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(1 of 2)



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**UNDP/UNIDO PROJECT  
PROJECT # DP/JAM/94/002**

**VOLUME 1**

**TO STRENGTHEN THE COMPETITIVENESS  
OF THE JAMAICAN MANUFACTURING SECTOR**

Prepared for : United Nations Industrial Development Organisation (UNIDO)  
&  
Jamaica Promotions Corporation (JAMPRO)

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**UNDP/UNIDO PROJECT TO STRENGTHEN  
THE COMPETITIVENESS OF  
THE JAMAICAN MANUFACTURING SECTOR**

**VOLUME 1**

**TABLE OF CONTENTS**

	<b><u>Page #</u></b>
<b><u>SECTION 1</u></b>	
BACKGROUND	1
METHODOLOGY	3
BENEFITS	5
RECOMMENDATIONS TO JAMPRO	6
<b><u>SECTION 2</u></b>	
PROCEDURES MANUAL	
DATA COLLECTION FORM	
<b><u>SECTION 3</u></b>	
COMPANY AUDIT OF WEST INDIES PAPER PRODUCTS LIMITED	

**UNDP/UNIDO PROJECT TO STRENGTHEN**  
**THE COMPETITIVENESS OF**  
**THE JAMAICAN MANUFACTURING SECTOR**

**BACKGROUND**

The UNDP and UNIDO are providing assistance to the Government of Jamaica through JAMPRO to strengthen the competitiveness of the Jamaican Manufacturing Sector. This project is being implemented in four modules: -

- Human Resource Development
- Product and Systems Design
- Resource and Technology Centres
- Priority Sub-sectors.

50 companies have been identified in the priority sub-sectors: -

- Apparel
- Furniture
- Packaging
- Processed foods
- Capital goods

In order to ensure that the assistance given to the participating companies is properly utilised, that the resources of the project are maximised and that the expected results and improvements do indeed take place, it is critical that there is a full understanding of each company targeted.

In order to assist the UNDP/UNIDO project and JAMPRO in the above, Management Options Limited developed a company audit mechanism for

JAMPRO and conducted audits of 6 of the targeted companies. The remaining companies will be analysed by JAMPRO.

These Company Audits examined four critical areas of each company:

- Marketing
- Operations/Production
- Finance and Control
- Organisation and Management

From the findings and analyses, we were able to draw conclusions as to the strengths and weaknesses in each area, and make recommendations for improvement. We have also made recommendations to JAMPRO and the project as to the type and nature of assistance required by each company.

This report presents the following:

1. Procedures Manual for conducting the Company Audit
2. Data Collection Instrument
3. Company Audits of
  - West Indies Pulp and Paper Limited
  - National Processors Limited
  - Lador Aluminium Steel and Wood Company Limited
  - Casual Designs Limited
  - Caribbean Tooling Limited
  - Plas-Pak Limited

## METHODOLOGY

In order to accomplish the above, Management Options Limited did the following:

1. Met with JAMPRO and finalised methodology and work plan, and selected 6 companies to be audited. These companies represent a cross section of the 50 companies targeted by the project as follows:
  - 1 small apparel manufacturer
  - 1 small furniture manufacturer
  - 1 capital goods manufacturer
  - 2 packaging manufacturers
  - 1 processed foods manufacturer
2. Developed an extensive survey instrument to collect data from each company
3. Tested the instrument on one company and made the necessary adjustments
4. Developed a procedures manual for the collection and analysis of data
5. Conducted training session with 8 JAMPRO employees
6. Conducted site visits and interviews of 5 companies - our interviewers were accompanied by JAMPRO employees as part of their training
7. Analysed the data, developed findings, conclusions and recommendations
8. Submitted Company Audits to UNDP/UNIDO, JAMPRO and the relevant company

The interview process was hindered to various degrees by the following:

- Reluctance of companies to provide data which they consider confidential. This was only provided after assurances that it would remain absolutely confidential.
- Lack of record keeping, and therefore inability of data
- Time constraints, as some of the companies are small and the owner/manager has very limited time available for an exercise of this nature
- With the larger companies where we had to interview more than one manager, appointments were sometimes difficult to get
- Lack of interest in participating in the exercise (although not stated outright) which necessitated having to choose alternative companies

However, we must point out, that those persons we interviewed gave maximum cooperation, and assisted in whatever way possible.

JAMPRO staff also cooperated to the fullest by their timely review of the audit instrument, and excellent comments, and by scheduling and attending interviews.

## **BENEFITS:**

This assignment has resulted in a number of benefits to the project, JAMPRO, the companies and the sectors:

1. The project's resources can be directed to those companies which have the capability to utilise them and where results can best be realised
2. The procedures and skills for conducting Operations Reviews has been transferred to JAMPRO for use on this and other projects
3. These Company Audits also be incorporated into the centralised database now being installed at JAMPRO
4. The companies have received a thorough review and analysis of their operations, and recommendations for improvement
5. Specific areas of assistance from JAMPRO have been identified

## **RECOMMENDATIONS TO JAMPRO:**

During the conduct of this assignment, three problems common to all/most companies emerged:

1. Lack of information about markets, and in particular about the competition, and therefore an inability to strategically plan their business;
2. The shortage of trained maintenance personnel, and the effect this has on production in terms of machine downtime, production scheduling and therefore delivery to customers;
3. The fact that 5 of the 6 companies do not know their production capacity. This leads to an inability to properly plan for the long term, schedule in the short term and can lead to unnecessary capital investment. Further, not knowing capacity means that the companies are unable to implement aggressive export expansion programmes, as they do not know how much production they can commit and they cannot plan cash flow and other financing needs

All of the companies except one are aware of ISO 9000, and are at various stages of planning for implementation.

The assistance and/or services required from JAMPRO by each company are listed below, and reflect the above. These should be used to develop programmes for providing assistance on a sectoral and company basis, in an effort to improve competitiveness of Jamaican companies, and ultimately to increase trade.

## **WEST INDIES PAPER PRODUCTS LIMITED:**

### **SERVICES REQUIRED FROM JAMPRO**

#### **TRAINING**

Training institutions such as HEART, CAST, JAMPRO as well as the technical schools should begin to focus more on training for the industrial sector. Skilled personnel for production, maintenance and other technical areas are in great demand and the supply is extremely limited. JAMPRO, as the implementing agency for the industrial policy should take a proactive role in developing the human resources for the sector. In particular:

- Three- to six-month courses should be offered in an effort to equip school leavers with some of the basic skills which would be an asset in seeking positions industry such as -
  - Production Management
  - Production scheduling and line balancing
  - Maximising Plant Capacity
  - Quality Control Techniques
  - Warehousing Techniques
  - Maintenance of electronic equipment.
  
- Local technical training institutions should also seek to maintain close contact with industry in order to -
  - Ensure that courses being offered are relevant to local industries and remain current
  - Develop new courses to satisfy growing industrial needs
  - Expand training opportunities for staff already employed in industry who wish to upgrade skills and/or acquire tertiary level qualifications.

- Comprehensive programmes to the diploma and degree level for maintenance technicians, supervisors and managers to address the more sophisticated equipment now being developed

### LINKING WITH INTERNET

The company is not familiar with the possibilities available to them through Internet and would welcome any information regarding the benefits to be derived from establishing this link.

### SECTORAL INFORMATION

Information on other companies within the sector is not easily accessible. JAMPRO could facilitate this process by conducting regular surveys so as to source the relevant data which would assist companies in the sector with analysis and planning.

### DESIGN CENTRE

JAMPRO should ensure that W.I.P.P., and in particular its Technical Department, is aware of the services offered by the Design Centre and the benefits to be derived from establishing ties with the Centre.

### MODERNISATION OF INDUSTRY PROGRAMME

W.I.P.P. has accessed the Modernisation of Industry programme through which it is upgrading its equipment. Owing to financial restraints, W.I.P.P. is approaching this on a phased basis and so the process of modernising equipment will be a long term one as most equipment dates back to the 1960s and 1970s. In the packaging industry, state-of-the-art equipment is of paramount importance if prices are to remain competitive and trendy designs created. The Modernisation of Industry programme has proved beneficial to industry and it is important for it to remain in force on an ongoing basis so that the facility will be available to manufacturers.

**NATIONAL PROCESSORS LIMITED**  
**SERVICES REQUIRED FROM JAMPRO**

**Technical Training**

JAMPRO should upgrade the services offered by the Tool Makers' Institute. In addition they should -

- a) Conduct a survey among local manufacturers to identify the type of equipment they use and the pieces which prove most problematic to maintain in good working order;
- b) Establish links with specific overseas equipment suppliers, based on the information coming out of the survey, and arrange for their technicians to conduct workshops in Jamaica on an ongoing basis. Some of these companies could be asked to co-sponsor the workshops which could be viewed as indirect promotions;
- c) Approach a reputable local training institution informing them of the need in industry for skilled technicians/maintenance personnel trained to work with state-of-the-art electronic equipment. This institution would work closely with the visiting technicians and would be encouraged to develop certificate and/or diploma programmes in this field;
- d) Establish a data bank of local technicians/maintenance personnel and encourage them to participate in an ongoing skills upgrading programme geared to expose them to the technology of the 21st century;
- e) Involve all interested factories in the programme arranging for the visiting technicians to work in-house alongside their maintenance personnel.

This programme would be geared to develop a cadre of technical personnel with expertise in the repair and maintenance of specific types of electronic equipment and the high cost of training maintenance personnel overseas would be significantly reduced.

Industrial Engineering:

NPL may require the assistance of JAMPRO in:

- a) Calculating plant and equipment capacity
- b) The development of an effective production scheduling system

Market Information:

NPL may also require JAMPRO's assistance in researching the local and overseas markets.

Design Services:

NPL may require the services of the Design Centre in terms of information about packaging trends, and the availability and expertise of local designers.

## **LEADOR ALUMINIUM STEEL AND WOOD COMPANY LIMITED**

### **SERVICES REQUIRED FROM JAMPRO:**

The company will require the assistance of JAMPRO in a number of areas:

1. Information on the local and Trinidad markets
2. Expansion of sales in Trinidad through the provision of market information, identification of and introduction to dealers, and assistance with shipping through JETCO.
3. Information and assistance in product design and packaging, as most quality problems seem to stem from the latter
4. Calculating plant capacity
5. Developing a proper method of scheduling production
6. Plant layout and placement of equipment
7. Preventive maintenance programme and training of workers
8. Work measurement and costing
9. Introduction of ISO 9000 standards to the management, and assistance in implementation
10. Development of a strategic business plan

**CASUAL DESIGNS LIMITED**  
**SERVICES REQUIRED FROM JAMPRO:**

JAMPRO can be of assistance to Casual Designs in the following:

1. Implementation of the centralised data base so that the management does not have to submit the same information repeatedly to JAMPRO
2. Provision of local and overseas market information
3. Provision of industry data on cost structure (locally and internationally) so that the company can measure its performance against the industry standards, and will know which areas need improvement.
4. Calculating plant capacity and capacity utilisation
5. Identification of inefficiencies in production process and skills of operators
6. Development of training programmes to improve operators and supervisors skills
7. Development of piece rates for operators
8. Implementation of ISO 9000 programme

**CARIBBEAN TOOLING LIMITED**  
**SERVICES REQUIRED FROM JAMPRO:**

JAMPRO can assist Caribbean Tooling in the following ways:

1. Providing information for the market study
2. Determining capacity of the plant and capacity utilisation
3. Time and motion studies as a basis for estimating costs and establishing prices
4. Improvements in plant layout
5. Assistance in implementing ISO 9000
6. Assistance in implementing CAD/CAM
7. Training in tool making, quality control, ISO 9000

JAMPRO may also want to consider areas of collaboration with National Tool and Die - say, maintenance of equipment, production of excess orders, etc.

**PLAS-PAK LIMITED**  
**SERVICES REQUIRED FROM JAMPRO**

The packaging industry is a very important linkage in the industrial development of Jamaica. JAMPRO must ensure that it understands the sector - its structure, players, needs - so that it can develop/recommend appropriate policies and programmes for its development. Assistance to this sector will help not only the sector itself, but also the manufacturers who use packaging.

**TRAINING:**

JAMPRO should place some emphasis on the development of courses for maintenance technicians with expertise in electronics as persons with these skills are in very short supply.

In order to improve the quality of the training services it offers, JAMPRO should -

- Mail training brochures earlier
- Promote courses more extensively and even offer some kind of incentive in order to minimise cancellations and postponements
- Develop in-plant training programmes customised to the needs of the company

**DESIGN CENTRE:**

Plas-Pak will benefit from contact with the Design Centre as it is looking at producing more sophisticated containers with greater market appeal. This link will make it easier for them to access information and assistance from design consultants. It can also be an effective marketing tool for Plas-Pak by making their capabilities known to packaging designers and other manufacturers.

### INDUSTRIAL ENGINEERING:

Plas-Pak may require the assistance of JAMPRO in industrial engineering to:

1. Calculate plant and equipment capacity
2. Development of a production planning and scheduling system
3. Development of a preventive maintenance programme

### ISO 9000:

Plas-Pak has set a target date of 1997 for implementation of ISO 9000. JAMPRO can be of assistance to the company in developing an implementation schedule and in training.

### MARKET INFORMATION:

Plas-Pak requires information on the local and export market. JAMPRO may be of assistance in both cases by providing market research and information on overseas markets, and an annual analysis of the local industry.

**JAMPRO**  
**COMPANY AUDIT**  
**PROCEDURES MANUAL**

**Commissioned by:**

**UNDP/UNIDO Project to Strengthen the Competitiveness of  
the Jamaican Manufacturing Sector**

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**JAMPRO COMPANY AUDIT - PROCEDURES MANUAL**

**TABLE OF CONTENTS:**

	<b><u>PAGE #</u></b>
PURPOSE OF THE COMPANY AUDIT	1
COMPANY AUDIT QUESTIONNAIRE	3
METHODOLOGY FOR CONDUCTING THE COMPANY AUDIT	4
COMPLETING THE COMPANY AUDIT QUESTIONNAIRE	10
- BACKGROUND INFORMATION	
- MARKETING	14
- OPERATIONS	19
- FINANCE AND CONTROL	23
- ORGANISATION AND MANAGEMENT	
PLANT ASSESSMENT	26
ASSESSMENT REPORT	28

**APPENDIX:**

COMPANY AUDIT QUESTIONNAIRE

## **JAMPRO LIMITED**

### **PROCEDURES MANUAL FOR COMPANY AUDIT**

#### **PURPOSE OF THE COMPANY AUDIT:**

JAMPRO, as Jamaica's Economic Development Agency needs a full understanding of the operations of its' clients companies. These companies seek to access the services of JAMPRO which are, very broadly speaking, investment facilitation, enhancement of export trade and productivity improvement. In order for JAMPRO to ensure that it's services are fully utilised by the company and that maximum returns are received by the client company, JAMPRO and the country, it must make an assessment of the company's capabilities. This assessment takes the form of a COMPANY AUDIT.

The information collected in the Company Audit can be used by a number of groups within JAMPRO:

1. Relevant Industry Sector Group - as a basis for determining investment and trade promotional activities
2. Overseas offices - as above
3. Research & Analysis Unit - to provide the basis for industry analysis
4. Market Development - to determine market access programmes

5. **Productivity Group** - To determine the types of services in terms of quality improvement, industrial engineering, design development, and training.

The idea behind such a comprehensive Company Audit is to gather as much information initially and thereby reduce the number of times that various JAMPRO units have to contact representatives many times for the same information. The information in the Company Audit Should therefore be available to all relevant JAMPRO Units authorised to use it.

The Company Audit should be conducted once, and as interventions are made by various units within JAMPRO to provide services and assistance, further information can be added.

## **COMPANY AUDIT QUESTIONNAIRE:**

The Company Audit Questionnaire is divided into 5 main sections:

- **Background Information:**
- **Marketing**
- **Operations**
- **Finance & Control**
- **Organisation and Management**

Each section is divided into subsections to facilitate the structured collection of data. This manual will further examine each area in greater detail.

## **METHODOLOGY FOR CONDUCTING THE COMPANY AUDIT:**

The Company Audit should be conducted in the following manner:

1. Completion of Company Audit Questionnaire via:
  - a. Initial interview with the manager of the company i.e. Managing Director, CEO, General Manager, or whomever is in charge of overall operations.
  - b. Interviews with other managers in key areas of responsibilities e.g. Financial Controller, Plant Manager, Marketing Manager etc. In a small company, all of these functions may be carried out by one or two persons.
  - c. The audit instrument can be completed by one or two interviewers. If there is one interviewer, then the interview may be best conducted in two separate sittings, owing to the length of the questionnaire. In instances where two JAMPRO representatives conduct the interviews they should both first meet with the company's top executive on arrival at the establishment. They would then separate, with one interviewer covering the following sections:
    - Background information
    - Finance & Control
    - Organisation and Management

while the other covers the following sections:

Marketing

Operations

- d. The interviewer should remain aware of the time and in control of the interview. The interview should not be perceived by the client as a burdensome task.
  - e. When data is not readily available and will require research on the part of the client, leave copies of the relevant page(s) with the client and arrange for them to be collected or faxed by a specific date.
2. Tour of plant facilities and completion of Assessment Report. If two interviewers visit the establishment, they should both tour the plant facilities and complete the report as a joint effort.
  3. Collection of supporting data such as financial statements, plant layout, organisation chart, and any other additional information which is not provided during the interview.
  4. Writing of report by JAMPRO interviewer

## **CONDUCTING THE INTERVIEW:**

The following procedures should be followed when conducting the interviews:

### **PREPARATION FOR THE INTERVIEW:**

1. Make an appointment with the manager of the company. When doing so, advise the manager of the purpose of your appointment, who else will be accompanying you, and how much of his/her time you will need. Advise him/her that you will also want to tour the plant either at the time of the appointment or at some other time;
2. Make sure to agree on the location for the meeting and to get directions, so that you can plan and time your route;
3. Confirm the appointment before the interview either by fax letter or verbally the day before the interview;
4. Review any information on the company already within JAMPRO and note on the interview instrument. This way, you will not waste time asking for information that the company has already given.

5. Take the following along to the interview:
  - JAMPRO brochures and/or information leaflets which you think may be of interest to the particular company.
  - Clipboard or equivalent to facilitate notetaking;
  - A second copy of the questionnaire in case some pages have to be left behind for completion
  - Extra paper for notetaking in case the space provided on the questionnaire is not adequate.
  
6. **ARRIVE AT THE APPOINTMENT AT THE APPOINTED DAY AND TIME. IT IS IMPORTANT TO BE ON TIME !!**

**AT THE INTERVIEW:**

1. Explain the purpose of the Company Audit, and the benefits to be derived by the company:- collection of data once, and full understanding of the company by JAMPRO so that it needs can be facilitated when planning future programmes.
  
2. Ensure that the manager is aware of JAMPRO's role and the programmes it offers which could assist the company. This is a good time to present the brochures and/or information leaflets on JAMPRO services.

3. **Assure him/her that all information will be kept confidential within JAMPRO and advise who will have access to data. Ask him/her to advise you as you are going through the interview if there is any information which he/she cannot disclose.**
4. **Advise him/her that it may be necessary to interview other managers.**
5. **Explain that the interview will be conducted using a pre-designed questionnaire.**
6. **Prior to beginning the interview with each manager, briefly describe the type of information you are seeking and that he/she may need to refer to during the interview e.g. sales records, financial statements, production records.**
7. **Proceed to ask questions on the questionnaire.**
8. **As you ask questions, make a note of any information to be provided at a later date.**
9. **Make a note on the questionnaire of the names of other managers whom you may have to interview in order to collect information.**

**This procedure should be followed for interviews with all managers.**

## **ENDING THE INTERVIEW:**

The interview is ended once all questions that can be answered by the manager are answered. However, you should ask the manager if he/she has any other comments or information that he/she thinks is important to getting a full understanding of the company.

If you run out of time before completing the questionnaire, make another appointment. Before leaving the interview, make sure that you have the checklist of all information to be provided and a commitment from the manager as to when you can get this information.

