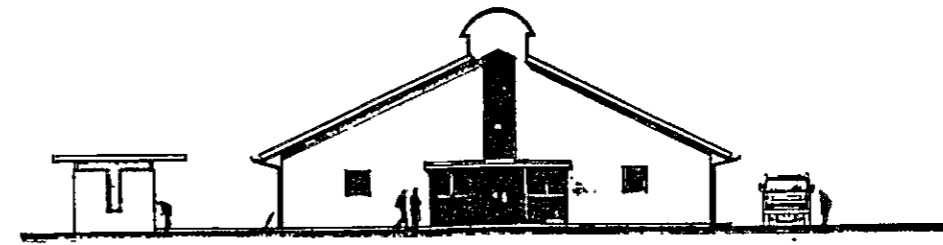
Total Area : about 1300m<sup>2</sup> (14 000 ft<sup>2</sup>) PLAN



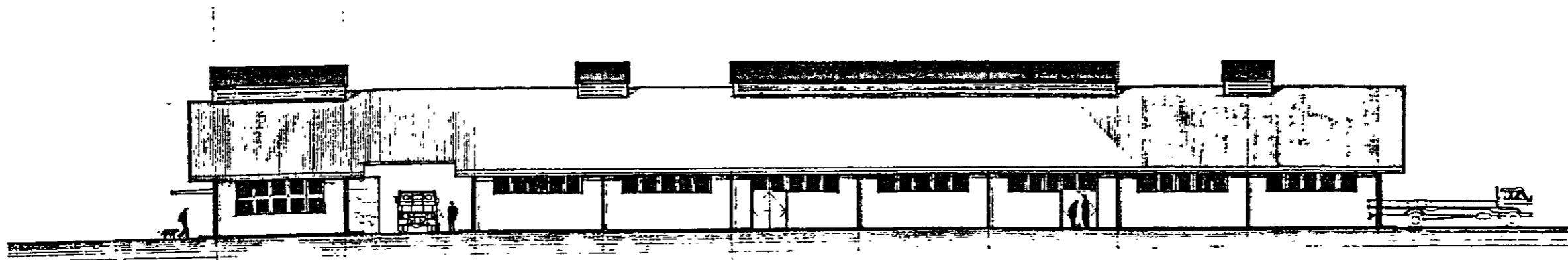
**SECTION & ELEVATION**



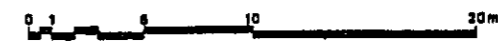
**X-X SECTION**



**SOUTH SIDE ELEVATION**



**EAST SIDE ELEVATION**



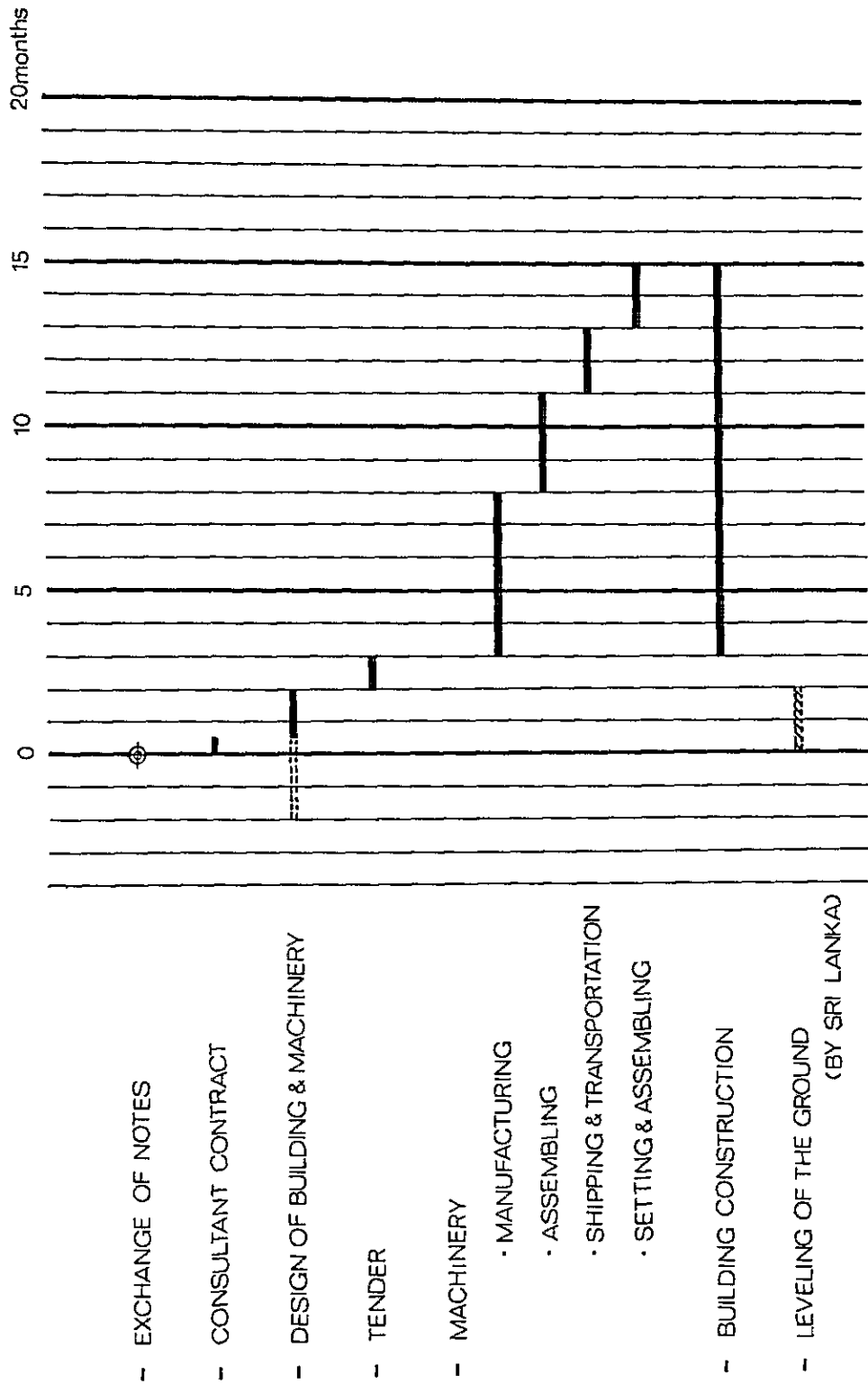
### 3.5 Schedule

Estimated period necessary for realization of the project is about 15 months after signing the exchange of notes.

At least 12 months are necessary to complete the machinery. This fact determines the whole schedule.



**SCHEDULE**



### 3.6 Necessary Measures of the Government of Sri Lanka

- (1) Leveling the ground:  
To level the ground before the construction starts.
- (2) Water supply facilities:  
To provide piping from the well to the factory.
- (3) Drainage facilities:  
To provide drainage outside the factory.
- (4) Power facilities:  
To provide incoming line and transformer.
- (5) Telephone facilities:  
To provide telephone drop.
- (6) Exterior works:  
To landscape and to build a fence.
- (7) Transportation of materials:  
To ensure prompt unloading and customs clearance at ports of disembarkation in Sri Lanka and internal transportation of the products purchased under the Grant.
- (8) Supply of paper:  
To supply paper when the machinery is assembled.
- (9) Others:  
To assure exemption on experts from duties, etc. To bear all the expenses, other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and the installation of the equipment.

## CHAPTER 4. CONCLUSIONS AND RECOMMENDATIONS

### 4.1 Effect of the Project

This project is fundamentally designed toward the development of educational activities in the Republic of Sri Lanka.

Many people in Sri Lanka are aware of the necessity of education. The educational program in Sri Lanka is comparatively advanced, and this project will be very significant and supportive for them.

In Sri Lanka the supply of stationery does not meet the demand, and there will be a greater shortage in the future with the growing student population and the popularization of stationery goods.

The price of stationery in Sri Lanka is relatively high compared with the prices of other products.

To reach their educational goal, it is indispensable for the Government of Sri Lanka to have a sufficient supply of notebooks at a stabilized price, since the notebook is a basic necessity for study.

Special consideration should be given by the Government to set a reasonable price for notebooks, so that they will be available to everyone.

At the meeting with the survey team, the Sri Lankan authorities mentioned that they will distribute the products at a marginal profit.

The establishment of the stationery factory will have a great influence on the local manufacturers and on the economy of Sri Lanka by:

- (1) Introducing new equipment, machinery, advanced manufacturing techniques and production control system to the area.

Those will contribute toward the development and productivity of the similar local enterprise.

- (2) The present economy of Sri Lanka mostly depends on exporting agricultural products.

The rapid development of the industries, such as this, is desirable.

- (3) In the present NPC notebook factory, the manufacturing facilities are not used efficiently.

By co-existing and competing with the new factory, their manufacturing technique, productivity, and quality of the products will be improved.

The private sector of such industry will be likewise influenced by the new factory.

## 4.2 Training Plan

The semi-automatic type of machinery is going to be used, and adequate technical standards should be required to operate these machines most efficiently.

The following technical cooperation is desired.

### (1) Training Program

Personnel : About 2 persons  
Chief operators who supervise the operation of the machinery and the production line.

About 1 person  
General manager who supervises materials supply and others.

Time : About 5 months after ordering.

Period : About 3 months.

A specialist who can train new staff members during the first month of operation is essential.

### 4.3 Recommendations

The survey team recommends aid for the establishment of the pencil factory along with the notebook factory.

The reasons are as follows:

- (1) At first, Sri Lanka requested aid for the establishment of factories of notebooks, pencils, erasers, crayons, rulers and so on.

Later, however, the Sri Lankan authorities, considering the budget of the project, limited the stationery items to notebooks and pencils.

- (2) The Sri Lankan authorities expect a great deal from this project. They hope that its completion will contribute to the education of young men upon whose shoulders rest the destiny of their country. They earnestly desire aid from Japan.

Also the Secretary of the Ministry of State mentioned that they had received an informal approval from the Minister, concerning the amendment of a law which will enable one organization to undertake this project according to the suggestion from the survey team.

- (3) Since notebooks and pencils are usually used together, the project will work more efficiently if factories for both items are established.
- (4) Presently the supply of pencils does not meet the demand. There will be a further shortage in the future with the growing population of students.

Since there are limitations of budget and inflation, the final decision will be made after considering economical and other factors.

**APPENDIX: Minutes of Discussion**  
**: CONFIRMATION OF THE DISCUSSIONS**

Minutes of discussion of the preliminary survey on the establishment of a Stationery Factory in Sri Lanka held on 15 November, 1979, at 10 a.m. in the Ministry of State.

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- Present:
1. Hon. Chandra Karunaratne - Deputy Minister of State
  2. Mr. Sarath Anunugama - Secretary, Ministry of State
  3. Mr. Chandra Wijayawardana - Senior Asst. Secretary, Ministry of State.
  4. Mr. R.R. Halliah - Chairman, State Printing Corporation.
  5. Mrs. S.C. Perera - Planning Division, Ministry of Finance and Planning
  6. Mr. N. Atukorale - General Manager, State Printing Corporation.
  - ✓ 7. Mr. Y.G.S. Perera - Secretary, State Printing Corporation.
  8. Mr. Kiyoshi KATO - Director of Grant Aid & Procurement Department Japan International Cooperation Agency.
  9. Mr. Shigehiko SUGI - Shigehiko Sugi & Architects Inc.
  10. Mr. Shinichi IZUMI - Shigehiko Sugi & Architects Inc.
  11. Mr. Ryo OBATA - Shigehiko Sugi & Architects Inc.
  12. Mr. Fumio NAKAMURA - Kokuyo Co., Ltd.
  13. Mr. Yusuke KITAJIMA - General Affairs Department Japan International Cooperation Agency.
  14. Mr. Toshio Suzuki - Second Secretary, Japanese Embassy.

contd 2 ...