**Make sure to thank the manager for his/her time and cooperation**

## **THINGS TO AVOID DURING THE INTERVIEWS:**

1. Avoid jumping from topic to topic. Try to get the manager to answer questions in a structured manner otherwise you will get very confused and will not gather all of the information.
2. Avoid stopping to get information - try to go through the questionnaire as quickly as possible. If the manager needs to access information from elsewhere, advise him/her that you are making a checklist of this information which you can gather at the end of the interview or which you will collect at another date.

## **COMPLETING THE COMPANY AUDIT QUESTIONNAIRE:**

### **A. BACKGROUND INFORMATION:**

In this section, you are seeking to gather basic information on the company. Some of it may already be on JAMPRO files.

### **B. MARKETING:**

This section is subdivided into 9 sections:

- Product Mix
- Markets
- Design Development
- Pricing
- Distribution
- Promotions
- Competition
- Customer Service
- Market access and regulations

#### **1. PRODUCT MIX**

Purpose of this section is to get an understanding of the current products and brands, the significance of these to the company in terms of

contribution to sales, and the potential and planning for new products. This information will be very important to the Sector Group in planning trade promotions and in executing market access and product development programmes.

## **2. MARKETS:**

This section gathers information on markets served, market share and market segments. This information is particularly useful in determining market access programmes in JAMPRO.

## **3. DESIGN DEVELOPMENT:**

In this section, you are getting information on how the company approaches the design of its products and packaging. If samples of the product and packaging are readily available, you could examine some and make your own assessment. If not readily available, defer this exercise until the tour of the facilities. This information will be of particular relevance to the Design Services Unit.

#### 4. PRICING

Information on pricing is important in determining competitiveness of products in targeted markets. This information will be very useful for overseas offices and sector groups in identifying products which have potential and are competitive in particular markets. If the pricing strategy seem to be very vague, there may be an opportunity to provide services such as trade information (regular bulletins on prices in each market), training in export pricing and costing, and actual assistance in identifying and calculating costs (which many companies do not know with any degree of certainty) and developing and implementing a costing system.

#### 5. DISTRIBUTION

Distribution is the downfall of many a company in overseas markets. In this section, you are assessing how well the company has organised itself to get its products to the consumer. Again, overseas offices and sector groups will find this information very useful.

#### 6. PROMOTIONS

Promotions deals with any form communications support for the company's products. These questions, seek to determine how committed the company is to supporting its products, and what type of assistance may be needed. This is especially useful in planning JAMPRO promotions such as trade shows, in-store promotions, etc.

## 7. THE COMPETITION

Many companies do not fully understand the competitive environment in which they operate. This is an area in which JAMPRO can provide trade information services. This section therefore seeks to identify how informed the company is about its competition and how it rates itself against the competition. The identification of weaknesses may indicate other areas in which JAMPRO could provide assistance and services.

## 8. CUSTOMER SERVICE

One of the most common complaints by overseas buyers is poor customer service. This therefore represents an area of opportunity for JAMPRO to intervene. It also points out the need for technical assistance in terms of quality improvements - of products as well as quality and procedures.

## 9. GOVERNMENT REGULATIONS AND MARKET ACCESS:

Of particular interest to the Trade and Investment Policy unit, this section seeks to determine how government regulations are impacting on the business.

## **C. OPERATIONS:**

The purpose of this section is to determine efficiency in all areas, by examining the organisation and management of 12 key areas:

- Planning & Scheduling
- Production Facilities
- Production Technology
- Production Line
- Production Capacity
- Purchasing
- Availability of inputs
- Costing
- Quality Control
- Security
- Housekeeping & Maintenance
- Management of Industrial Waste

### **1. PLANNING AND SCHEDULING**

Responses to questions in this section indicate the level of planning and control over production. This particularly important if the company states that it wants to increase exports, as this must be backed up by the ability to deliver on time.

## **2. PRODUCTION FACILITY**

This section simply seeks to determine the nature and size of the production facility.

## **3. PRODUCTION TECHNOLOGY**

In order to determine Industrial Engineering and efficiency improvement needs, JAMPRO needs to understand the state of technology and how it is implemented within the company.

## **4. PRODUCTION LINE**

The information in this section is important in determining industrial engineering and productivity improvement assistance, and in make an assessment of how well production is planned and controlled.

## **5. PRODUCTION CAPACITY**

You may find that many companies do not know their production capacity, and you may actually have to work this out for them (very roughly). However, the information is VERY important in determining supply

capability, and to indicate areas of improvement in which JAMPRO may be able to assist.

## 6. PURCHASING

Supply of inputs is a major problem facing many producers, and is many times a serious hindrance to the expansion of production. In this section, the interviewer is trying to determine what problems exist, and how well the company is managing the solutions. It also addresses the critical problem of efficiency in terms of waste. Information gathered in this section is useful in determining whether the company really has the capability to supply new markets.

## 7. AVAILABILITY OF INPUTS

Closely allied to Purchasing, this section goes further in terms of identifying key inputs and specific problems in accessing them. Once again, information gathered here helps in determining the true supply capability of the company.

## 8. COSTING:

Good costing is one of the pillars of competitive pricing. Many companies do not pay enough information to this area and find it difficult to identify their true costs. This section therefore provides information to assess the costing systems in place, and the level of control over costs. It should be consistent with the information given in the section on Pricing.

## 9. QUALITY CONTROL

With quality control becoming a key element in accessing overseas markets, one wants to assess the level of quality consciousness in the company, and practical measures taken to control and improve quality. Information gathered in this section will point to the need for training, design and implementation of quality systems, procedures and manuals and to other types of intervention such as product design and improvement.

## 10. SECURITY

Security is of paramount importance to exporting companies, and is a key element of the Exporter Registration Services offered by JAMPRO. Deficiencies in this area will point to the need for intervention by the Trade Facilitation Unit.

## **11. HOUSEKEEPING AND MAINTENANCE**

This section seeks to determine how well the plant and equipment are managed, and to assess the level of safety consciousness. The area of maintenance is one in which JAMPRO can offer Industrial Engineering services, and good housekeeping practices usually relate back to quality systems.

## **12. ENVIRONMENTAL IMPACT**

As concern for the environment increase, the management of industrial waste is becoming critical. The information in this section can be used by JAMPRO in policy formulation and in providing technical assistance.

## D. FINANCE AND CONTROL

Financial strength is one of the key elements in growth and development of a company. This section assesses the level of control in terms of:

- Financial Condition
- Information & Control
- Automation

### 1. FINANCIAL CONDITION

Financial condition is important in determining whether the company is viable and capable of sustaining long term growth and development. You may ask for copies of the company's Financial Statements (Balance Sheet, Income Statement) in order to make a proper assessment of the company's financial condition. However, if these are unavailable, or the manager prefers not to make them available, then you should ask for the information as specified in questionnaire, and this will be adequate.

Following are the formulas for calculating the ratios specified:

1. Current Ratio: 
$$\frac{\text{Current Assets}}{\text{Current Liabilities}}$$

This ratio indicates the company's ability to pay short term creditors out of a short term funds. A ratio of 2:1 is generally accepted as being an indicator of good financial health. If the ratio is below 1:1, then this means that the company cannot quickly meet its short term obligations, and this is cause for concern. You should ask the manager for some explanation, as a low ratio could caused by an unusual occurrence which has since been corrected.

## 2. Inventory Turnover

Cost of Goods Sold

-----

Average Inventory

(Average Inventory = Beginning + Ending Inventory divided by 2)

The higher the turnover the better, because it means that inventory is being used efficiently, and that cash is not necessarily tied up. However, the company could run the risk of stockouts, particularly if there are problems with the availability of inputs. There is no absolute "right" number, as a lot depends on the type of industry.

## 3. Days Receivable:

Ending Accounts Receivable

-----

(Sales/365 days)

This ratio indicates how many days credit the company is actually extending to its customers, and should be compared to its theoretical credit terms. For example, if the company's official credit policy is 30 days, but its Days Receivable are 60 days, then this indicates that credit collection is inefficient, and/or that a large number of collection may be uncollectible.

4. Gross Margin:

(Sales - Cost of Goods Sold)

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Sales

Indicates operating profitability and efficiency of usage of raw materials and other direct inputs. You should compare the Gross Margins over time to determine whether it is improving or declining. If it is declining, you should ask the manager to explain why. If the Gross Margin is negative, then this is an indication of VERY POOR financial health, and the company is not viable.

5. Profit Margin

Net Profit

-----

Sales

This ratio indicates overall profitability. If the company is losing money, or if the Profit Margin has been declining over time, you should ask the manager to explain why this is so.

## 2. INFORMATION AND CONTROL SYSTEMS

It is important to assess the level of control which management exercises over the use of its funds, as this is related to current and future financial strength. Whilst financial condition may appear to be good, poor information and control systems could signal problems in the future.

## 3. AUTOMATION:

As information technology becomes more important in global competitiveness, it is important to assess the level of automation and how it is used in the company. This section also provides information to JAMPRO on training needs and the need for linkages into external information systems and databases.

## **E. ORGANISATION AND MANAGEMENT:**

With the best products, productive capability and financial strength, no company will grow if it does not fully support and consciously develop its human resources. This is assessed in this section by examining:

Human Resource Management

Organisation

Management/Employee Communications

Sectoral Cooperation and Networking

### **1. HUMAN RESOURCE MANAGEMENT**

Responses in this section indicate the systems in place to manage human resource, and how well they are working. This too, is an indication of how capable and ready the company is to promote growth and development, and how responsive it will be to JAMPRO assistance and services. The section also provides information on training and manpower needs.

### **2. ORGANISATION:**

You should request the organisation chart. If none exists, ask for information so that you can develop one. The organisation chart is important in terms of identifying and understanding key functional areas and reporting relationships.

### **3. MANAGEMENT/EMPLOYEE COMMUNICATIONS**

Closely related to Human Resource Management, this section attempts to assess the state of communications between management and employees, and how involved employees are in decision-making. This information is important in making an assessment of management's capability.

### **4. SECTORAL COOPERATION AND NETWORKING:**

Communication and networking with external organisations is important as it indicates the willingness of management to cooperate on industry initiatives and programmes. This section also takes the opportunity to request feedback about the knowledge and usage of JAMPRO services and the level of satisfaction with the services received.

## **CONDUCTING THE PLANT TOUR:**

The purpose of conducting the plant tour is for you to get a better understanding of the operations of the company, and to identify and clarify any problems Which may not be reported by the management.

When conducting the tour, make sure to:

1. Dress appropriately for the facility - plant conditions can be potentially hazardous, so you should wear clothes that allow you to climb steps, walk on gangways, walk far distances, walk through wet or muddy areas. Wear comfortable non-skid shoes.
2. Not to wander off without the permission of the person conducting the tour. Some areas may be off-limits for various reasons (sanitation, security). If you wish to get a closer look at a certain area or operation, ask first.
3. Not to disrupt production by talking to employees on the line unless you ask for and receive permission to do so.
4. Have a pad for taking notes. This should be sturdy so that you can press on it as you will be writing during the tour.

5. Review plant layout and get you bearings before you start.

### **PLANT ASSESSMENT:**

During the tour, you will be taking notes and asking questions in order to complete the PLANT ASSESSMENT. This is an internal document in which you seek to make your own assessment of the state of the facility, how well it is managed, and to identify any areas for improvement. It is to be used to augment the information gathered on the Company Audit Questionnaire.

The Plant Assessment covers the following:

- Good Housekeeping/Maintenance - does the plant look, neat and tidy, do things seem to be in their place, are walkways clear? Is there evidence of good sanitation?
- Efficiency of workforce - are workers and supervisors diligently applied to their duties, or are they wandering around seeming to do very little?
- Plant Layout efficiency - does production seem to flow, or is there a lot of backtracking and bottlenecks? Is production area adequate, is there room for expansion?

- **Machine efficiency - do you notice a number of machines or lines idle or under repair?**

**As you make your own assessment, you should request clarification from management so that you do not come to the wrong conclusions. For example, if you notice a number of machines idle or under repair, this could be because of lack of maintenance or it could be a part of a planned preventive maintenance programme.**

## **ASSESSMENT REPORT:**

Once you have completed the questionnaire, the plant tour and gathered all additional information on the checklist, you are now ready to write your Assessment Report. The purpose of the report is to:

Assessment the performance of the company in each of the functional areas;

Identify strengths in each area and see how the company is using these to their advantages;

Identify weaknesses in each area;

Identify services which JAMPRO can provide

This Assessment Report is an internal document FOR THE USE OF JAMPRO PERSONNEL ONLY. It should be short and concise, and can even be written in bullet form, under four main headings:

### **1. Background**

Brief description and history of company

## 2. Review of Operations:

Review the operations of the company under the following headings:

- Marketing
- Operations
- Finance and Control
- Organisation and Management

Under each heading, you should briefly describe the activity, and point out strengths and weaknesses.

## 3. Conclusions:

The conclusions should consist of your overall impression of the company in terms of their readiness to access the services offered by JAMPRO.

## 4. Recommendations:

This section should detail any areas where JAMPRO can intervene and the type of assistance and services which the company needs.

On completion, a copy of the draft report should be sent to the top executives of the company for his/her review and comments. This will:

- Ensure that the information recorded in the document is accurate;
- Provide general feedback from the company regarding recommendations.

After a few days, follow up with the manager to get his/her comments. Then, revise the report to reflect any corrections/comments made.

The Assessment Report should be discussed with the relevant departments within JAMPRO in order to develop a programme of assistance for the company. The report is to be placed on the company's files along with the Company Audit Questionnaire and any other information collected. The recommendations should be discussed with relevant departments within JAMPRO in order to develop a programme of assistance.

**JAMPRO  
COMPANY AUDIT**

**A. BACKGROUND INFORMATION**

1. NAME OF COMPANY: \_\_\_\_\_
2. ADDRESS: \_\_\_\_\_
3. TEL. NO: \_\_\_\_\_
4. NAME, POSITION OF CHIEF EXECUTIVE: \_\_\_\_\_

5. RECORD OF EMPLOYEES:

FULL-TIME

MANAGERS \_\_\_\_\_

TECHNICAL STAFF: \_\_\_\_\_

SALES STAFF: \_\_\_\_\_

SUPERVISORS \_\_\_\_\_

CLERICAL/SECRETARIAL \_\_\_\_\_

PRODUCTION WORKERS \_\_\_\_\_

OTHER (SPECIFY) \_\_\_\_\_

PART-TIME

MANAGERS: \_\_\_\_\_

TECHNICAL STAFF: \_\_\_\_\_

SALES STAFF: \_\_\_\_\_

SUPERVISORS: \_\_\_\_\_

CLERICAL/SECRETARIAL \_\_\_\_\_

PRODUCTION WORKERS \_\_\_\_\_

SEASONAL WORKERS \_\_\_\_\_

OTHER (SPECIFY) \_\_\_\_\_

6. BRIEF COMPANY HISTORY

1st Year of Operations: \_\_\_\_\_

Original Company Objectives: \_\_\_\_\_

Original No. Of Employees: \_\_\_\_\_

Location & Size of 1st Business Place: \_\_\_\_\_

Current legal status: \_\_\_\_\_

Current ownership: \_\_\_\_\_

When did the company become profitable? \_\_\_\_\_

When did the company enter the export market? \_\_\_\_\_

7. MAJOR GOALS

Short-term: \_\_\_\_\_

Long-term: \_\_\_\_\_

8. MISSION STATEMENT:

\_\_\_\_\_

9. MAIN PRODUCTS/SERVICES

\_\_\_\_\_

10. AFFILIATED COMPANIES

Name of company (ies) \_\_\_\_\_

Type of Business: \_\_\_\_\_

How affiliated: \_\_\_\_\_

**B. MARKETING**

Name and position of person being interviewed: \_\_\_\_\_  
\_\_\_\_\_

**PRODUCT MIX**

1. State product range and brands:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Have any new products been launched on the market within the last three years?

Yes  No

If yes, state -

Date launched: \_\_\_\_\_

Product Name: \_\_\_\_\_

Brand: \_\_\_\_\_

Sales history: \_\_\_\_\_

Projected sales: \_\_\_\_\_

3. Are there plans underway to launch any new product within the next two years?

Yes  No

If yes, state -

Date set for launching: \_\_\_\_\_

Product name: \_\_\_\_\_

Brand: \_\_\_\_\_

Target market: \_\_\_\_\_

Projected sales in the first two years: \_\_\_\_\_

4. Is there a demand on the market for any new product(s) which your company is capable of producing?

Yes  No

If yes, state product(s) and

market(s) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. Will any of the company's current products have to be modified in order to satisfy the requirements and/or customer preferences of selected overseas markets?

Yes  No

If yes, (give details) \_\_\_\_\_  
\_\_\_\_\_

6. What are the main products and brands which compete against your products?

PRODUCT

BRANDS

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7. What is the estimated market share of each of these products in your main market?

MARKET/PRODUCT:

% SHARE OF MARKET:

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8. What differentiates your products from these competing products?

PRICING: \_\_\_\_\_

PACKAGING: \_\_\_\_\_

PRODUCT DESIGN: \_\_\_\_\_

PROMOTION SUPPORT: \_\_\_\_\_

DISTRIBUTION CAPABILITY: \_\_\_\_\_

**THE MARKET**

1. Percentage distribution of market:

Local \_\_\_\_\_%                      Export \_\_\_\_\_%

2. Local market segments:

<u>% of</u>	<u>Market</u>	<u>Main Product</u>
<u>Total Local Sales</u>		
_____ %	Institutions	_____
_____ %	Supermarkets	_____
_____ %	Hotels	_____
_____ %	Restaurants	_____
_____ %	Gift Shops	_____
_____ %	Pharmacies	_____
_____ %	Dept. Stores	_____
_____ %	Hardware Stores/ Construction	_____
_____ %	Manufacturers	_____
_____ %	Other	_____

3. Name countries to which product(s) is (are) exported:

USA                       Canada                       United Kingdom                       Japan  
 Europe (Specify countries) \_\_\_\_\_

Latin America (Specify countries) \_\_\_\_\_

Caribbean (specify) \_\_\_\_\_

Other (specify) \_\_\_\_\_

4. Export market segments:

<u>% of</u>	<u>Market</u>	<u>Main Product</u>
<u>Total Export Sales</u>		
_____ %	Gourmet shops	_____
_____ %	Ethnic Market	_____
_____ %	Supermarket Chains	_____
_____ %	Dept. Stores	_____
_____ %	Distributor	_____
_____ %	Other	_____

**DESIGN DEVELOPMENT**

1. Does your company design any of its own products?  
 Yes       No
  
2. Are you satisfied with your current packaging/product design?  
 Yes       No
  
3. When are design-related problems usually discovered?  
 When prototype is being made       During production  
 By customers after sale of product       When prototype being tested  
 Other \_\_\_\_\_
  
4. How do you get feedback from customers about design issues and changes?  
 Through Customer Service Dept.       Through Sales Dept.  
 Through retail outlets       Through market surveys  
 Other \_\_\_\_\_
  
5. Based on current trends, would the design modification of any of your products be likely to increase sales volume significantly?  
 Yes       No  
If yes, state product(s) and reason \_\_\_\_\_  
\_\_\_\_\_
  
6. Is the same packaging used for both the local and overseas markets?  
 Yes       No  
If no, why is the packaging different?  
Labeling regulations: \_\_\_\_\_ Market preference \_\_\_\_\_  
Other (specify): \_\_\_\_\_
  
7. How often does the company review packaging/product design?  
 Every 3 - 5 years       Annually  
 As trends in market change       As needed to match competition  
 No set policy
  
8. Where does the company source information on product design?  
 JAMPRO Design Centre       Local design consultants  
 Overseas design consultants       Trade Publications  
 Other (specify) : \_\_\_\_\_
  
9. How much do you spend on product packaging each year? \$ \_\_\_\_\_
  
10. Are designs done:  
 in house       local designers       Overseas  
 others ( please specify) \_\_\_\_\_

## PRICING

1. Policy for local market pricing:  
 Cost-based  Market driven  
Give details: (If possible, provide price list for main product for the local market)  
\_\_\_\_\_
  
2. Policy for export market pricing:  
 Cost-based  Market driven  
 Marginal costing  
Give details: (If possible, provide price list for main products for the export market)  
\_\_\_\_\_
  
3. What is the normal mark-up used for costing purposes?  
Local market \_\_\_\_\_ %  
Overseas market \_\_\_\_\_ %
  
4. How do you get information on competitors' prices and information on their markups?  
\_\_\_\_\_  
\_\_\_\_\_
  
5. What is the company's policy on discounts?  
 No set policy - subject to negotiation  Never give discounts  
 Volume discounts available  Cash Discount  
 Other (specify) \_\_\_\_\_
  
6. How often are prices reviewed?  
 Annually  
 When cost of raw materials increase  
 When labour costs increase  
 When savings result from changes internally  
 When main competitor cost prices  
 Other
  
7. How often have prices changed within the last three years?  
 Never  Once  
 Twice  Three Times  
 More than three times  
State reason(s) and product(s) \_\_\_\_\_  
\_\_\_\_\_
  
8. How do you communicate prices to your customers?  
 Standard Price List  
 Customised quotation  
 Order Form  
 Verbally  
 Other (specify) \_\_\_\_\_

**DISTRIBUTION**

1. How are products distributed locally?  
 Company has own sales force                       Company has own outlets  
 Company works with distributor
  
2. How are products transported locally?  
 Members of sales force provided with company vehicle  
 Delivery of van/truck makes deliveries for customers based on incoming orders  
 Customers collect goods directly from factory
  
3. How are sales staff paid?  
 Flat Salary                       \_\_\_\_\_% commission  
 Basic salary + \_\_\_\_\_% commission
  
4. Who provides merchandising support?  
 In-house                       Distributor                       Contract
  
5. If in-house, are they -  
 employed                       on contract
  
6. State number of merchandisers: \_\_\_\_\_
  
7. How often do they visit each outlet?  
 Daily                       2 - 3 times/week  
 Once/week                       Once every 2 weeks  
 Once monthly                       Other \_\_\_\_\_
  
8. How many outlets do they cover? \_\_\_\_\_
  
9. What is the standard mark-up on your products for your distributors? \_\_\_\_\_%
  
10. What are the advantages/disadvantages of the current method used for local distribution?  
Advantages: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Disadvantages: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
  
11. How are products distributed overseas?  
 Company has an exclusive importer/distributor in each market  
 Company has different non-exclusive agreement with several importer/distributors  
 Company has representative overseas  
 Company ships directly to outlets  
 Other (please specify) \_\_\_\_\_

12. Identify the main distribution channels for your products in your main market overseas, and the markup at each stage:

- Importer \_\_\_\_\_ %
- Importer/Distributor \_\_\_\_\_ %
- Distributor \_\_\_\_\_ %
- Wholesaler \_\_\_\_\_ %
- Broker \_\_\_\_\_ %
- Retailer \_\_\_\_\_ %
- Other (specify) \_\_\_\_\_ %

13. What are the advantages/disadvantages of existing arrangements for overseas distribution?

Advantages: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Disadvantages: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## PROMOTIONS

1. How are products promoted locally?

- |                          |               |                          |                              |
|--------------------------|---------------|--------------------------|------------------------------|
| <input type="checkbox"/> | Advertising   | <input type="checkbox"/> | Point-of-purchase promotions |
| <input type="checkbox"/> | Trade shows   | <input type="checkbox"/> | Fashion shows                |
| <input type="checkbox"/> | Word of mouth | <input type="checkbox"/> | Poster on stands in outlets  |
| <input type="checkbox"/> | Brochures     | <input type="checkbox"/> | Other (specify) _____        |

2. How are products promoted overseas?

- |                          |                       |                          |                                     |
|--------------------------|-----------------------|--------------------------|-------------------------------------|
| <input type="checkbox"/> | Advertising           | <input type="checkbox"/> | Activities sponsored by distributor |
| <input type="checkbox"/> | Trade shows           | <input type="checkbox"/> | Fashion shows                       |
| <input type="checkbox"/> | Word of mouth         | <input type="checkbox"/> | Brochures                           |
| <input type="checkbox"/> | Other (specify) _____ |                          |                                     |

3. Are local promotional activities planned and carried out:

- |                          |                       |
|--------------------------|-----------------------|
| <input type="checkbox"/> | In-house              |
| <input type="checkbox"/> | By an agency          |
| <input type="checkbox"/> | By distributor/agent  |
| <input type="checkbox"/> | Other (specify) _____ |

4. Are export promotional activities planned and carried out:

- |                          |                       |
|--------------------------|-----------------------|
| <input type="checkbox"/> | In-house              |
| <input type="checkbox"/> | by an agency          |
| <input type="checkbox"/> | By distributor/ agent |
| <input type="checkbox"/> | Other (specify) _____ |

5. How much do you spend on:

Local advertising and promotions: \_\_\_\_\_

Export advertising and promotions: \_\_\_\_\_

6. What have you found to be the most effective form of advertising and promotion for your products:

Locally: \_\_\_\_\_

Export: \_\_\_\_\_

Explain: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## THE COMPETITION

1. Who are your main competitors, and what is their estimated market share?

Locally \_\_\_\_\_

Overseas (indicate competitor for each market):

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

2. What are these competitors strengths and weaknesses

COMPETITOR	STRENGTHS	WEAKNESSES
_____	_____	_____
_____	_____	_____

3. Does the company gather any of the following information on principal competitors in the market on an on-going basis?

	<u>LOCAL</u>		<u>EXPORT</u>	
	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Market share	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Price:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Quality	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Delivery capability	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
New Products	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Promotion Activity	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Other (specify)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No

4. How is the available information on principal competitors used?

- Reference in modifying prices  
 Yardstick for analysing company's performance  
 Reference in product development strategies  
 Guideline in establishing company's position in the marketplace  
 Guideline in establishing trends in marketplace  
 Kept on file, but used infrequently

5. In general how do you rate yourself against the competition in these elements of your business?

RATING:

Activity	Excellent	Good	Fair	Poor	Unsatisfactory
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Marketing

Market share

Product quality

Product range

Packaging

Pricing

Sales force

Distribution network

Warehousing



## CUSTOMER SERVICE

1. Does the company have a person or section responsible for handling customer complaints?  
 Yes                       No
  
2. Does the company solicit feedback from customers on its existing products and services?  
 Yes                       No  
If so, how? \_\_\_\_\_  
\_\_\_\_\_
  
3. Does the company solicit feedback from potential customers on new products and services prior to their being launched on the market?  
 Yes                       No  
If so, how? \_\_\_\_\_  
\_\_\_\_\_
  
4. Is a summary of customer complaints/customer rejections circulated within the company  
 upon receipt                       Daily                       Weekly  
 Monthly                       Quarterly                       Annually  
 Other (specify) \_\_\_\_\_
  
5. Who is responsible for taking corrective action within the company in response to customer complaints/rejections?  
 Top management                       Supervisors on production floor  
 Customer Service Representative                       Head of relevant department  
 Production workers                       No specific individual  
 Other \_\_\_\_\_
  
6. Describe usual action taken: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
  
7. What are the most common customer complaints?  
 Quality problems                       Late delivery  
 Incorrect items received                       Impolite staff  
 Product design                       Other (specify) \_\_\_\_\_
  
8. What product receives most complaints?  
\_\_\_\_\_
  
9. Over the past year, have the number of customer complaints/rejections been  
 Increasing                       Decreasing

**GOVERNMENT REGULATIONS AND MARKET ACCESS:**

1. List Government Regulations or other requirements which impacts on your business

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2. Explain the effect of these regulations (positively or negatively) on your business:

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3. Do you currently operate under any government incentives?  Yes  No  
If so, state which ones:

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4. Do your products qualify for any preferential market access?  Yes  No  
If so, state which markets, which trade agreement, and benefits:

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### C. OPERATIONS

Name and position of person being interviewed:

\_\_\_\_\_

#### PLANNING AND SCHEDULING

1. Who is responsible for scheduling production?
2. What determines production levels?  
 Orders from Sales Dept.                       Estimated contracts  
 Production capacity                               Available stock of finished goods  
 Availability of seasonal raw materials       Delivery of raw materials ordered
3. When are production level determined?  
 Annually     Monthly  
 Weekly      Daily
4. Do production schedules regularly change before completion?  
 Yes     No  
If yes, why? \_\_\_\_\_  
\_\_\_\_\_
5. What is the normal lead time given to customers for meeting deadlines for orders?  
 One Week     Two weeks     Three weeks  
 One month     More than a month     Other
6. What percentage of outgoing orders are delivered on time?  
 100%     90%     75%     50%  
 Less than 50%
7. How are production schedules communicated to:  
Supervisors: \_\_\_\_\_  
Sales  
Personnel: \_\_\_\_\_  
Factory  
Workers: \_\_\_\_\_

**PRODUCTION FACILITY**

1. Location: \_\_\_\_\_

2. Total square footage of:  
 Production Area: \_\_\_\_\_  
 Warehouse: \_\_\_\_\_  
 Land: \_\_\_\_\_  
 Other: \_\_\_\_\_

3. Is the available space adequate to meet current production needs?  
 Yes  No  
 If no, state additional space needed: \_\_\_\_\_

4. Is the production plant  
 Owned  Leased  Rented  
 If leased or rented, when do the agreement expire? \_\_\_\_\_

5. Does the plant have adequate storage facilities for  
 Raw Materials:  Yes  No  
 Packaging Materials  Yes  No  
 Finished Goods  Yes  No

If no, indicate additional space needed:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

6. State average monthly or annual production over the past three years;

PRODUCT	19	19	19
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

**PRODUCTION LINE**

1. Describe the production process for each product (FLOW CHART)

2. Describe production floor layout or provide diagram

3. What are the advantages and disadvantages being experienced with the present layout?  
Advantages: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Disadvantages: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

4. Does the company plant to -  
Increase automation in the near future  Yes  No  
Upgrade equipment  Yes  No

5. Does the facility have a standby generator?  Yes  No  
if no, are there plans underway to purchase one?  Yes  No

6. Is water used in the production process?  Yes  No

7. Does the plant have adequate back-up water storage facilities?  
 Yes  No  
If no, are there plans to purchase a water tank?  
 Yes  No

**PRODUCTION CAPACITY**

1. What is the daily capacity on a single shift basis, of:
  - Overall plant \_\_\_\_\_ units
  - Each line \_\_\_\_\_ units
  - \_\_\_\_\_ units
  - \_\_\_\_\_ units
  - \_\_\_\_\_ units
  
2. What percentage of the plant's capacity are you now utilising? \_\_\_\_\_
  
3. What factors limit your ability to better utilize capacity? (Please Explain)
 

\_\_\_\_\_

\_\_\_\_\_
  
4. Are you able to meet deadlines for order for finished goods with the plant's current capacity?
  - Always  Most of the time
  - Barely able to cope  Never
  
5. State main problems in meeting deadlines (if applicable): \_\_\_\_\_

\_\_\_\_\_

  
6. List capacity of each piece of equipment in the production line

<u>EQUIPMENT</u>	<u>CAPACITY</u>	<u>LOADING TIME/ UNLOADING TIME</u>	<u>CYCLE TIME</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

  
7. What measures/methods are used to balance the production line during the course of a regular day?
  - Equipment moved from one line to another
  - Spare equipment added to line if necessary
  - Speedy machine repairs through skilled maintenance personnel
  - Close monitoring of production by trained supervisory staff
  - Utilisation of multi-skilled employees in different section of the line as needed
  - Not necessary. Process mainly automated
  - Other (specify) \_\_\_\_\_
  
8. How many times per day is it necessary to balance the production line?
  - Never  Hardly ever  Once  Twice
  - Three times  More than three times

9. How are supervisory staff trained to balanced production line?  
 No training necessary  
 Through experience as operators  
 Through on-the-job training at the supervisory level  
 By attending trained courses and seminars  
 Other (specify) \_\_\_\_\_
10. Is additional equipment needed in order to balance the production line?  
 Yes       No  
 If yes, give details: \_\_\_\_\_  
 \_\_\_\_\_
11. How would you describe the plant's current equipment?  
 State-of-the-art       Adequate  
 Some pieces need upgrading       More equipment needed to balance line  
 Antiquated        
 Other \_\_\_\_\_
12. Do you have an adequate number of trained personnel to maintain and repair equipment?  
 Yes       No  
 If no, how many more are needed and at what level of skills?  
 \_\_\_\_\_  
 \_\_\_\_\_
13. On how many shifts per day does the plant operate?  
 One       Two       Three
14. What is the length of each shift? \_\_\_\_\_ Hours
15. Is overtime a regular feature in the Production Department?  
 Yes       No
16. If yes, how often does the production department work overtime?  
 \_\_\_\_\_
17. Do employees operate on:  
 More than one line       Yes       No  
 More than one operation       Yes       No
18. How is the training for multi-skilled employees organised?  
 Special on-the-job-training conducted in-house for new employees  
 Selected employees attend special course  
 A pool of experienced employees are monitored and trained  
 No special training programme exists  
 Other

## PRODUCTION TECHNOLOGY

1. Are there standard operating procedures  Yes  No  
If so, are these procedures documented? \_\_\_\_\_  
\_\_\_\_\_
  
2. Do employees have the authority to interrupt a process when non-conformities or other problem occur?  Yes  No  
If not, how are these problems dealt with? \_\_\_\_\_  
\_\_\_\_\_
  
3. With regard to equipment, your company records:  
Equipment idle time  Yes  No  
Equipment down-time  Yes  No  
Reasons for equipment idle time  Yes  No  
Reasons for equipment down-time  Yes  No  
Reasons for down/idle time are analysed  
and used to improve the production process  Yes  No
  
4. The company is currently using the following technologies:  
 Numerical Control (NC) or Computer Numerical Control (CNC) Machine Tools  
 Programmable Robotics  
 Programmable Controllers (PLC)  
 Production Planning and Inventory Control System  
 Automated inspection  
 Coordinate Measuring Machine (CMM)  
 Computer Aided Design (CAD)  
 Computer Aided Engineering (CAE)  
 Statistical Process Control (SPC)  
 Other (specify)
  
5. Prior to implementing engineering or process changes:-  
 All affected departments discuss and agree upon changes  
 Affected personnel are informed of changes on a timely basis  
 The cost impact is estimated and recorded prior to change approval  
 The latest changes are recorded and dated  
 Other \_\_\_\_\_

**PURCHASING**

1. How are company purchases made?  
 Through centralised purchasing system  
 Through a decentralised purchasing system  
 Through a combination of the above systems  
 Other \_\_\_\_\_

2. Do you think the current purchasing system satisfied the company's needs?  
 Yes       No

If no, list reasons: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Are the same goods purchased in the same quantities each month?  
 Yes       No

4. Have purchasing policies and procedures been documented?  
 Yes       No

5. Is the documentation current and readily available to users?  
 Yes       No

6. Prior to purchasing raw material in bulk, are the pros and cons of any of the following weighed?  
 Volume discounts       Inventory carrying costs  
 Risk of spoilage       Risk of deterioration of materials  
 Risk of theft       Delivery capabilities of suppliers  
 Quality of goods

7. Have any purchases recently been made outside of the prescribed purchasing routine?  
 Yes       No

If yes, describe circumstances: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

8. Does the company experience raw material and component shortages regularly?  
 Yes       No

Why? \_\_\_\_\_  
\_\_\_\_\_

9. What steps have been taken to address this?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

10. How does your company monitor stock levels of goods in storage?  
 Computerised inventory Control System       Inventory control system recorded manually  
 Random stock checks       Regular stock checks  
 Other
11. The inventory control system has the following features:  
Safety stock levels       Yes       No  
Reorder points for raw materials       Yes       No  
Raw material inventory status readily available       Yes       No  
Lead time for orders       Yes       No
12. Is purchasing informed of all engineering or material changes to prevent overbuying or to minimise obsolescence of inventory?  
 Yes       No
13. Is there clear definition as to what the company defines as scrap?  
 Yes       No
14. Does a senior officer inspect the scrap before it is shipped or discarded?  
 Yes       No
15. Is a scrap inventory record maintained?  
 Yes       No
16. The purchasing department's quality control practices include:  
Monitoring delivery capabilities of suppliers before placing orders:       Yes       No  
Taking into account supplier lead time when placing orders       Yes       No  
Providing suppliers with a clear definition of expected quality levels:       Yes       No  
Following up with suppliers to ensure that orders are delivered on schedule       Yes       No  
Evaluating quality of raw material purchased in conjunction with the Production department       Yes       No  
Documenting supplier quality       Yes       No  
Assessing supplier performance periodically       Yes       No
17. Does the company have a list of approved suppliers?  
 Yes       No
18. How many regular suppliers does the company have? \_\_\_\_\_
19. What are the most common problems which the company has with suppliers?  
 Terms of payment       Delivery time  
 Quality of goods       Other \_\_\_\_\_

**AVAILABILITY OF INPUTS**

1. List main raw materials used and main source:

<u>RAW MATERIAL</u>	<u>SOURCE</u>	<u>LEAD TIME FOR ORDERING</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

2. List packaging material used and main source:

<u>PACKAGING</u>	<u>SOURCE</u>	<u>LEAD TIME FOR ORDERING</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

3. Are there any raw materials only available seasonally?  Yes  No  
If yes, which raw materials and when are they available:

\_\_\_\_\_

\_\_\_\_\_

4. Do you experience any other difficulty in sourcing raw materials and packaging?  
 Yes  No

If yes, give details: \_\_\_\_\_

\_\_\_\_\_

5. What efforts have been made to reduce problems associated with sourcing of inputs?

\_\_\_\_\_

\_\_\_\_\_

6. Are you satisfied with the quality of  
Raw Materials:  Yes  No  
Packaging Materials  Yes  No

7. What problems do you have with the quality of:  
Raw Materials:

\_\_\_\_\_

Packaging

\_\_\_\_\_

\_\_\_\_\_



## QUALITY CONTROL

1. Who is responsible for quality control?  
 Operators       Supervisors       Quality Control Department  
 Management       Other
  
2. Who is responsible for checking the quality of raw materials purchased?  
\_\_\_\_\_
  
3. What percentage of incoming raw materials is defective?  
 More than 25%       10 - 24 %  
 5% - 9%       2 - 4%  
 1 % or less
  
4. What action is taken when a high percentage of incoming raw material is defective?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
  
5. At which points on the line is quality checked?  
 At the end of major sections       Spot checks conducted at any operation  
 Sport checks at problem areas       Spot checks at operations with trainees  
 At end of line       Other: \_\_\_\_\_
  
6. Are there any particular operations responsible for most of the quality problems?  
 Yes       No  
If yes, please give details : \_\_\_\_\_  
\_\_\_\_\_
  
7. The quality system relies heavily on: -  
Problem prevention       Yes       No  
Problem detection and correction       Yes       No  
Experience of workers       Yes       No  
Automated equipment       Yes       No
  
8. All employees are required to check the quality of each operation they complete?  
 Yes       No
  
9. What is the ratio of Quality Control Officers to Production Workers?  
\_\_\_\_\_
  
10. Are quality control manuals in place for all products?  
 Yes       No
  
11. Who is responsible for developing and upgrading quality control manuals?  
 Special staff in Q. C. Dept.       Q. C Manager  
 Special consultants       No one assigned

12. Are quality manuals currently in need of upgrading?  
 Yes  No
13. How are employees made aware of the company's quality standards?  
 By reading the manual  
 By attending in-house quality training programmes  
 By listening to other workers  
 By following supervisor's instructions  
 Through experience
14. How many members of the department have participated in Quality Control Training Programmes over the past two years?