At the request of the Government of Sri Lanka, the grant of aid for the establishment of a stationery factory, the Government of Japan has sent, through the Japan International Cooperation Agency (JICA) a survey team headed by Mr.Kato of JICA to carry out a preliminary survey for 14 days from 7 of November 1979. The establishment of a stationery factory by the Japanese Government would contribute towards development of educational activities in the Republic of Sri Lanka. A series of conferences and exchange of views with the Sri Lanka Government authorities concerned, including Government Sponsored Corporations and Agencies as well, were held. The main items which were discussed by both parties are as follows :-

As a result of the discussions, both parties have agreed to recommend to their respective Governments to take necessary measures towards setting up of the above-mentioned Project.

1. Under the present Law, the State Printing Corporation cannot manufacture pencils and erasers. However, the Law can be amended in a short time with the concurrence of the Cabinet and Parliament so that the stationery factory will be under the direct supervision of the Ministry of State.
2. The items of stationery required by Sri Lanka Government are various kinds of note books, exercise books, monitor's exercise books, drawing books, etc., and pencils of soft and hard writing.  
Priority No.1 will be exercise books and monitor's exercise books.  
Priority No.2 will be pencils. The project for erasers is being omitted.
3. With the amendment of the Act the State Printing Corporation can undertake the manufacture of all these items and the factory will be located on the premises

contd 3 ..

of the State Printing Corporation at Panaluwa. The land there has to be levelled and the Prison Camp moved out for this purpose.

4. This will mean that there will be only one Agency - controlling this factory - The Ministry of State.
5. The type of machinery would be not fully automated machinery, but of an intermediate type to meet the local demand.
6. The raw material (paper) for exercise books and monitor's exercise books will be available locally from the Valachchenai Paper Mill and the Embilipitiya Paper Mill. Similarly, the wood for pencils will be available locally. The pencils produced at this factory will be the whole pencil inclusive of the Slat and the inner lead stick. Regarding the lead, it may be necessary to import it or if the machinery is given to Sri Lanka we can also process the lead in the factory.
7. It may be necessary to have a store. The funds for this will be under the Grant Aid.
8. Other facilities like electric supply, water supply, telephone facilities, etc., will be provided by the Government of Sri Lanka.
9. The Grant Aid includes a Generator.
10. There is no need to fear that the private sector will be affected by the establishment of this factory as particularly, in pencils, there is a monopoly which has resulted in poor quality and high prices. Even at present there are over 100 Industrial Corporations which are State-owned existing side by side with factories producing similar products in the private sector. The establishment of a new factory will in no way endanger the existing factories.

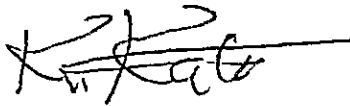
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11. The local manufacture of both exercise books and pencils do not meet the demand. The demand for exercise books is estimated at 500,000 gross per annum (of average 40 pages) of which the National Paper Corporation manufactures about 25% and the private sector about 50%. But this figure will increase with the rapidly growing student population. Hence, the need to establish this factory. The demand for pencils is estimated at 200,000 gross and the existing factory manufactures only 144,000 gross. It would be desirable for the new factory to manufacture at least 100,000 gross.
12. The products will be sold at marginal profits.
13. It is desirable to train local counterparts abroad.
14. Buildings & Facilities necessary are as follows:-
  - i) Buildings for :-
    - (a) Note Book Making Factory
    - (b) Pencil Making Factory including the Slat making factory and the lead making factory.
    - (c) Warehouse
    - (d) Office Buildings.
  - ii) Machinery & Equipment to be used.
15. The Sri Lanka side expressed appreciation for the technical cooperation extended and hoped for continued cooperation from Japan.

contd 5 ..