NAME OF PROGRAMME	NO. OF PARTICIPANTS

15. Is the company aware of the ISO 9000 standards?  
 Yes  No
16. Does the company plan to implement the ISO 9000 standards?  
 Yes. Preliminary work has started  
 Yes. Within the next 2 - 3 years  
 Under consideration  
 Not yet being considered  
 No
17. A quality report is generated by the department -  
 Daily  Weekly  Monthly  Annually
18. Members of the department are familiar with and understand the statistical quality control techniques used in the report  
 Yes  No
19. The company has measurable quality objectives of which all employees are aware.  
 Yes  No
20. What percentage of work in process is rejected daily due to quality problems?  
 25% +  10% - 25%  
 5 - 9%  2 - 4%  
 1 - 2%  Less than 15

21. What percentage of finished goods is returned due to quality problems?

- |                                 |                                       |
|---------------------------------|---------------------------------------|
| <input type="checkbox"/> 25% +  | <input type="checkbox"/> 10 - 25%     |
| <input type="checkbox"/> 5 - 9% | <input type="checkbox"/> 2 - 4%       |
| <input type="checkbox"/> 1 - 2% | <input type="checkbox"/> Less than 1% |

22. Returns are due mainly to the following quality problems:

- |                        |                              |                             |
|------------------------|------------------------------|-----------------------------|
| Specs inconsistent     | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Design inconsistent    | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Colour inconsistent    | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Spoilage               | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Poor quality material  | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Order incorrect        | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Late delivery          | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Damage in shipping     | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Other (Please specify) | _____                        |                             |

23. Over the past 6 months, have quality problems been -

- |                                     |                                     |
|-------------------------------------|-------------------------------------|
| <input type="checkbox"/> Increasing | <input type="checkbox"/> Decreasing |
|-------------------------------------|-------------------------------------|

Give reasons \_\_\_\_\_  
\_\_\_\_\_

### SECURITY:

1. What are the security arrangements in place for stock?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Approximately what percentage of stock is stolen/missing each year?

- |                                     |                                    |  |
|-------------------------------------|------------------------------------|--|
| <input type="checkbox"/> 25%        | <input type="checkbox"/> 10% - 15% | <input type="checkbox"/> less than 5%          |
| <input type="checkbox"/> Negligible | <input type="checkbox"/> Zero      | <input type="checkbox"/> Difficult to estimate |

3. How do you control access to:

The premises: \_\_\_\_\_

The plant area: \_\_\_\_\_

The warehouse: \_\_\_\_\_

Any other sensitive areas: \_\_\_\_\_

4. Do you stock any hazardous or sensitive materials?  Yes  No

If yes, how do you control access to them? \_\_\_\_\_

\_\_\_\_\_

5. What are the security arrangements in place for export shipments?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

6. Have you ever had any breaches of these security arrangements?

Yes  No

If so, give details: \_\_\_\_\_  
\_\_\_\_\_

**HOUSEKEEPING & MAINTENANCE:**

1. How many times per day is the production area cleaned?

Once  Twice  Three times  More than three times

2. Are there arrangements in place for:

Maintenance of building	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Periodic cleaning of ceiling, windows, fans, etc.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Regular maintenance of equipment	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Cleaning storage areas	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Maintenance of plumbing fixtures	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Maintenance of electrical installations:	<input type="checkbox"/> Yes	<input type="checkbox"/> No

3. How would you describe the appearance of the production area?

Attractive and clean working environment  
 Unpleasant working area  
 Building needs maintenance  
 Dirty in some areas

4. When is maintenance carried out?

When equipment breaks down  
 When production is slow  
 On a regular schedule  
 During production  
 Outside of normal production time  
 Other (give details) \_\_\_\_\_  
\_\_\_\_\_

5. What is the incidence of machine downtime due to

Machine breakdown \_\_\_\_\_% of available production hours

Scheduled maintenance \_\_\_\_\_% of available production hours

6. What preventive measures are in place to ensure safety of workers, equipment and building and promote healthy production practices?

- |  |                              |                             |
|--|------------------------------|-----------------------------|
| Nurse on staff   | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Special staff trained in first-aid application                 | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Adequately stocked first-aid kits available                    | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Machine use restricted to trained personnel                    | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Fire extinguishers in place and checked regularly              | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Fire drill conducted periodically                              | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Signs in place in areas where caution should be exercised      | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Floors cleaned regularly to prevent slipping                   | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Protective clothing worn                                       | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Emissions are controlled                                       | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Hazardous material are security stored and properly identified | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Ventilation is adequate  | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

Other: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### ENVIRONMENTAL IMPACT

1. Are any waste products harmful to general health and the environment used in or produced as a result of the production process?

Yes  No

If yes, what are they? \_\_\_\_\_  
\_\_\_\_\_

2. What steps are being taken to minimise the potential danger in the short term?

\_\_\_\_\_  
\_\_\_\_\_

3. What steps are being taken to eliminate/substitute the danger in the long term?

\_\_\_\_\_  
\_\_\_\_\_

4. Is there any use for the industrial waste as an input for some other type of business?

If so, what business? \_\_\_\_\_

5. Has the company been/is the company currently involved in any law suits as a result of the waste product?  Yes  No

6. Has an Environmental impact assessment been done?  Yes  No

7. If yes, what were its main findings?

---

---

---

8. If no, is one planned?  Yes  No  
If yes, when? \_\_\_\_\_

9. Are there any environmental regulations which affect the company? (Please specify)  
Local: \_\_\_\_\_

Overseas: \_\_\_\_\_

---

---

10. How do they affect you?

---



e. State your company's net profit margin for the past three years:

19                      19                      19

OR Sales  
Net Profit

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. To what do you attribute the company's performance over the past three years?

- Changes in efficiency                       New product lines
- New types of customers                       Export trade
- Personnel changes                       Other \_\_\_\_\_

6. How does your company's gross margin compare to other companies in the same sector?

- Much higher                       Much the same
- Much lower                       Sectoral data unavailable

**INFORMATION AND CONTROL SYSTEMS**

1. Have accounting manuals been developed and are they kept up-to-date?

- Yes                       No

2. If yes, are the manuals being used?

- yes                       No

3. Is the existing accounting system -

- Fully computer-based                       Partially computer-based
- Operated manually

4. Do you have any internal auditor?     Yes                       No

5. To whom does the internal auditor report?

\_\_\_\_\_

6. Are employees assigned to sensitive areas periodically rotated?

- Yes                       No

7. Are the accounting books -

- In arrears                       Yes                       No
- Kept up-to-date                       Yes                       No
- Balanced monthly                       Yes                       No
- Other (specify) \_\_\_\_\_

8. How often is insurance coverage reviewed?

- Annually:                       Yes                       No
- Every two years:                       Yes                       No
- Every three years                       Yes                       No
- Other: \_\_\_\_\_

9. Who approves journal vouchers?  
\_\_\_\_\_
10. Are journal entries supported by substantiating date?     Yes     No
11. How are the following monitored and controlled:  
 Cash Flow: \_\_\_\_\_  
 Accounts Receivable: \_\_\_\_\_  
     Collections: \_\_\_\_\_  
     Aging : \_\_\_\_\_  
     Bad Debts: \_\_\_\_\_  
 inventory: \_\_\_\_\_  
 Purchasing: \_\_\_\_\_  
 Accounts Payable \_\_\_\_\_  
 Employees records (employment, overtime, absenteeism, leave) \_\_\_\_\_
12. Are other information and control system needed?  
 Yes                       No
13. Are information and control systems periodically reviewed?  
 Yes                       No
14. Are there controls to protect against the misuse of company funds?  
 Yes                       No
15. How is budgeted expenditure monitored?  
 Monthly reviews/corrective action at department level  
 Monthly reviews/ corrective action at accounting department  
 Monthly reviews/corrective action at top management level
16. How often is a budget prepared?  
 Annually                       Quarterly  
 Bi-annually                       When needed for loans
17. Describe the budget preparation process:  
 \_\_\_\_\_  
 \_\_\_\_\_
18. Who participates in preparing the budget?  
 \_\_\_\_\_  
 \_\_\_\_\_
19. Does a system exist for measuring the performance of each department against the budget?     Yes     No  
 Describe: \_\_\_\_\_

20. What are the company's normal credit terms?  
\_\_\_\_\_
21. Do you have problem collecting within the specified time?  
 Yes                       No
22. What is your incidence of bad debt: \_\_\_\_\_ % Annual Sales
23. Who approves credit to customers?  
\_\_\_\_\_
24. Is a credit application form used?  
 Yes                       No
25. If yes, indicate information requested on form:  
 Company owner                       Insurance coverage  
 Other suppliers                       Banks  
 Type of business                      Other \_\_\_\_\_
26. Are trade and banking references requested checked before approval is granted for credit?  
 Yes                       No
27. Are credit agencies used to verify customers/ credit?  
 Yes                       No
28. Who establishes credit limits and payment terms?  
\_\_\_\_\_
29. How are accounts monitored so as to prevent customers' exceeding approved limits?  
\_\_\_\_\_
30. How does the company follow up on customers who fail to meet terms of payment?  
 Collection letters automatically mailed     Telephone calls made  
 Personal visits                                       Case handed over to collection agency  
 Other (Please specify) \_\_\_\_\_

AUTOMATION

1. Is computerised data processing used in any section of the company?  
 yes       No
2. If yes, give details of equipment, software programmes used and how they are used:  
\_\_\_\_\_  
\_\_\_\_\_
3. If not, do you think that computerisation is a viable option for the company?  
 Yes       No  
If yes, in what area? \_\_\_\_\_
4. Has recent assessment been done of the company's automation needs?  
 Yes       No
5. Summarise recommendations: \_\_\_\_\_  
\_\_\_\_\_
6. Do you have adequate staff to support automation efforts       Yes     No
7. If not, are staff inadequate in terms of:  
Numbers: \_\_\_\_\_  
Qualification \_\_\_\_\_  
Experience \_\_\_\_\_  
Other \_\_\_\_\_
8. What type of training in computerisation has been provided to staff?  
\_\_\_\_\_
9. What type of training is needed \_\_\_\_\_  
\_\_\_\_\_
10. Are you linked to any external database or networking system?  
 Yes       No
11. If so, which one(s)? \_\_\_\_\_
12. What information do you access from it? \_\_\_\_\_
13. How often do you access this information? \_\_\_\_\_
14. If not, do you plan to link into any external database or networking system?  
 Yes       No
15. If so, which one? \_\_\_\_\_
16. For what reason? \_\_\_\_\_

## E. ORGANISATION & MANAGEMENT

Name and position of person being interviewed: \_\_\_\_\_

### HUMAN RESOURCE MANAGEMENT

1. Are written job description in place for all employees?  
 Yes       No
  
2. What are the employee benefits offered by the company?

Uniforms	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Health Insurance	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Life Insurance	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Company sponsored training courses	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Meal allowances during overtime	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Incentives for achievement of excellence	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Travel allowance	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Company vehicle	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Payment* of rental	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Other: \_\_\_\_\_  
\_\_\_\_\_
  
3. How does the company's salary scale and fringe benefits compare to other companies in the sector?

<input type="checkbox"/> Above market	<input type="checkbox"/> About the same
<input type="checkbox"/> Favourably	<input type="checkbox"/> Below market
  
4. Does your company's payment policy link pay and benefits to performance?  
 Yes       No
  
5. For which category of employees?  
\_\_\_\_\_
  
6. Most employees have been with the company for -

<input type="checkbox"/> Over 10 years	<input type="checkbox"/> 5 - 10 years
<input type="checkbox"/> 2 - 4 years	<input type="checkbox"/> 1 year or less
  
7. What is your annual employee turnover?  
(# of employees who have left/total employees): \_\_\_\_\_ %
  
8. Do you consider employee turnover to be high?

Yes

No

9. If yes, what is responsible for high turnover?

- Better salaries available elsewhere
  - Employee benefits unsatisfactory
  - Company rules and regulations too rigid
  - Management/staff relations need improvement
  - Limited opportunities for promotion
  - Family controlled business with non-standard management practices
  - New ideas/changes received little support from management
  - Key senior positions held by incompetent managers
  - Company not poised for growth
  - Company losing money. Employees seeking more secure positions
  - Other \_\_\_\_\_
- 

10. Are there procedures in place for employees to -

Air their grouses	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Request transfers	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Make suggestions	<input type="checkbox"/> Yes	<input type="checkbox"/> No

11. Are employees aware of these procedures?  
 Yes  No

12. Are exit interviews conducted?  
 Yes  No

13. Are absentee records kept by the company?  
 Yes  No

14. Are employees penalised for absenteeism?  
 Yes  No

15. If yes, give details \_\_\_\_\_

---

16. Are employees rewarded for regular attendance?  
 Yes  No

17. How much has turnover and absenteeism cost the company over the past year?  
\_\_\_\_\_

18. Are future manpower needs forecast to minimise emergency recruiting?  
 Yes  No

19. What will your manpower needs for each category of employee be over the next 3 years?  
\_\_\_\_\_

20. Does the company have a formal performance appraisals programme?  
 Yes  No
21. How often are Employee Performance Evaluations conducted?  
 Once a year  Twice a year  At irregular intervals
22. How is performance measured?  
 Using measurable standards  
 Using specific pre-established goals  
 Based on opinions regarding the worth of individual effort
23. Are top executives also evaluated?  
 Yes  No
24. How does the average employee view a performance evaluation?  
 Welcome feedback on overall performance  
 A threat  
 An opportunity for pay increase  
 An opportunity for promotion  
 The rare opportunity to talk frankly with management  
 More paperwork
25. How does the company use the performance evaluation?  
 To reprimand staff  
 To counsel staff  
 To open channels for staff/management communication  
 To determine employee training needs  
 To become aware of employees' inclinations and job goals  
 Other \_\_\_\_\_
26. Are personnel policies periodically reviewed and evaluated with supervisors and management?  
 Yes  No
27. Are any category of employees represented by a trade union?  
 Yes  No
28. If yes, which category(ies)?
29. Have you every had any disruption of work as a result of employee dissatisfaction?  
 Go-slow  
 Lock-out  
 Strike  
 Other (specify) \_\_\_\_\_
30. How would you best describe the company's policy towards training?  
 It is cheaper to hire trained people  
 Hire young people and train them our way  
 Cut the training budget  
 Other (specify) \_\_\_\_\_

31. How much do you spend annually on training? \_\_\_\_\_

32. How is training conducted within the company?

- In-house seminars and courses
- On-the-job-training
- Apprentice training programme
- Private courses and seminars

33. Which approach to training do you consider most suitable for the company?

- In-house seminars and courses
- On-the-job-training
- Apprentice training programme
- Private courses and seminars

State reasons: \_\_\_\_\_  
\_\_\_\_\_

### ORGANISATION

1. An organisational chart with clearly defined lines of authority exist for
- The entire company
  - Each department

**(PLEASE SUPPLY CHART, IF NONE AVAILABLE, PLEASE DESCRIBE)**

2. How often are reporting relationships reviewed?
- Whenever management personnel changes
  - Annually
  - Never
3. Is the organisation chart posted in a visible place for all employees to see?
4. Is the organisation chart shown and explained to new employees?

### BOARD OF DIRECTORS

1. List directors' names and positions (Internal/external)
2. How often does the Board meet?
3. Are meetings well attended?

## MANAGEMENT/EMPLOYEE COMMUNICATIONS

1. Key management decisions are made  
 After consultation with workers  
 After consultation with supervisory staff  
 After consultation with different departments  
 Following discussions with senior management team  
 Other (specify) \_\_\_\_\_
  
2. The company's strategic goals are  
 Recorded  
 Used by the company  
 Communicated from top management to all employees  
 Modified as conditions change
  
3. All employees are aware of the company's  
5 year strategic plan  Yes  No  
Objectives for the current year  Yes  No  
Objectives for the present quarter  Yes  No  
Objectives for the current month  Yes  No  
Current orders/projects  Yes  No
  
4. Department Heads receive regular feedback on the performance of their department from top management  
 Yes  No
  
5. If yes, how is the information passed on?  
 Regular management meetings  
 Informal meetings  
 Following monthly evaluation of actual performance/projections  
 Written memorandum  
 Other
  
6. The company's financial goals are communicated to key employees on a regular basis  
 Yes  No
  
7. How often are general staff meetings held?  
 Monthly  Quarterly  
 Rarely  Only when problems occur
  
8. Management is receptive to suggestions from employees  
 Yes  No

**SECTORAL COOPERATION AND NETWORKING**

1. Is your company a member of the:
- |                            |                              |                             |
|----------------------------|------------------------------|-----------------------------|
| J.M.A.                     | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| PSOJ                       | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Small Business Association | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| JEA                        | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Chamber of Commerce        | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Other (specify) _____      |                              |                             |
2. Does your company participate actively in these associations?  
 Yes  No
- If yes, how? \_\_\_\_\_  
\_\_\_\_\_
3. Has your company established ties with other companies in the same field?  
 Yes  No
4. What benefits are derived from associating with other companies in the same field?
- |                                   |                              |                             |
|-----------------------------------|------------------------------|-----------------------------|
| Equipment loans                   | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Sharing expensive equipment       | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Raw material loans                | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Sharing of information            | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Sharing of containers             | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Sharing of personnel              | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Joint training sessions           | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Joint marketing programmes        | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Joint programmes with consultants | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Common export pricing strategy    | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Combining export orders           | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Other (specify) _____             |                              |                             |

RELATIONSHIP WITH JAMPRO

1. Is your company aware of the services provided by JAMPRO?  
 Yes       No

2. Which of these services have you used?

---

---

---

3. Were you satisfied with the services received?  
 Yes       No

4. If no, why not?

---

---

5. Which services are you most likely to use in the future?

---

---

6. Are there any other services which you think JAMPRO should provide?

---

---

7. How can JAMPRO improve the quality of the services it provides?

---

---



## WORKFORCE

1. Do workers have on their full uniforms? (Including protective clothing)  
 Yes  No
2. Do they appear neat and tidy?  Yes  No
3. Are the workers diligently applied to their tasks?  Yes  No
4. Are workers chatting while working?  Yes  No
5. Are supervisors present in the production area?  Yes  No
6. Do supervisors appear to be carrying out supervisory duties?  
 Yes  No

COMMENTS/OBSERVATIONS: \_\_\_\_\_  
\_\_\_\_\_

## PLANT LAYOUT

1. Do you notice backtracking and excessive transporting of materials?  
 Yes  No
2. Are the areas around machines and equipment adequate for employees to move freely?  
 Yes  No
3. Does the production process appear to flow easily from one operation to the next?  
 Yes  No
4. Are walkways adequate in terms of area?  
 Yes  No
5. Are walkways clearly defined?  
 Yes  No

COMMENTS/OBSERVATIONS: \_\_\_\_\_  
\_\_\_\_\_

**EQUIPMENT AND MACHINERY**

- 1. Do you notice an excessive amount of idle equipment on the production floor?  
 Yes       No
- 2. Does equipment appear to be well-maintained and clean?  
 Yes       No
- 3. Were all lines in operation?  Yes       No
- 4. Were any lines or equipment being repaired?  
 Yes       No

COMMENTS/OBSERVATIONS: \_\_\_\_\_  
\_\_\_\_\_

**SECURITY**

- 1. Does there appear to be adequate security arrangements in place for:
  - Gates                       Yes       No
  - Warehouse                 Yes       No
  - Plant                         Yes       No
  - Other important areas             Yes       No
- 2. Did you notice any hazardous materials not properly stored?  
 Yes       No

COMMENTS/OBSERVATIONS: \_\_\_\_\_  
\_\_\_\_\_

**WEST INDIES PAPER PRODUCTS LIMITED**  
**COMPANY AUDIT**

Prepared for: United Nations Industrial Development Organisation (UNIDO)  
&  
Jamaica Promotions Corporation (JAMPRO)

Prepared by: Management Options Limited  
16 Norbrook Drive  
Kingston 8

August 1995

# WEST INDIES PAPER PRODUCTS LIMITED

## TABLE OF CONTENTS

	Page #
INTRODUCTION	1
FINDINGS	
MARKETING	3
OPERATIONS	17
FINANCE AND CONTROL	43
ORGANISATION & MANAGEMENT	48
CONCLUSIONS	55
RECOMMENDATIONS	64
APPENDIX A	
APPENDIX B	
APPENDIX C	

# **COMPANY AUDIT OF**

## **WEST INDIES PAPER PRODUCTS LIMITED**

### **INTRODUCTION**

Located at 6 Ashenheim Road in Kingston Industrial Estate, West Indies Paper Products Limited (W.I.P.P.) is a limited liability company and a member of the West Indies Pulp & Paper Group. The group comprises -

- West Indies Pulp & Paper Limited which produces toilet tissue and other tissue products in jumbo rolls for Tissue Converters who do additional processing and in household rolls for the consumer trade. This plant, which is located in Freetown, Clarendon, was extensively damaged by fire in January, 1994 and is scheduled to be relaunched in July, 1995.
- West Indies Containers Limited which produces folding cartons mainly for the manufacturing sector and brewing industry.
- West Indies Paper Products Limited which concentrates on the production of corrugated cartons for the manufacturing and agro-industrial sectors.

The products manufactured are for domestic consumption and the export market.

Up to recently, operations were 82% government owned. The plant and equipment have now been completely divested. The parent company, West Indies Pulp and Paper Limited, is listed on the Jamaica Stock Exchange.

West Indies Paper Products Limited (W.I.P.P.) is at the moment the most profitable of the three companies in the group. It draws its clientele from the traditional manufacturing and

agro-industrial sectors and non-traditional industries such as ornamental horticulture and aquaculture.

The company's goals are to offer personalised services to each client and to produce top quality packaging which satisfies each unique market demand and meets required handling, transportation and warehousing standards.

The group operates under a centralised management system with the head office being located away from the plant at 19 West Kings House Road, Kingston 10. The ten senior managers and one middle manager have responsibility for the group's activities in General Management and Administration, Sales and Marketing, Finance and Control, Data Processing, Purchasing and Personnel.

## **FINDINGS:**

### **MARKETING REVIEW:**

#### **PRODUCT MIX**

The company's product range includes:

- A variety of boxes for the manufacturing industry
- Ventilated boxes for the fresh produce trade
- Specialised packaging for ornamental horticulture
- Giant-sized cartons suitable for packaging large appliances
- File storage containers for the banking and business sectors

W.I.P.P. does not develop its own new products, but responds to the needs of the customer. To do so, it must keep abreast of technological developments by upgrading equipment and making state-of-the-art technology available for product improvement. This approach not only keeps the customer satisfied, but also improves quality, increases efficiency and reduces turn-around time. These factors are critical in maintaining the competitive edge in terms of prices, reliability and delivery time.

The company's relationship with the agribusiness sector demonstrates the need to monitor the market and respond to trends:- existing equipment, which has the capacity to print 2 colours, can satisfy the needs of some exporters within the agribusiness sector. Boxes for papaya, which is a newer crop to Jamaica, require 3 colours. Equipment now being acquired will make it possible to print 3 colours. This move will make volumes of new business available to the company.

Some of the company's products have to be modified in order to satisfy metrication requirements, in terms of the information printed on boxes and customer requirements.

### THE MARKET

W.I.P.P. estimates its current local market share at 60%. Between 1992 - 1993 it exported approximately 10% of its total production to Trinidad, Barbados and Guyana until the high freight costs became a distinct disadvantage. Today, the company is no longer a direct exporter, but exports indirectly through its production of boxes for exporters.

The product specifications for W.I.P.P.'s products are customer dependent. The chart which follows indicates the main target markets:

PRODUCT	SIZE	TYPE OF PACKAGING	MAIN TARGET MARKET
Corrugated cartons	Various shapes and sizes depending on customer requirements	Bundles of 20 -25  Water-resistant material used	Bottlers Distillers Personal care producers Banana producers Other agro producers

Below are the company's actual sales figures for corrugated cartons over the past three years and projected for the next two. The figures reflect the volume of sales in millions of square feet.

	1992	1993	1994	1995	1996
Sales Volume	169.9	189.2	166.75	184	200
Change		+11%	-12%	+10%	+8%

The results of a study conducted indicate that by targeting 50% of the business available from papaya exporters, W.I.P.P. will be able to increase its annual volumes by 10 to 12 million square feet.

### **DESIGN DEVELOPMENT**

The Technical Department, formed one year ago, is responsible for the development of new designs. Samples are prepared for approval based on requests and in some cases, specifications coming from new customers and old customers wishing to modify their existing packaging or launching new products.

The design of new products are developed in keeping with customer requirements and international specifications within the packaging industry which are based on specific tests (Information on international standards appear at Appendix I). Carton usage is the key factor which determines the required specifications. Some of the points considered are:

- Weight of contents
- Stacking height
- Export conditions (if applicable)
  - Refrigerated or unrefrigerated container
  - Break bulk (i.e. palletised boxes shipped in container)
- Moisture content of product

The process is as follows:

1. Customer requests new product
2. Technical Department develops new design based on customer specifications/description
3. A sample is prepared and taken to customer's plant for testing

4. If design-related problems are discovered, the Technical Department makes modifications, runs new samples and conducts another test at customer's plant

The above process continues until the box meets the necessary requirements and is approved by the customer. Despite this approval, some boxes still fail in the market-place due mainly to:

- Handling e.g. boxes left in rain
- Placing of wet items in boxes
- Storage under bad conditions for long periods of time
- Shipping conditions

The company gets feedback from customers about design issues and changes through -

- The Customer Service Department
- The Sales Department
- Staff Technical Department who visit major customers periodically
- Market Surveys
- Questionnaires completed by Sales Representatives on a quarterly basis. This questionnaire also indicates customers' plans for expansion and possible packaging needs in the future (see Appendix II).

It is the company's ability to produce new, attractive designs in packaging which helps to keep the customer satisfied. It is expected that sales volumes will increase -

- With the recent adjustment to equipment to improve bonding as a result of which better board is being produced
- Following complete installation of the Rotary Die Cutter which has the ability to print three colours

In most instances, customers use the same packaging for both the local and overseas markets. Different packaging is sometimes used for export due to:

- Labelling requirements
- Required strength for boxes being exported
- Impact the product needs to create in a specialised market

As a leader in its field, W.I.P.P. constantly reviews packaging and product design so as to be able to guide customers and brief them on new trends. The company has no systematic way of sourcing information on design and this is often not easily accessible as new designs may be patented. Information is sourced through -

- TAPPI, an American association of which they are a member and through which they are able to get information on the sector, e.g. new types of paper available
- Overseas partners
- Trade publications
- Visits to the market-place and examining new designs
- JAMPRO's Design Centre, but this is not done systematically.

Designs are now developed in-house by local designers in the Technical Department. Using overseas designers is an expensive option, and the company is unable to pass on to the customer the cost of work done overseas. However, there is some indirect overseas input, as a die maker overseas advises the company on the use of laser dies. The company is not aware of any local design consultants with expertise in packaging. They have in the past sought assistance through the Edna Manley School for the Visual Arts, however, packaging is not included in their curriculum.

## PRICING

Local market pricing is both cost-based and market-driven. Once a price has been calculated, it is compared with similar products on the market before being finalised. There is no systematic way of getting information on the competition's prices and markups, but because of the rapport, this information is sometimes passed on informally.

20% is the normal mark-up used for costing products for the local market. Volume discounts are also available on large purchases with a minimum of 1,000 square feet. A scale exists through which higher discounts are available for purchases of 2,500 and 5,000 square feet.

The price of paper used to be stable. However, since 1993, prices worldwide have been increasing due to a shortage of supply. In the latter half of 1994, prices have moved with each shipment. In view of this -

- Prices are reviewed with each order
- Quotations are only valid for four (4) weeks
- The company maintains a standard price list which is adjusted and sent to the larger customers following each price change
- Company representatives also keep customers informed about price movements through informal talks
- Customers are sent official letters with information on the paper industry

## DISTRIBUTION

Goods completed are either transported to customers in W.I.P.P.'s delivery truck or collected by the customer. There is no charge for delivery. Customers who collect their own goods have either ordered small amounts or have an extremely urgent need for the items.

The company has two Sales Representatives and they are paid flat salaries to ensure that -

- Each account receives the required number of visits stipulated
- A report is prepared after each visit
- They do not concentrate exclusively on the larger clients who provide more business

Each Sales Representative is assigned 150 accounts. These are categorised and number of visits scheduled as indicated below:

TYPE OF ACCOUNT	NO. OF SCHEDULED VISITS
A	Once/Week
B	Once/2 Weeks
OTHER	Once/Month

The company also solicits information from potential customers on new products. Each Sales Representative has to target at least two new accounts each month, identify possible new products and work with customers until designs/samples have been satisfactorily produced

## PROMOTIONS

The products are promoted locally through Trade Shows, brochures and by word-of-mouth.

One of the company's long-term plans is to reenter the export market. A specific strategy has not yet been developed, but the company has promoted products overseas in the past:

- Through Trade Shows, held so far in Cuba and Barbados
- Through brochures sent to show participants
- By working with the relevant umbrella organisations
- By responding to queries

The company does not now advertise. Their promotional activities include -

- A community outreach programme which benefits schools in the area
- Customer Appreciation Day on which customers are invited to tour the plant and view the production process first-hand. Activities for Customer Appreciation Day are planned and carried out by a public relations agency and staff in-house.

The company has found the most effective form of local advertising and promotions to be personalised discussions with customers and Trade Fairs.

Last year, the company spent in excess of \$600,000 on local promotions. The promotional budget for 1995 for all three companies in the group is \$3.5M. This amount includes costs associated with the launching of West Indies Pulp and Paper Limited's factory in Freetown.

The management recognizes that its promotional programme needs to be strengthened. A programme for corporate promotions is scheduled to be launched this July as new users are unaware of their existence. This programme will coincide with the recommissioning of the factory in Freetown which was destroyed by fire.

## THE COMPETITION

W.I.P.P.'s main local competitor is Jamaica Packaging Industries Limited (J.P.I.) and they also face competition from imports from the United States. Summarised below are the major differences between their products and those of their competitors:

Pricing J.P.I. is considered more economical in one product while competitiveness varies with the other products.

Product Design: Locally, it depends on who first comes out with new design which is usually a modification of a new item on the international market. Both companies monitor the market-place, note preferences and copy the popular patterns to suit the needs of local customers. J.P.I. has the ability to produce a wax-coated box, used by chicken farmers and callaloo producers. W.I.P.P. is not interested in developing this market as environmentalists are strongly opposed to the waxing process.

The advantages of the U.S. packaging are:

- Production of original designs
- Additions done to boxes making them more attractive
- Ability to print in three colours

Promotion: Packaging suppliers as a rule do very little promotions, but J.P.I. has a higher profile in the market-place.

Distribution Capability Both J.P.I. and W.I.P.P. have similar capabilities.

J.P.I. enjoys an estimated 40% share of the market. Their strengths and weaknesses are outlined below:

STRENGTHS	WEAKNESSES
Has more funds available than W.I.P.P.	Not utilising strengths very well
Company is international	May have personnel problems; staff morale low, not motivated

W.I.P.P. gathers information on principal competitors in the local market as follows:

**Market share:** There is no set method of getting information directly from J.P.I. Through questionnaire completed by the Sales Representatives, it is possible to estimate the total market. Using its own records, the company is able to assume the competitors' market share, other than on imported goods which is difficult to get.

**Quality:** Goods in market-place are assessed.

**Delivery capability:** The company usually tries to find out the total budget of their competitor

**New products:** Through interaction with customers or it may come out in informal conversation with competitor's staff.

**Promotional Activities:**  
Usually finds out after the fact. J.P.I. maintained high public profile for its recent 40th year celebrations.

The company has a good rapport with its main competitor, J.P.I. They share ideas/information about topics related to the sector and the business coming from the banana industry and communicate if problems occur. However, information on price is not easily accessible as even customers will not provide this data readily.

The available information on principal competitors is used as a reference:

- In modifying prices

- For analysing company's performance
- In product development strategies
- In establishing company's position in the market-place
- In establishing trends in the market-place

With designers now in-house and the upgrading of equipment which will make it possible to print in three colours, W.I.P.P. is setting the stage for competing with the original designs coming out of the United States.

W.I.P.P. rates itself against the competition as follows:

ACTIVITY	EXCELLENT	GOOD	FAIR	POOR	UNSAT.
<b>Marketing:</b>					
Market Share			x		
Product Quality			x		
Product Range			x		
Pricing			x varies to	x	
Sales Force			x		
Delivery			x		
Customer Service			x		
Promotions				x	
Public Relations				x	
<b>Operations:</b>					
Capacity			x		
Capacity Utilisation			x		
Location			x		
Equipment			x		
Productivity			x		
Raw Materials			x		
Supplier Relationships			x		
Quality Control			x		
Labour Skills				x	
Labour Relations			x		
R & D			x		

ACTIVITY	EXCELLENT	GOOD	FAIR	POOR	UNSAT.
<b>Financial:</b>					
Profitability			x		
Cash Flow				x	
Cash Reserves				x	
Availability of Credit			x		
Ownership			x		
<b>Administration:</b>					
Skills			x		
Office Facilities				x	
Automation				x	
<b>Management:</b>					
Experience			x		
Skills			x Mtce, QC	x Design	
Turnover		x			
Board of Directors			x		

W.I.P.P. classifies the stability of its staff as its greatest asset. In most other areas, it rates itself as fair when compared with the competition. Areas of greatest weakness are pricing, promotion and advertising, public relations, labour skills, research and development, cash flow, cash reserves, office facilities, automation and design skills.

### CUSTOMER SERVICE

The company solicits feedback from customers on existing products through questionnaires, informal discussions with customers and visits to plants by members of the Technical Department. There are two Customer Service Representatives within the Sales Department who are responsible for monitoring complaints. Following the receipt of a complaint, the following action is taken in plant:

1. A report outlining complaint is circulated
2. Complaint is analysed and referred to relevant person(s)/department(s) for action
3. Feedback on corrective action taken goes to Sales Department
4. Sales Department liaises with relevant department in- house until problem corrected
5. Sales Department liaises with customer as necessary throughout the process

Main customer complaints are listed below -

CUSTOMER COMPLAINTS	COMMENTS
Quality problems	Most common customer complaint - usually in regards to die cut products which have to be folded and locked. New equipment being acquired should help to solve these problems
Late delivery	Due to the quality problems which occur during the manufacturing process, die cut products are frequently delivered late
Difficulty in reaching company by telephone	Two additional lines recently installed
Impolite staff Incorrect item received	Infrequent
Product design	Rare complaint, as customer approval required prior to production

Over the past year, customer complaints/rejections have been decreasing. There has been a slight increase recently and this has been due to breakdowns as the commissioning of the new equipment took longer than anticipated. This resulted in some late deliveries.

## GOVERNMENT REGULATIONS AND MARKET ACCESS

Government regulations or other requirements which impact on the business are:

The free market economy

Removal of duty (except G.C.T.) on raw material or finished goods

The need to indicate specifications of finished goods.

The Bureau of Standards has access to international standards and the facility to test boxes to ensure that they meet required specifications.

Equipment is now being purchased under the Modernisation of Industry programme through which companies receive some relief from duties normally applicable.

Products do not qualify for any preferential market access. However, W.I.P.P. does receive some indirect benefit as they produce boxes for exporting bananas and the banana industry enjoys preferential treatment on the international market.

## OPERATIONS:

### PRODUCTION FACILITY

The plant is located in the Kingston Industrial Estate off the Marcus Garvey Drive. The buildings are located on three acres of land which adjoins an open lot with another three acres also owned by the company. The following areas are assigned to production/storage:

Production	47,880 square feet
Warehousing	18,720 square feet
Total	66,600 square feet

The plant has adequate storage space for materials used to package finished goods, but twice as much raw material storage space is needed. Additional production space is needed during the May/June peak period when the plant is producing at full capacity in order to meet demand from the agro produce sector. Finished goods require no additional storage space as these are shipped as soon as completed.

### PLANNING AND SCHEDULING

Production levels are determined annually based on the following:

- Orders from the Sales Department
- Production capacity
- Established contracts

Annual projections are broken down into monthly and weekly production schedules, which are adjusted as necessary based on actual daily or weekly output. Raw material delivery,

though not yet a determining factor in establishing production levels, may soon become a major consideration due to the global paper shortage.

The Production Manager is responsible for scheduling production. These schedules are prepared by the Production Scheduler who reports to the Production Superintendent.

Goods are normally produced on demand, but a small inventory is kept for larger customers.

In keeping with the policy of producing orders just-in-time, 3 weeks is the normal lead time given to customers for meeting deadlines. In 90% - 95% of the cases, orders are delivered on time. However, unforeseen problems are sometimes posed by the following factors:

- Power cuts
- Late delivery of raw material
- Machine downtime due to repairs especially since no lathe facilities exist in-house and some jobs have to be done outside of plant.

In these instances, only 70% - 80% of the orders are delivered on time.

The Sales Office plays a key role in the scheduling of production and the process is as follows:

1. Written orders with the relevant specifications come in from the Sales Office
2. Written instructions/specification are prepared for the plant by the Production Superintendent and placed on the relevant machines
3. Each machine has a written schedule (i.e. a job card)
4. In-coming orders/work-in-progress discussed at weekly meeting with production supervisors and daily by telephone
5. Supervisors and operators check machines for schedules

6. Supervisors monitor the production process, the order and quality of goods produced

Long set-up times are required for complex jobs which involve die cutting. In scheduling production, an effort is made to minimise the number of jobs with long set-up times occurring during any one shift. The requirements vary for each job and so the boxes produced do not all pass through every existing operation. Optional operations include -

- Die cutting:- All boxes do not require die cutting
- Stitching (stapling):- Some boxes are stapled, while others are glued
- Printing:- Most boxes require printing in one or two colours.  
Others are left plain.

Therefore, based on the requirements of the work-in-process, some machines are only used on one shift.

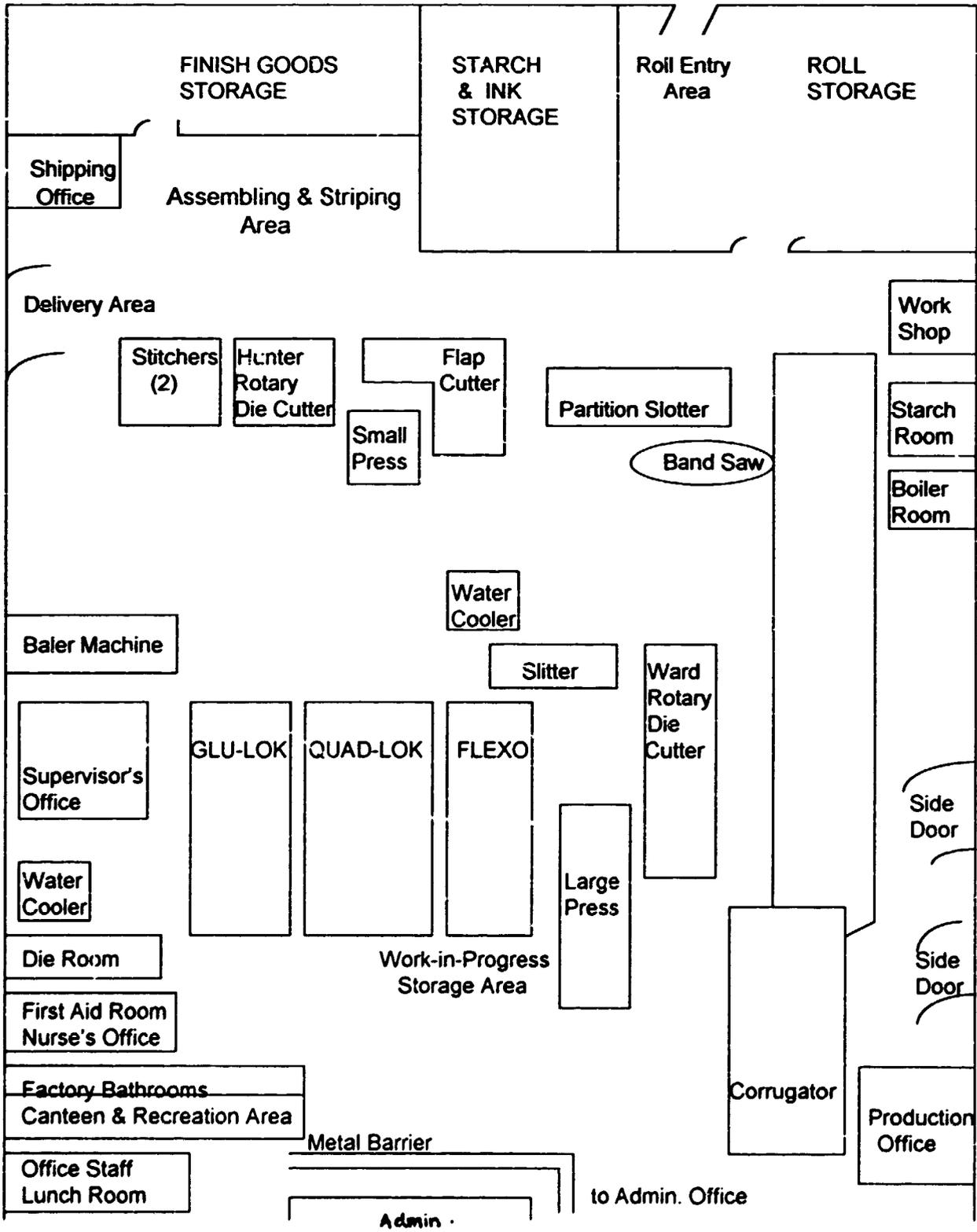
Communication seems to be adequate in the area of scheduling and production as the Sales and Production Departments are in constant contact and information is passed on to supervisors and operators through detailed written schedules prepared by the Production Scheduler for each machine. This system promotes accuracy and efficiency and facilitates communication between workers on the two shifts.