16. The Japanese side expressed the appreciation for the cooperation and hospitality extended to the Japanese Group during their stay in Sri Lanka.

Done in Sri Lanka on November 15, 1979.



KIYOSHI KATO,  
Leader of Preliminary  
Survey Team.

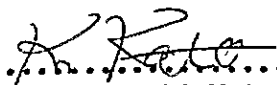



Sarath Amunugama,  
Secretary,  
MINISTRY OF STATE.

CONFIRMATION OF THE DISCUSSIONS ON THE DRAFT BASIC  
DESIGN REPORT FOR THE STATIONERY FACTORY IN THE  
DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

1. The Government of Japan has despatched through Japan International Cooperation Agency (JICA), the Survey Team led by Mr. Kiyoshi Kato of JICA, from February 19 to February 23, 1980 to submit a Draft Report on the Basic Design for the construction of a Stationery Factory in Sri Lanka which was prepared by JICA, in accordance with the agreed Minutes of Discussion between the Ministry of State, Chairman, State Printing Corporation and the Survey Team, dated November 15, 1979.
2. The Survey Team explained the Draft Report to the Secretary and officials of the Ministry of State and the Chairman, State Printing Corporation, and held detailed discussions with the Sri Lanka Government authorities concerned.
3. As a result of the discussions the Ministry of State and the Survey Team had, the following decisions were arrived at :-
  - (a) The adoption and approval of the Report of the Basic Design which has been prepared by the Survey Team, subject to minor modifications attached - vide Annexure 'A'.
  - (b) It was noted that the Grant Aid will be provided only for the setting up of the Factory to manufacture Note Books (Exercise Books) and that the Pencil Manufacturing Project has been dropped.
  - (c) The State Printing Corporation agrees to meet the cost and shipment to Japan of Reel Paper necessary for the trial run of the machines.
  - (d) The list of participants at the meeting is attached hereto - vide Annexure 'B'.

February 21, 1980.

.....  
  
.....  
Mr. Kiyoshi Kato  
Team Leader  
THE JAPANESE SURVEY TEAM.

.....  
  
.....  
Mr. Sarath Anunugama  
Secretary  
MINISTRY OF STATE.

ANNEXURE - 'A'

1. Certain changes may be made in the Office Section.
2. There will be a net fence in the Cover Paper Stores.
3. The area of the cafeteria will be enlarged slightly.
4. The width of the passage will be about 10 feet.
5. It will be possible to use the printing machine in the present Factory of the State Printing Corporation for printing the cover paper of Exercise Books.
6. State Printing Corporation requests consider the giving of a generator to run at least both Main Machines and the factory lighting, if the Budget permits.
7. A Plate Making Machine and Room would be considered for the proposed Factory, if the Budget permits. If not, wherever possible existing facilities at the State Printing Corporation will be used.

ANNEXURE 'B'.

1. Mr.Sarath Amunugama,  
Secretary, Ministry of State.
2. Mr.Chandra Wijayawardana,  
Senior Assistant Secretary,  
Ministry of State.
3. Mr.R.R. Nalliah,  
Chairman,  
State Printing Corporation.
4. Mr.Nihal Atukorale,  
General Manager,  
State Printing Corporation.
5. Mr.Kiyoshi Kato,  
Director of Grant Aid &  
Procurement Department,  
Japan International Cooperative Agency.  
Leader.
6. Mr.Shigehiko Sugi,  
Shigehiko Sugi & Architects Inc.
7. Mr.Fumio Nakamura,  
Kokuyo Co. Ltd.
8. Mr.Yusuke Kitamura,  
General Affairs Department,  
Japan International Cooperation Agency, and
9. Mr.T.Suzuki,  
Second Secretary,  
Embassy of Japan in Sri Lanka.





JICA