## PRODUCTION LINE

### Layout

A layout of the production floor appears overleaf at Figure 1.

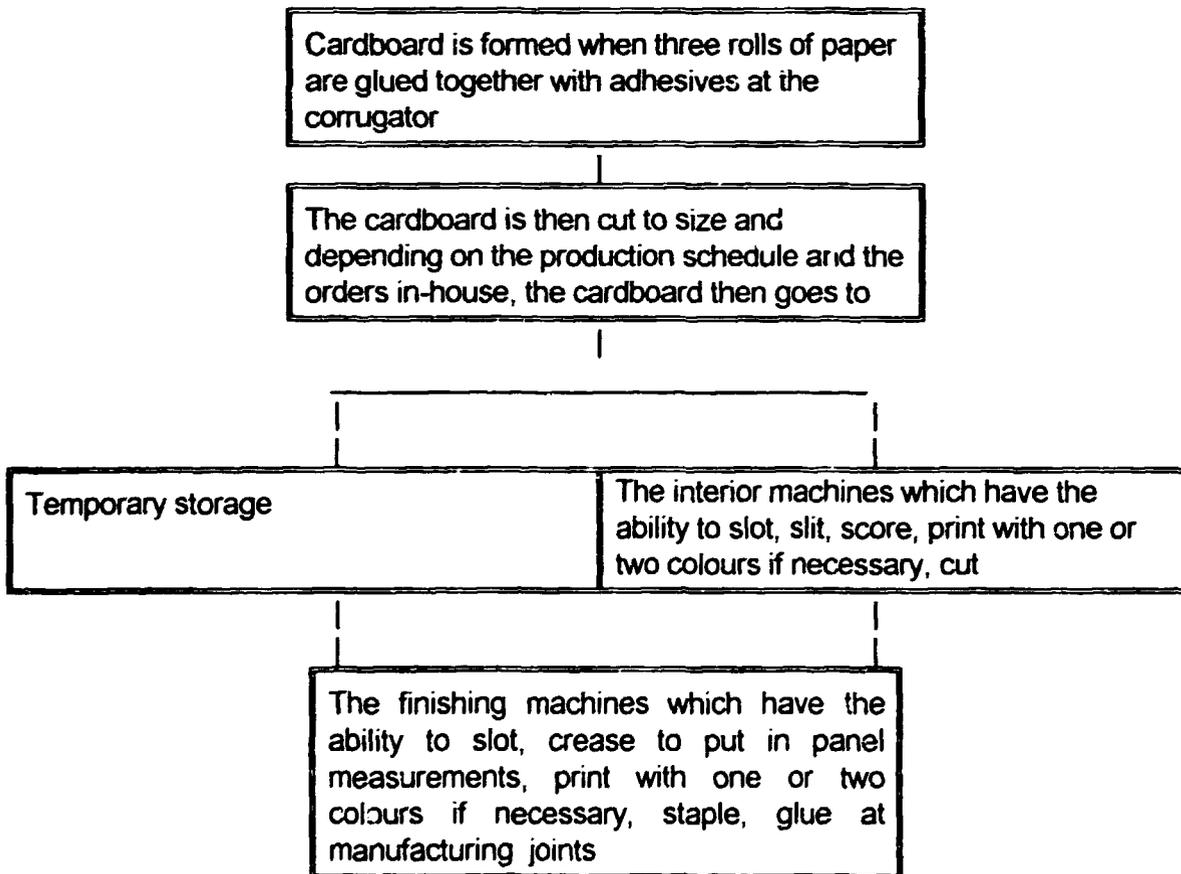
**LAYOUT OF W.I.P.P. PLANT**



The advantage of the above layout is that finishing machines are close to the corrugating machine and this facilitates free flow of work. The main disadvantage is that the corrugator uses steam, generates heat and makes the plant extremely hot. The present layout is not conducive to the free flow of air which would reduce heat. Installing additional extractor fans will reduce heat to some extent. Changing this layout would incur major expenses.

### Production Process

The process begins with the raw material at the corrugator, which manufactures the cardboard and is the main piece of equipment, and proceeds as follows:



Once the above steps have been completed, the box is ready for shipment.

Equipment:

Below are details of equipment available:

NAME/NUMBER: CORRUGATOR (1)

AGE	USAGE	WORKERS/SHIFT	
		OPS.	SUPS.
<p>The Single Phaser Section added in January, 1995</p> <p>The Double Backer and Take-off Sections installed since the 1960s (Minor maintenance problems)</p>	<p>Single Phaser Section: * Fluting (middle section) glued to inner liner</p> <p>Double Backer Section: * Third layer (outer liner) of paper meets the other two</p> <p>Take-off Section: * Board cut &amp; creased; sheets taken off &amp; stacked on palettes</p> <p>Shifts operated: 2 6:00 a.m. - 2:00 p.m. &amp; 2:00 p.m. - 10:00 p.m.</p>	9	1

### INTERIOR MACHINES

AGE	NAME/NUMBER USAGE	OPS./SHIFT
<p>Very old &amp; being used on a regular basis since the 1960s</p>	<p>LARGE PRINTING PRESS (1)            SMALL PRINTING PRESS (1)            Both machines capable of:            * Printing in two colours (only one set up to print in two colours)            * Scoring (putting in a crease to facilitate bending)            * Putting in slots</p>	<p style="text-align: center;">4 3</p>
	<p>UNIVERSAL SLITTER (1)            Capable of:            * Slitting (i.e. cutting to particular size)            * Scoring</p>	<p style="text-align: center;">2</p>
	<p>PARTITION SLOTTER (1)            Capable of:            * Scoring            * Slotting</p>	<p style="text-align: center;">4</p>
	<p>BAND SAW (1)            Used to:            * Cut cardboard to size</p>	
	<p>DIE CUTTER (1)            Capable of:            * Cutting only            Boxes have to go elsewhere to be hand-stripped and printed if required</p>	

Boxes leaving the printing presses have to be completed on one of the finishing machines.

### FINISHING MACHINES

NAME/NUMBER:

FLEXO FOLDER GLUER (3)  
 QUAD-LOK (2)  
 GLU-LOK (3)  
 STITCHERS (2)

AGE	USAGE	WORKERS/SHIFT	
		OPS.	SUPS.
Reconditioned machines installed in the 1970s	Flexo Folder Gluer finishes box and is able to: * Print in one colour * Put in creasing scores for panels * Slot * Glue manufacturing joints	4	}
			}
			}
			} 1
Reconditioned machines installed in the 1990s	Quad-lok (Same capabilities as Flexo Folder Gluer)	5	}
			}
Reconditioned machines installed in the 1990s	Glu-lok is able to: * Print in two colours (Other capabilities are same as Flexo Folder Gluer)	5	1
Very old & being used on a regular basis since the 1960s	Stitchers: Capable of: * Stapling (using wire staples) No gluing required for boxes which pass through this operation	3	
	Shifts operated: 2 (Schedule same as above)		

Supervisors in the Finishing Section also supervise some of the interior machines.

NAME/NUMBER:

ROTARY DIE CUTTER (1)

AGE	USAGE
New equipment currently being upgraded	Capable of: * Printing 2 colours * Will be able to print 3 colours when installation completed * Die cutting * Stripping

The Rotary Die Cutter has not yet been fully installed, as one section got damaged during shipment and a final decision has not been made as regards the number of workers assigned to that segment of the operation. The company is now awaiting parts and it is anticipated that these should arrive in time to start test runs by the third week of June, 1995.

Most of the plant's equipment is old and this is a distinct disadvantage in the industry as only modern equipment can reproduce the new trends in packaging. The company recognises this disadvantage and is replacing the old equipment. The production process itself, though not complicated, has TO be guided by careful scheduling as the capabilities of the different pieces of equipment vary.

Water is used in the production process in mixing adhesives, the boiler room and IN cleaning up inks. The plant has adequate back-up water storage facilities and a sprinkler system in-plant as a protective measure against fire.

## PRODUCTION CAPACITY

### Production Time

The plant operates on a 5-day work week, with at least two 8-hour shifts per day. If necessary, it operates three shifts. The production department works overtime -

- 2 - 3 Saturdays per month
- During the May - June peak period
- When production is behind schedule due to machine breakdown

### Capacity

The corrugator has a capacity of -

600,000 square feet per 8-hour shift or

24,000,000 square feet per month based on two 8-hour shifts per day

It manufactures the board which feeds all lines and therefore determines the plant's production capacity. One section of the machine has been recently upgraded and production will double once the other two sections are upgraded. The upgrading is proceeding on a phased basis through the Modernisation of Industry programme. The availability of investment capital will determine deadlines set for completion, but it is in the interest of the company to complete the process over the next eighteen to twenty four months.

### Current Production Levels

Sixty seven per cent (67%) of the plant's one-shift capacity is now being utilised as production stands at -

400,000 square feet per 8-hour shift or

800,000 square feet per day based on two 8-hour shifts per day

Below is the plant's monthly production for corrugated cartons:

Average monthly production                      16 million square feet  
 Monthly production during peak periods   18 - 20 million square feet

During the low periods, which are usually from December to January and to some extent in February, monthly production sometimes falls to 12 million square feet.

Capacity/Set-up Times of Individual Machines

Below is the capacity of the machines on a single shift basis and the approximate set-up time which varies according to the job.

EQUIPMENT	CAPACITY/SHIFT	TIME REQUIRED	
		SET-UP	JOB CHANGE
Corrugator	600,000 sq. ft.	20 mins.	
Flexo Folder Gluer	260,000 sq. ft.	10 mins.	25-30 mins.
Quad-lok	250,000 sq. ft.	10 mins.	35-40 mins.
Glu-lok	230,000 sq. ft.	20 mins. - 2 1/2 hrs.	20 mins. - 2 1/2 hrs.
Small Printing Press	90,000 sq. ft.	30 - 40 mins.	
Large Printing Press	112,000 sq. ft.	50 mins.	
Universal Slitter	70,000 sq. ft.	8 - 10 mins.	
Partition Slotter	60,000 sq. ft.	20 mins.	
Stitcher	30,000 sq. ft.	5 mins.	
Band Saw	20,000 sq. ft.	10 mins.	
Die Cutter	60,000 sq. ft.	30 - 45 mins.	
Rotary Die Cutter	250,000 sq. ft.	Not yet known	Not yet known

### Capacity per Operation

As the capabilities of each machine vary, the charts which follow indicate plant capacity per operation.

#### OPERATION: SLOTTING

MACHINE	SECTION	# M/C	CAPACITY/ SHIFT Sq.Ft.	TOTAL CAPACITY/ SHIFT Sq.Ft.
Small Printing Press	Int.	1	90,000	90,000
Large Printing Press	Int.	1	112,000	112,000
Partition Slotter	Int.	1	60,000	60,000
Flexo Folder Gluer	Fin.	3	260,000	780,000
Quad-lok	Fin.	2	250,000	500,000
Glu-lok	Fin.	3	230,000	690,000
TOTAL				2,232,000

#### OPERATION: SCORING

MACHINE	SECTION	# M/C	CAPACITY/ SHIFT Sq.Ft.	TOTAL CAPACITY/ SHIFT Sq.Ft.
Small Printing Press	Int.	1	90,000	90,000
Large Printing Press	Int.	1	112,000	112,000
Universal Siitter	Int.	1	70,000	70,000
Partition Slotter	Int.	1	60,000	60,000
Flexo Folder Gluer	Fin.	3	260,000	780,000
Quad-lok	Fin.	2	250,000	500,000
Glu-lok	Fin.	3	230,000	690,000
TOTAL				2,302,000

**OPERATION: SLITTING**

MACHINE	SECTION	# M/C	CAPACITY/ SHIFT Sq.Ft.	TOTAL CAPACITY/ SHIFT Sq.Ft.
Universal Slitter	Int.	1	70,000	70,000
<b>TOTAL</b>				<b>70,000</b>

**OPERATION: PRINTING**

MACHINE	SECTION	# M/C	CAPACITY/ SHIFT Sq.Ft.	TOTAL CAPACITY/ SHIFT Sq.Ft.
Small Printing Press*	Int.	1	90,000	90,000
Large Printing Press*	Int.	1	112,000	112,000
Flexo Folder Gluer (1 colour)	Fin.	3	260,000	780,000
Quad-lok (1 colour)	Fin.	2	250,000	500,000
Glu-lok (2 colours)	Fin.	3	230,000	690,000
Rotary Die Cutter (2 colours, 3 when installation complete)	Fin.	1	250,000	250,000
<b>TOTAL</b>				<b>2,422,000</b>

\* Only one machine set up to print in 2 colours. Both capable of doing 2 colours

**OPERATION: GLUING**

MACHINE	SECTION	# M/C	CAPACITY/ SHIFT Sq.Ft.	TOTAL CAPACITY/ SHIFT Sq.Ft.
Flexo Folder Gluer	Fin.	3	260,000	780,000
Quad-lok	Fin.	2	250,000	500,000
Glu-lok	Fin.	3	230,000	690,000
<b>TOTAL</b>				<b>1,970,000</b>

**OPERATION: STAPLING (stitching)**

MACHINE	SECTION	# M/C	CAPACITY/ SHIFT Sq.Ft.	TOTAL CAPACITY/ SHIFT Sq.Ft.
Stitcher	Fin.	2	30,000	60,000
<b>TOTAL</b>				<b>60,000</b>

**OPERATION: DIE CUTTING**

MACHINE	SECTION	# M/C	CAPACITY/ SHIFT Sq.Ft.	TOTAL CAPACITY/ SHIFT Sq.Ft.
Die Cutter	Int.	1	60,000	60,000
Rotary Die Cutter	Fin.	1	250,000	250,000
<b>TOTAL</b>				<b>310,000</b>

**OPERATION: CUT TO SIZE**

MACHINE	SECTION	# M/C	CAPACITY/ SHIFT Sq.Ft.	TOTAL CAPACITY/ SHIFT Sq.Ft.
Band Saw	Int.	1	20,000	20,000
<b>TOTAL</b>				<b>20,000</b>

**OPERATION: STRIPPING**

MACHINE	SECTION	# M/C	CAPACITY/ SHIFT Sq.Ft.	TOTAL CAPACITY/ SHIFT Sq.Ft.
Rotary Die Cutter	Fin.	1	250,000	250,000
<b>TOTAL</b>				<b>250,000</b>

Summarised below is the total plant capacity (in square feet) per operation per shift:

OPERATION	TOTAL PLANT CAPACITY S/F	COMMENTS
MANUFACTURING BOARD	600,000	The corrugator manufactures the board needed for all operations in plant.
CUTTING TO SIZE	20,000	This operation is mainly for partitions and pads to go inside the boxes manufactured
DIE CUTTING	310,000	The Die Cutter still does about 20% of work passing through this operation. Eventually, all die cutting will be done by the Rotary Die Cutter which is also capable of stripping.  20% of total production normally requires die cutting. This goes up to 30% during peak periods.
STRIPPING	250,000	Work done by Die Cutter has to be stripped manually. This operation will be eliminated once the Rotary Die Cutter is fully operational.
PRINTING	2,422,000	90% of the boxes require printing.
SLOTTING	2,232,000	95% of the boxes manufactured require slotting. Only tube shaped containers do not pass through this operation.
SLITTING	70,000	This operation is mainly for the interior partitions for boxes. About 20% of all boxes manufactured require partitions.
SCORING	2,302,000	95% of all boxes manufactured pass through this operation
GLUING	1,970,000	95% of all boxes manufactured pass through this operation
STAPLING (STITCHING)	60,000	About 5% of all boxes manufactured are stapled.

### Line Balancing

The production process is semi-automatic and hardly requires balancing if everything is running smoothly. The process is further assisted by the detailed guidelines prepared by the Production Scheduler. When the need arises, the following measures/methods are used to balance the production line :

- Speedy machine repairs through skilled maintenance personnel
- Close monitoring of production by trained supervisory staff
- Utilisation of teamwork among operators some of whom are multi-skilled
- Sequence of scheduling to minimise machine set-up time
- Increasing manpower requirements on relevant machine(s)

If bottlenecks are being created, the Production Scheduler reroutes production flow, schedules overtime or adds other shifts

Existing equipment is adequate for current needs, but not for projections, due to limitations on technology, rather than on available capacity. The plant has one piece of state-of-the-art equipment. Others are in need of upgrading and some need to be replaced.

Equipment is currently being upgraded. The company also plans to increase automation in the near future so as to improve quality, increase efficiency and customer satisfaction. It will also acquire a standby generator.

### Maintenance Personnel:

The equipment maintenance personnel have adequate training in the electrical field, but need additional training in electronics. In the interim, experts in electronics will be called in as needed.

Most of the maintenance personnel recruited are graduates of technical schools. A few have been trained at the College of Arts, Science and Technology. It is felt that the training

available locally provides technicians with the basics needed to service the plant's new electronic equipment. Routine training will be conducted in-plant by an expert from overseas scheduled to arrive later this year.

### Production Personnel

Production personnel include -

- 1 Production Manager
- 1 Production Superintendent
- 1 Production Scheduler
- 6 Supervisors
- 1 Statistics Clerk
- 104 Operators/Janitors
- 1 secretary

Most operators are multi-skilled and they acquired their skills through in-house training for new operators, by attending special courses and through on-the-job experience when assigned to new operations during machine downtime. Supervisors acquire skills in line balancing through their experience as operators, on-the-job training at the supervisory level and by attending training courses and seminars.

### PRODUCTION TECHNOLOGY

The plant has documented standard operating procedures.

Employees have the authority to interrupt the production process if problems occur. For major problems, they must stop the machine and call the supervisor.

The company keeps records of -

- Equipment idle time and reasons
- Equipment downtime and reasons
- Maintenance schedules
- Dates when critical machine parts changed

This information is analysed and used to improve the production process.

The following technologies are used -

- Numerical Control (NC)
- Production Planning and Inventory Control System
- Coordinate Measuring Machine (CMM)
- Statistical Process Control(SPC) in certain aspects of the operation
- Standard corrugated technology

Prior to implementing engineering or process changes -

- All affected departments discuss and agree upon changes
- Affected personnel are informed of changes on a timely basis
- The cost impact is estimated and recorded prior to approval of change
- The latest changes are recorded and dated

### PURCHASING

W.I.P.P. has a centralised purchasing system which functions effectively except when the company is experiencing cash flow problems. Purchases are made at the departmental level only during emergencies.

Purchasing policies and procedures have been documented, but are in need of upgrading and are available to users.

The inventory control system has the following features: -

- Safety stock levels
- Reorder points for raw materials and spare parts
- Raw material inventory status readily available
- Lead time for orders.

Under the purchasing system -

- Monthly orders vary and are placed based on usage
- Stock levels are monitored through inventory controls, random and bi-monthly stock checks and the use of requisitions
- The department is informed of all engineering or material changes to prevent overbuying or to minimise obsolescence of inventory
- The company has an approved list of suppliers.

Despite this system, the company periodically experiences raw material and component shortages due mainly to problems with shipments. W.I.P.P. has briefed the suppliers on existing problems and is working with them to streamline the process.

Prior to purchasing raw material in bulk, the department looks at -

- Volume discounts
- Risk of spoilage
- Quality of goods
- Inventory carrying costs
- Risk of deterioration of materials
- Delivery capabilities of suppliers.

In order to monitor and minimise waste the company has a clear definition of scrap, a senior officer inspects scrap before it is shipped or discarded and a scrap inventory record is maintained.

The department's quality control practices include -

- Monitoring delivery capabilities of suppliers before placing orders
- Taking into account supplier lead time when placing orders
- Providing suppliers with a clear definition of expected quality levels
- Following up with suppliers to ensure that orders are delivered on schedule
- Evaluating quality of raw material purchased in conjunction with the production and technical departments
- Documenting supplier quality
- Assessing supplier performance periodically.

### AVAILABILITY OF INPUTS

The company is satisfied with the quality of raw materials and packaging materials and experiences no difficulty in sourcing either of them at the present time. However, the global environmental movement is making the consumer more aware of the relationship between the destruction of rain forests and the paper industry. The need to protect the existing rain forests is likely to lead in the long term to a shortage of paper on the world market. The actual shortage is not yet being experienced in industry, but the ongoing increase and instability of prices is an indication of difficulties likely to occur in the future.

Listed below are raw materials used and the main source -

RAW MATERIAL	SOURCE	LEAD TIME FOR ORDERING
Liner & Medium Paper	U.S.A. & Canada	6 weeks
Starch	U.S.A.	6 weeks
Printing inks	Jamaica	On demand
Twine	Jamaica	On demand

Though the company is not now experiencing major problems in sourcing raw materials, it is aware of the problems likely to occur in the future.

### COSTING

The department maintains up-to-date files with -

- Standard costs
- Materials and equipment cost data
- Standard overhead rates
- Past project costs
- Current labour costs

and records are maintained to facilitate modification of work standards as needed. Increasing efficiency is the main objective for establishing standards. Others are cost reduction, inventory control and work simplification.

Monthly cost reports are prepared and trends are compared with budget projections. Total costs for the group are distributed as follows:

<b>PRODUCTION COSTS:</b>		
Raw Materials	23%	
Labour	1%	
Other Direct Expenses	3%	
Production, Distribution O/heads	13%	
<b>TOTAL PRODUCTION COSTS</b>		<b>40%</b>
<b>EXPENSES:</b>		
Administration	38%	
Marketing	6%	
Finance	16%	
<b>TOTAL</b>		<b>100%</b>

About one third of the group's overheads is reimbursed by other companies in the group. Full costings are prepared for each product and due to the unstable paper prices, costings are checked with each order and updated if necessary.

### QUALITY CONTROL

Quality assurance is the responsibility of everyone in the company but more specifically the Production Supervisors and Quality Control staff within the Technical Department. Operators are not at present held responsible for quality, but they will soon be required to check the quality of each operation they complete. With 4 Quality Control Officers, the ratio of Quality Control Officers to Production Workers is 1:30.

The Quality Superintendent in collaboration with the Group Technical Manager has responsibility for the preparation of quality manuals. These are not yet in place but are being developed. For the most part, customer specifications are used in production.

Employees become aware of company standards through -

- Experience
- In-house training

- Written instructions
- Crew meetings
- Job cards with clear customer specs

Within the last two years 80% of the department's staff have participated in TQM and other Quality Control Training Programmes. There is no TQM programme in place. Raw material suppliers (e.g. ink supplier) also conduct in-house sessions on the quality of their product.

The plant has a total line quality control system which covers -

- Pre-production supplies
- Stores and inventory control
- The production process
- In-house laboratory analyses
- Plate making

Random sampling is conducted at the end of the line. The quality system relies heavily on problem prevention, detection and correction. Work in process rejected daily now stands at 5% - 9%. The company standard of 8% is being reduced, as 5% is sometimes achieved.

Most of the quality problems occur in the plate making area due to inks supplied which are inconsistent and not in keeping with specifications. Returns are also due mainly to inconsistent colours. Finished goods are rarely returned due to quality problems, as prototypes are first developed, tested and approved in customer's facilities before the order is processed.

Occasionally, there are problems due to variances in the raw material as paper is imported from 2 - 3 different mills which may have different tolerances. Reports from the QCOs

indicate that incoming raw materials are usually 5% - 9% defective. The defective incoming raw material is rarely reshipped as a claim can be submitted to the supplier. Also, it may be used in ways other than originally intended or may end up as scrap e.g. defective craft board is sold as waste.

The QC staff are familiar with the statistical quality control techniques used in the quality reports which are generated on a regular basis. Some employees, who have worked in other plants, have had some exposure to measurable quality objectives, a process now being introduced.

The company plans to implement the ISO 9000 standards, has started preliminary work mid 1994 and is aiming to be certified by mid 1996.

### SECURITY

Access to the premises is controlled by guards at the gate and security in the plant area and there have been no known breaches to security arrangements.

The warehouse is designated for authorised personnel only and less than 5% of stock is stolen/missing each year. Controls for stock include -

- Monitoring of stores by clerks under the supervision of the Stores Superintendent
- Limiting access to area
- Issuing of goods on requisition

Mediums and liners are stored in the open yard and due to their size, there is no security risk.

Other sensitive areas designated for authorised personnel only are the laboratory, plate making room and dark room. Caustic soda is the only possible hazardous material. Stock is limited to a few drums and these are sealed and opened only before use.

### HOUSEKEEPING AND MAINTENANCE

The production area is cleaned at the end of each shift and depending on the job being done, the process is ongoing. The existing maintenance programme covers -

- Maintenance of building
- Periodic cleaning of ceiling, windows, fans
- Regular maintenance of equipment
- Cleaning storage areas
- Maintenance of plumbing fixtures
- Maintenance of electrical installations.

Sections of the building in the production area need to be painted or repaired and the sun roof needs cleaning.

Scheduled equipment maintenance does not affect production hours as the maintenance programme, which is both corrective and preventive, is carried out -

- On a regular schedule
- Outside of normal production hours, usually on weekends
- Annually during 2-week period in December when the plant closes.

The objective of the maintenance programme is to -

- Change spare parts as stipulated by equipment manufacturers. This is not always possible as the spare parts are sometimes not available. These parts have to be

ordered from overseas and the orders are sometimes not placed on a timely basis due to cash flow problems. This results inevitably in the need for corrective maintenance.

- Service machines on a weekly or monthly basis as required.
- Pay special attention to the old equipment in plant and monitor them very carefully in an attempt to minimise machine downtime.

Sixteen per cent (16%) of available production hours is lost due to machine breakdown.

The following preventive measures are in place to ensure safety of workers, equipment and building and promote healthy production practices:

- Nurse on staff
- Special staff trained in first-aid application
- Adequately stocked first-aid kits available
- Machine use restricted to trained personnel
- Fire extinguishers in place and checked regularly
- Fire prevention sprinklers in place
- Fire doors installed at strategic points
- Precautionary measures used when welding
- No smoking allowed in factory
- Fire drill conducted periodically
- Signs in place in areas where caution to be exercised
- Floors cleaned regularly to prevent slipping
- Protective clothing worn
- Protective shoes worn
- Emissions controlled
- Hazardous materials are securely stored and properly identified.

Cross-ventilation is inadequate due to the excessive heat generated by the corrugator.

## ENVIRONMENTAL IMPACT

Inks used in the production process are the only products which the company considers harmful to health or the environment. The ink water is washed into the drains after cleaning. The company does not consider this a major problem, there have been no complaints and the company has not been involved in any major law suits.

An Environmental Impact Assessment has not been conducted and there are no immediate plans to do so. The company is not aware of any local environmental regulations which affect their operations.

The impact of the environmental movement, which is very active overseas, is already being felt as the drive to protect the forests has resulted in regular price increases. In the long-term, this will result in paper shortages.

The scrap resulting from the production process was once sold on the local market. This practice was discontinued as it encouraged theft and the discarding of good material as scrap. It also had to be monitored closely to minimise losses. Scrap used to be recycled at the paper mill in Free Town before it was destroyed by fire, but due to the equipment then available, was done on a very small scale. It is now exported for recycling. Manpower requirements for the supervision of this process are minimal.

## FINANCE AND CONTROL

Financial statements are prepared monthly. The last set of audited accounts are dated 1993 and the draft for 1994 has been completed.

The company is financed -

- Mainly through trade credit some of which are long overdue
- Short-term loans which are used for specific purposes e.g. equipment acquisition
- To some extent through an overdraft

### Analysis of Key Ratios:

#### Current Ratio:

1993	1994
1:0.72	1:0.88

The current ratio is marginal, showing some difficulty in liquidating short term liabilities. This reinforces the cash flow problems mentioned which inhibit good purchasing practices and cause raw material shortages.

#### Inventory Turnover:

1993	1994
1.7 times	1.4 times

Inventory turnover has declined, no doubt due to the company's difficulties in sourcing paper, and to the decline in sales from 1993 to 1994.

Days Receivable:

1993	1994
73 days	79 days

Days receivable are extremely poor considering that the normal credit terms are fourteen (14) days. This is no doubt one of the main reasons for the cash flow problem.

Gross Margin:

1993	1994
32%	61%

Gross Margin has shown considerable improvement, doubling from 1993 to 1994. The group is not able to compare its performance to other entities in the sector as sectoral data is unavailable.

Net Profit Margin:

1993	1994
21%	22%

Management attributes the group's performance over the past three years to:

- Increased efficiency
- New product lines
- The contribution of a dedicated team of employees who wish to see the group once again a viable entity.

## INFORMATION AND CONTROL SYSTEMS

Accounting manuals have been prepared and these are kept up-to-date. This is in keeping with the preparation of documentation for ISO 9000.

Information and control systems include -

- Internal auditing. The position of Internal Auditor is not currently filled. The person holding the position reports to the General Manager.
- Keeping accounting books up-to-date and balanced monthly
- Reviewing insurance coverage monthly
- Granting discounts on approval of Sales Manager
- Centralised Purchasing System
- Control of inventory level by Accounts Department and Central Purchasing Department
- Two types of inventory control systems
- Raw material monitored by Production Manager through stock checks every other month; physical counting twice/year
- Supporting journal entries by substantiating documents
- Approving journal vouchers by a Senior Accountant in the Accounts Department
- Preparation of daily cash report
- Preparation of weekly and monthly cash projections
- Preparation of annual budget by Accounts Department with input from section managers
- Monitoring of accounts payable by the Accounts Department
- Monitoring of accounts receivable under supervision of Credit Manager
- Customers contacted by telephone when payment close to due date

- Following up with customers who fail to meet terms of payment by - mailing collection letters, personal visits, contacting regularly by telephone, indicating reluctance to process new orders
- Handing over case to collection agency
- Using credit application form for customers requesting this facility. Information requested includes company owner, other suppliers, type of business, bank
- Checking trade and banking references prior to granting approval of credit. Credit agencies used to check records/general information and verify customer's credit.
- Granting credit and writing off bad debts on approval of Credit Manager
- Establishing formal credit terms with customers; credit limits and payment terms are established by the Credit Manager in keeping with company policy
- Approving only cash orders for customers whose payments are not up-to-date
- Controls to protect against misuse of company funds and contain and/or eliminate fraud and errors
- Monitoring budgeted expenditure through monthly reviews/corrective action in the Accounts Department, analysing variances/deviations from target and discussing corrective action at monthly management meetings
- Centralised filing system for records from the Personnel Department
- Periodic review of information and control systems.

There is no formal programme in place for rotating employees assigned to sensitive areas. In 1994, the incidence of bad debt was 0.8% of annual sales

## AUTOMATION

The company's automation needs are always under review and an informal assessment was done a year ago. The main objective was to upgrade the entire system within the Accounts Department in order to satisfy the needs of the company's long-term plans and to computerise customer data. The accounting system is now partially computer-based and full computerisation is proceeding in phases. The Sales Department is also now almost fully automated and in the next phase, the company will be looking at increasing automation in the production process.

Stripping by hand will be eliminated once the rotary die cutter is fully operational. Other manual operations likely to be automated are the removal of boards from the corrugator and stacking, and the bundling of finished goods.

The main computerised system used in the company is the Grace Unysis System 5000 hardware along with personal computers. These are not fully linked throughout the plant, but some departments, such as Sales and Accounts, are linked. The internal network system at the head office is similar to the one installed at the W.I.P.P. plant. Software packages include an accounting package, wordprocessing and spreadsheets.

Training in computerisation has been provided for users in primary data entry, computer literacy and systems administration. Training was done in-house, at CAST, through Grace Unysis and overseas. When hiring staff for some sections, computer literacy is now mandatory.

The company is not linked to an external database or networking system and there are no immediate plans to do so. Prior to linking to an external database, the company would have to be convinced of the benefits to be derived.

## ORGANISATION AND MANAGEMENT

### HUMAN RESOURCE MANAGEMENT

Employees assigned specifically to West Indies Paper Products Limited are listed below. Temporary production workers are rotated every three months depending on job requirements.

CATEGORY	FULL-TIME	PART-TIME
Managers	2	
Sales Staff	4	
Technical Staff	12	
Supervisors	7	
Clerical/Secretarial	5	
Production Workers	53	63

Written job descriptions are in place for all employees.

Benefits offered by the company to full-time employees include:

BENEFITS	COMMENTS
Uniforms	Computed in overall salary for monthly paid employees, but not for unionised, hourly paid workers.
Health Insurance	Full payment for employees, 1/2 cost for dependents
Life Insurance	Employees insured for 2 1/2 time annual salary

BENEFITS	COMMENTS
Training courses	Sponsored by company if it relates to employees' job  Assistance provided in the form of loans for participation in training courses that are not immediately job-related. Loan repaid through salary deductions and refunded by company if employee successful in course
Incentives for achievement of excellence	Paid at end of year to production staff if they exceed production targets; currently being upgraded
Meals	Allowance for overtime, subsidised breakfast and lunch
Travel Allowance	Taxi fare to persons who have early shifts and have to travel to work before daylight. Transportation provided to nearest point for persons on 2:00 - 10:00 p.m. shift
Car Allowance	For middle and upper management who have to use their vehicles to carry out company business
Vacation Leave	1 - 3 yrs. - 2 weeks 4 - 9 " - 3 " 10 - 15 " - 4 " 16 - 20 " - 5 " The majority of employees have been employed to the company for over 10 years.
Vacation Package	One week's pay every two years
Maternity Leave	12 weeks after completing at least one year with the company
Sick Leave	2 weeks sick leave and two weeks hospitalization leave At the end of the year, hourly paid workers are paid for sick leave not taken
Medical Expenses	Company covers medical expenses for employees involved in accidents on-the-job. These do not occur frequently.
Rental Allowance	Rental allowance paid to supervisory and clerical staff.

BENEFITS	COMMENTS
Shift Premium	Unionised workers paid higher rates for work done on the late shift
Scholarship Assistance	Children of employees may receive assistance with their education at the secondary or tertiary level. A Committee selects two candidates each year. 1 from the supervisory/clerical staff 1 from the hourly paid workers
Sanitation	Each production employee given the following each month: 4 bars soap 6 rolls toilet tissue 2 rolls hand towels
Product Sales	Full-time staff sold 20 rolls of toilet tissue/mth. at subsidised rate Temporary staff sold 10 rolls at same rate

Production personnel employed part-time are casual workers paid on an hourly basis. Their benefits are minimal namely -

- Subsidised lunch
- Toilet paper and soap as provided for other production workers
- Payment of medical bills resulting from accidents occurring on the job

Though the company has over sixty (60) casual workers, they are rarely employed at the same time as they are rotated. One batch works for a three-month period, then their service is broken and another batch employed. When employed, they work a regular 40-hour week and overtime if necessary like any other production worker.

The company's salary scale and fringe benefits compare favourably to other companies in the sector. W.I.F.P. keeps up-to-date information on salaries paid in the sector by conducting surveys from time to time and using Jamaica Employers' Federation's salary

surveys. Following a survey conducted by Peat Marwick some time ago, a two-year plan was developed which included teaching managers/supervisors how to use the information on job descriptions to conduct evaluations.

Salaries are based on position and are not linked to performance. Production workers receive an annual incentive payment and this is based on their individual or group performance.

The Managing Director makes an effort to establish some personal contact with each employee and sends birthday cards to each member of staff. He also holds a monthly meeting where they can air their grouses and make suggestions. Exit interviews are conducted.

With regard to transfers,

- The company may transfer employees to different positions within the group,
- Employees may request a transfer by applying for a position in another section of the company if a vacancy exists,
- An employee may discuss his/her planned career path and indicate his/her interest in a particular section/job during performance evaluation

Absentee records are kept. Employees who are frequently absent are warned verbally and in writing by their Department Heads in keeping with the stipulations of the disciplinary schedule which they receive on employment. The costs of turnover and absenteeism to the company have been minimal over the past year.

Future manpower needs are normally planned and this reduces emergency recruiting. Staff is flexible and in an emergency the company is usually able to fill manpower needs in the short term.

The company currently has no plans for major expansion and as staff turnover is nil, no projections have been prepared for manpower needs in the next two to three years. The company has instead opted to concentrate on training and upgrading staff.

The company has a performance appraisal programme which includes top executives. The appraisal should be conducted quarterly, but is actually done twice yearly. Based on feedback from supervisors and managers, the average employee views performance evaluation as a welcome feedback on overall performance, an opportunity to talk frankly with management and a yardstick for end-of-year bonus. The general feeling still persists that the appraisal leads to a promotion and/or a pay increase.

The company uses the performance evaluation to counsel staff, pointing out their strengths and weaknesses and to determine employee training needs and recommend training courses.

Personnel policies are periodically reviewed and this exercise was recently carried out. A handbook is now awaiting printing.

Hourly paid workers and some of the clerical and supervisory staff are unionised. Both groups are represented by separate unions, but management maintains good relationships with these unions and as a result, disruption of work due to employee dissatisfaction is rare.

The company believes in hiring young people and training them. The approach to training varies with the different categories, but the company has found on-the-job training in the areas of production and maintenance to be quite effective. The annual training schedule is determined by company needs and an amount exceeding J\$1.5M is spent on local and international training each year.

## ORGANISATION

An organisational chart exists for the entire group. Though this is not posted for viewing by all employees, the structure of the company is explained to them during orientation.

All department heads have copies of the chart which appears at Appendix III. The group's operations are centralised and most senior managers have responsibility for activities of the entire group. Reporting relationships are reviewed only if there is/are major changes in top management, plans for major expansion or major restructuring within the group.

## MANAGEMENT/EMPLOYEE COMMUNICATIONS

Key management decisions are made following discussions with the senior management team who would have feedback from the managers and supervisors in their relevant departments.

The company's strategic goals, particularly those relating to sales and production are communicated from top management to all employees during monthly meetings, and modified as conditions change. All employees are aware of the company's objectives for the current month/quarter/year, current orders/projects and plans for relaunching the new factory in Freetown.

Department heads receive regular feedback on the performance of their section during the monthly management meeting, while key employees are informed of the company's financial goals on a regular basis.

## SECTORAL COOPERATION AND NETWORKING

W.I.P.P. is a member of the following organisations -

Jamaica Manufacturers' Association (J.M.A.)

Jamaica Exporters' Association (J.E.A.)

Jamaica Employers' Federation (J.E.F.)

The company participates in -

Training courses organised by J.E.F.

Salary surveys conducted by J.E.F.

W.I.P.P. has established ties and developed good relationships with other companies in the industry. Benefits derived from this association are periodic exchange of information, e.g. during salary surveys, and raw material loans from time to time. Other joint activities with these companies offer little benefit as they are viewed as competitors.

## RELATIONSHIP WITH JAMPRO

W.I.P.P. is aware of the services provided by JAMPRO. Staff members have participated in the training courses they offer and the company is now upgrading equipment through the Modernisation of Industry programme.

The company is satisfied with the quality of the services provided but would like to see more emphasis placed on training of production/technical staff. It will continue sending participants to these training programmes. It is also interested in receiving information on the benefits to be derived by linking with Internet as a source for technical data.

## CONCLUSIONS:

### PRODUCTS:

W.I.P.P. produces a wide range of cartons of all sizes, limited only by customer designs and specifications and the capability of their equipment. This is the nature of the particular business, and ensures a strong, interdependent relationship with customers - sales are directly dependent on the fortunes of its customers, and it is therefore important for the company to be constantly seeking new customers.

### THE MARKET:

The company no longer exports, as freight rates made them uncompetitive. Thus, 100% of its output goes to the local market targeted to bottlers, distillers, personal care producers, banana producers and other agricultural producers. Many of these customers export, so that W.I.P.P. is a very important linkage in the export trade. W.I.P.P. is gradually increasing its market share by targeting exporters of non-traditional products and upgrading equipment in order to satisfy the demands of new trends in packaging.

Sales volumes increased in 1993 by 11% and then declined in 1994 to return to 1992 sales levels. This, we understand, was because papaya production was decimated by the ringspot disease.

### DESIGN:

The company designs new products in response to individual customer demand. It follows a very rigorous process of sampling, to ensure that the customer is satisfied before the order is placed. This is very important in a situation of long production runs as an error results in the entire run being rejected. For the customer, an error is also expensive, as it may result in damaged goods after the shipment has left the factory. W.I.P.P. has recently

created a department to manage this process. One of the limitations on design development is the training available locally, as there is no institution which focuses on packaging design.

The company has in place a good system for receiving feedback. The questionnaires which the Sales Representatives conduct each quarter provide very important feedback about customer satisfaction and their future plans.

#### PRICING:

The pricing policy is quite comprehensive, and, by reviewing prices with each order, ensures that increases in costs are covered. At the same time, some effort is made to keep prices competitive. Volume discounts are important in satisfying the company's need for long production runs.

#### DISTRIBUTION:

The sales representatives play a very important role in building and maintaining good customer relationships. There is a very stringent schedule for company visits, and targets are set for new accounts. However, they are paid a flat salary, which tends not to encourage an aggressive attitude towards increasing sales and customers, and certainly does not encourage collections.

#### PROMOTIONS:

The company has correctly identified that the best form of promotions are personal contact, and therefore spends very little on advertising. However, this strategy tends not to develop new markets and new customers, as they are unaware of W.I.P.P.s existence. In order to counter the higher profile of its main competitor, and to create awareness in the marketplace, a promotion was to have been launched in July.

### THE COMPETITION:

There are two major players in the carton industry - W.I.P.P. and Jamaica Packaging Industries (J.P.I.), with 60% and 40% market share respectively. With the opening of the economy, they are now facing competition from the USA, which can provide cartons of better and more attractive design. W.I.P.P.'s new equipment will enable them to compete with competition from the USA.

The company attempts to get information on its competitors by various means, but market knowledge is still limited.

In its self-assessment against the competition, W.I.P.P. has identified that it is weak in pricing, promotions, labour skills, research and development, cash flow and reserves, office facilities, automation and design skills. These are areas that need to be addressed if the company wants to maintain its market share.

### CUSTOMER SERVICE:

As mentioned before, the company has a good system in place for receiving feedback from customers. The system for handling complaints is also good, with all relevant departments being involved, and the Sales Department playing a pivotal role.

### OPERATIONS:

#### PRODUCTION FACILITY:

Production space is adequate, but the need for additional warehousing space for raw material needs to be addressed. As the company upgrades equipment and increases efficiency, there will be a need for larger amounts of raw material. In addition, the need to stockpile raw material may become a reality as the global paper shortage becomes more acute.

### PLANNING AND SCHEDULING:

There is a good system of production planning and scheduling in place. This system quite correctly starts from the customer, and takes a long term and short term view by planning annually, and scheduling monthly and weekly. Most importantly, the schedule is communicated verbally and in writing to all production personnel, and there is constant communication on the status of orders between them and sales. There is still room for improvement however, as even when things go well, only 90% to 95% of orders are delivered on time. Late deliveries are most often caused by manufacturing problems with the die cut process. Unforeseen problems which cause late deliveries of up to 30% include power cuts, late receipt of raw materials and machine breakdown.

### PRODUCTION LINE:

The production process is fairly straightforward, with all orders starting at the corrugator, and branching off onto other machines, depending on the design.

The company's equipment is quite old, with many installed in the 1960s. However, they have been, or are being reconditioned and upgraded, so that while not technologically advanced, function fairly well. Key equipment is being replaced gradually in order to keep abreast with new technology.

### PRODUCTION CAPACITY:

The plant operates 2 to 3 shifts on a 5-day work week. Capacity is determined by the corrugator, through which all orders pass. Thus, full capacity is:

$$\begin{aligned} & 600,000 \text{ square feet per 8-hour shift} \times 3 \text{ shifts} \times 250 \text{ working days per year (5-day} \\ & \text{work week)} \\ & = 450 \text{ million square feet} \end{aligned}$$

Actual production (1994): 166.75 million square feet

Capacity Utilisation = 37%

Equipment is flexible, with a number being able to perform each function and multi-functional, being able to perform a number of functions. This helps production to flow smoothly, and ensures that there are few bottlenecks. There is excess capacity in the printing, slotting, scoring and gluing functions (over 3 times as much as the corrugator). Die cutting capacity is adequate now, but will require upgrading to meet future demands.

Despite this underutilisation of capacity, the company finds that existing equipment is not adequate, but this is due to technological limitations. Thus, automation and upgrading are on-going.

#### PERSONNEL:

W.I.P.P. employs full-time maintenance personnel, but skills in electronics are needed. No doubt, this is one of the reasons for machine downtime. Attempts are being made to address this by training and contracting the skills.

Production personnel are multi-skilled, and this helps in scheduling production and balancing the line.

#### PRODUCTION TECHNOLOGY:

In theory, good systems are in place and every effort should be made to ensure that they are adhered to, for example, records of the relevant dates for changing spare parts are kept, but this does not always happen on a timely basis as the parts are not always available due to problems with cash flow or the purchasing system. The result is that the effectiveness of the preventive maintenance programme is minimised.

### PURCHASING:

The existing purchasing policies are fairly comprehensive, but documentation needs upgrading. There is a good system for planning purchases, but this goes awry due to cash flow problems, resulting in raw material schedules, production delays, and late deliveries.

### AVAILABILITY OF INPUTS:

The company experiences no problems with sourcing inputs, but expects that paper will become a problem in the long term.

### COSTING:

The company has in place a costing system which is responsive to changes in direct costs. Standards costs are in place, and are monitored on a monthly basis. The main cost factors are raw materials (23%), administration expenses (38%) and finance costs (16%).

### QUALITY CONTROL:

There is a well-staffed Quality Control department, although the company is moving to a system where quality is the responsibility of each employee. This move is reinforced and enabled by the high level of quality training of production personnel.

The system relies heavily on random sampling at all stages. Quality is improving, as evidenced by the reduction of the work in process standard rejection rate from 8% to 5%. The rejection rate for raw materials is high - 5% to 9%, but this ensure that inferior raw materials do not get into production. Most quality problems with finished products occur with printing.

The company aims to be ISO 9000 certified by 1996.

### HOUSEKEEPING AND MAINTENANCE:

The plant is fairly clean with the exception of the sun roofs. Ventilation is very poor due to the heat generated by the corrugator, and the plant is hot.

There is a preventive maintenance programme in place, and maintenance is scheduled outside of production. Despite this, 16% of production hours are lost due to machine breakdown. This seems to be due to problems with procuring and importing spare parts, limitations on maintenance personnel, the age of some equipment and cash flow problems.

### ENVIRONMENTAL IMPACT:

No Environmental Impact Assessment has been conducted, and this is not planned. However, the company does use ink and caustic soda, and the impact of these needs to be fully understood. There seems to be a good system for controlling and disposing of scrap, which has economic value as it is exported for recycling.

### FINANCE AND CONTROL:

The company is financed mainly through short term instruments, even for capital expenditure (typically, this is financed through long term funding). The company, despite high levels of profitability, suffers from cash flow problems, as evidenced by the unfavourable current ratio. This is due to the high level of receivables (79 days) and the fact that W.I.P.P. supports the other two companies in the group which are not profitable.

### INFORMATION AND CONTROL SYSTEMS:

There are a number of very comprehensive systems in place. However, one questions how effective they are, as, in the case of credit, despite credit terms of 30 days, and a very stringent credit approval process, days receivable are 79 days.

### AUTOMATION:

Computerisation of functions is proceeding on a phased basis, although no formal assessment of needs has been done. Various aspects of the production process are being automated, and computerisation is being considered.

## ORGANISATION AND MANAGEMENT:

### HUMAN RESOURCE MANAGEMENT:

Most employees have been with the company for over 10 years. The annual employee turnover is almost nil, and absenteeism is low. This is no doubt due to the good employee/management relations, competitive salary and extensive benefits, and training opportunities. There are a high number of part-time production workers who are rotated. This ensures flexibility in scheduling, as labour can be increased or decreased to suit production needs.

Production workers receive an annual incentive, but sales representatives are not on commission.

There is a performance appraisal system in place, and it is adhered to and used positively.

### ORGANISATION:

There is an organisational chart in place for the group which is fairly well distributed. The chart shows a number of layers of supervision and management - 5 levels between the shop floor and the Managing Director. Managers of departments report to the heads of their function at the group level. Surprisingly, despite this, there is a high level of communication at the W.I.P.P. plant. This is no doubt due to the level of communication between management and employees and the fact employees are kept informed of short and long term objectives and strategies, and special projects.

**NETWORKING:**

The company is a member of a number of organisations, and participates in a limited way. It has a good rapport with other participants in the industry.

W.I.P.P. has participated in training and the Modernisation of Industry Programme, and has accessed information from time to time from the Design Centre.

## RECOMMENDATIONS:

### MARKETING

#### DESIGN DEVELOPMENT

1. Establish close ties with local designers and JAMPRO's Design Centre so as to facilitate the monitoring of international trends, development of original designs in keeping with local needs and the implementation of more effective ways of sourcing information on designs through the Internet or JAMPRO's international network;
2. Stimulate an interest in design development/packaging at local training institutions by maintaining close links with the Edna Manley School for the Visual Arts, the College of Arts, Science and Technology, and similar training institutions with a view to encouraging them to incorporate Packaging Design in the curricula as an option for students of Art, Graphics and Marketing

The company could make the experts from W.I.P.P.'s Design Department available to conduct lectures at these institutions. It could co-sponsor training programmes in packaging design in conjunction with JAMPRO and the Edna Manley School for the Visual Arts for lecturers at the school, students, design experts at W.I.P.P. and other companies in the sector and local designers and others interested in the field. These training sessions would be conducted by international experts and W.I.P.P. could make their facilities available for aspects of the training if required. The company could go as far as to offer internship programmes to students.

The company could also sponsor an annual competition in packaging design and provide or assist in sourcing funding for research or specialised training in the field.

These measures, in addition to providing trained personnel in Jamaica, would greatly improve the public image of the company.

3. Keep abreast of trends in international design by making the relevant literature available to staff, sending representatives to international shows and seminars on design, making information on design easily available to staff through the Internet and investigating how computer-aided designs can be applied to the field of packaging design. Also, keep abreast of technological developments and the state-of-the-art equipment available to the sector. With this approach, W.I.P.P. will be better equipped to advise and guide customers and begin to play a more dynamic role in sales and marketing as they will:

- Start selling their customers new ideas rather than merely awaiting their requests
- Develop original designs

This sort of input and promotion will keep W.I.P.P. in the forefront and help the company acquire over time the reputation of being the leading packaging consultants in the region.

#### SALES REPRESENTATIVES:

Policies are in place to ensure that the Sales Representatives service the existing accounts. However, growth in sales may be hampered by the fact that Sales Representatives have no incentive to increase the volume of sales coming from existing accounts and to seek new accounts. Sales Representatives should therefore be paid a basic salary plus commission, with a higher commission being paid for sales generated by new accounts.

#### MARKET KNOWLEDGE:

The company should regularly conduct studies on the market, particularly on competition coming from external sources, of which it seems to have very little information.

## NEW MARKETS

In order to increase sales significantly, the company will have to seek new markets and develop new products. W.I.P.P. should undertake to explore new markets in some of the non-traditional areas such as

Furniture

Storage containers for homes, offices and schools

Children's toys and educational aids such as building blocks

Owing to the prohibitive cost of furniture, cartons are widely used for storage. High housing costs are also making it difficult for new homeowners and small businesses to acquire all the furniture they need. Some of the items listed below are already being imported into the island and this would suggest that the demand exists:

Filing cabinets

Desk top paper trays

File storage boxes

Magazine holders

Chest of drawers and other household items

The company should investigate the feasibility of introducing these new product lines by conducting a survey to determine the demand for these products on the local and export markets and estimate investment costs to the company. The company could concentrate on the production of these products during the low periods.

Attention should also be paid to the needs of the exporters of non-traditional products such as fruits, vegetables, horticultural products and frozen foods. Many of these products require boxes which do not deteriorate when exposed to moisture. The development of an environmentally acceptable alternative to the wax-coated box currently produced by J.P.I. may be worth investigating.

## OPERATIONS

### SCHEDULING:

Although the scheduling system in place seems to be quite comprehensive, management needs to examine the reasons for the 5% to 10% late deliveries which occur even when the schedule is adhered to, and to take steps to target 100% on time delivery. On-time delivery is a key component of customer satisfaction, as late deliveries affect customer deliveries and sales, and the satisfaction of their customers.

### MAINTENANCE

Production time lost due to machine downtime is currently sixteen per cent (16%) and this needs to be reduced significantly in order to increase available production hours and reduce the number of hours that the plant now has to work overtime. The company should:

- Include in-house facilities for repairing lathe. At the moment, such repairs are carried out by operations outside the company. The plant therefore has little control over the time taken for repairs or the efficiency of the technicians assigned to the jobs.
- Ensure that the existing staff receive the training necessary to maintain and repair the new equipment prior to installation.
- Monitor records kept for machine downtime in order to determine -
  - The effectiveness of the equipment maintenance programme
  - The efficiency/effectiveness of technicians
  - Equipment which should be upgraded.

### WORKING CONDITIONS

Efforts should be made to reduce heat in the production area as this will impact on efficiency. The short-term solution would be the installation of additional extractor fans. The sun roof should also be cleaned regularly in order to improve lighting in the production area.

## WAREHOUSING/PRODUCTION SPACE

W.I.P.P. needs to look seriously at physical expansion as twice as much warehousing space is currently needed and production space is inadequate during peak periods.

With the planned upgrading of equipment, plant capacity will increase significantly and without the additional space it will be difficult to store raw materials, process orders efficiently and ensure timely delivery. The company will not be able to take full advantage of the increased capacity resulting from equipment upgrading and additional business available on the market.

The short-term solution may be to secure warehousing space close to the plant and to use the space created in-plant for production. In expanding the production area, every effort should also be made to improve cross-ventilation.

## CAPACITY:

With the existing equipment, the plant will have no difficulty in doubling its capacity once the corrugator has been upgraded. In the interim, the cost effectiveness of running the corrugator on three shifts on an ongoing basis could be examined, as the capacity of the other machines would make it possible to handle the additional production. As goods are manufactured to order, the input from the Sales Department regarding future projections would be crucial and a solution would have to be found to the problem of warehousing space.

In any event, specific deadlines ought to be set for the upgrading of the corrugator so that the relevant sales promotional activities and staff training in the Production and Maintenance Departments can be conducted in a structured manner.

Die cutting is an area of growth as most of the new business requires die cut boxes. Training in die cutting should be arranged for the technical staff. The new rotary cutter

should be able to take care of production demands in the short term, but if the current growth continues at an accelerated pace, additional equipment will be required.

### QUALITY CONTROL:

The level of rejects in work-in-process and the level of scrap needs to be reduced. Management needs to determine exactly why this happens and put in place measures to reduce it.

The management should also establish a detailed implementation plan for ISO 9000 which must include deadlines and assignment of responsibilities. If this is not done, it is unlikely that the 1996 target for certification will be met.

### ENVIRONMENTAL IMPACT

Recycling will be a major industry in the 21st century. The establishment of a local recycling plant may be an option for W.I.P.P.. as future environmental policies will have a direct impact on the availability and cost of raw materials for this industry. The company should conduct research so as to -

- Examine the feasibility of establishing an operation which will be the major paper recycling plant for Jamaica and the Caribbean
- Determine savings to be derived in-plant and on the national level from the use of recycled paper;
- Identify other scrap material available locally which could be used in the manufacture of paper;
- Determine the hazards involved in implementing/maintaining this operation.

The company should also become proactive in the protection of the environment and conduct an Environmental Impact Assessment. It should not wait to do so until required by law, or receiving complaints or a lawsuit.

## FINANCE AND CONTROL

### SYSTEMS TO BE IMPLEMENTED

Most of the company's finance and control systems seem to be operating effectively. Additional measures to be implemented are: filling the position for Internal Auditor which will become more critical as the group expands and rotation of staff assigned to sensitive areas.

### ACCOUNTS RECEIVABLE

Though policies exist for monitoring accounts receivable, they do not appear to be effective as the days receivable are way in excess of the established fourteen (14) day credit terms. The Credit Manager needs to ensure that -

- Accounts receivable are monitored much more aggressively and that a major effort is made to collect outstanding amounts in keeping with the agreed terms of credit.
- Company regulations for following up with creditors are adhered to and new policies introduced if warranted.

### PAYMENT TO SALES REPRESENTATIVES

Collections are also likely to improve if Sales Representatives are paid on a commission basis, with commissions payable on receipt of outstanding amounts due. In order to ensure that the Sales Representatives continue to target new accounts, the commissions paid on existing accounts could be lower than those paid for new business.

### CURRENT RATIO

The current ratio is too reliant on short-term debt. The company should look at refinancing and the benefits to be derived by the company from long-term debt at a lower rate of interest.

## ORGANISATION AND MANAGEMENT

### ORGANISATIONAL CHART

An organisational chart should be posted on the notice board in each department so that it is easily accessible to all staff members. The company needs to critically examine the layers of supervision to determine whether they are really necessary.

### PERFORMANCE APPRAISAL

Performance appraisals are not always conducted quarterly as stipulated by company policy. If this arrangement is no longer practical due to staffing levels, this policy should be reviewed and modified for example, with quarterly appraisals for new employees/trainees and employees promoted or transferred to new positions, and bi-annual appraisals for permanent staff members.

### NETWORKING

As a packaging company, W.I.P.P. should be able to derive much benefit and new business from networking with fellow members of organisations such as the J.E.A. or the J.M.A. Similar benefits can be derived from establishing links with government bodies such as JAMPRO or the Bureau of Standards who are in contact with exporters and potential exporters.

## SERVICES REQUIRED FROM JAMPRO

### TRAINING

Training institutions such as HEART, CAST, JAMPRO as well as the technical schools should begin to focus more on training for the industrial sector. Skilled personnel for production, maintenance and other technical areas are in great demand and the supply is extremely limited. JAMPRO, as the implementing agency for the industrial policy should take a proactive role in developing the human resources for the sector. In particular:

- Three- to six-month courses should be offered in an effort to equip school leavers with some of the basic skills which would be an asset in seeking positions industry such as -
  - Production Management
  - Production scheduling and line balancing
  - Maximising Plant Capacity
  - Quality Control Techniques
  - Warehousing Techniques
  - Maintenance of electronic equipment.
  
- Local technical training institutions should also seek to maintain close contact with industry in order to -
  - Ensure that courses being offered are relevant to local industries and remain current
  - Develop new courses to satisfy growing industrial needs
  - Expand training opportunities for staff already employed in industry who wish to upgrade skills and/or acquire tertiary level qualifications.
  
- Comprehensive programmes to the diploma and degree level for maintenance technicians, supervisors and managers to address the more sophisticated equipment now being developed

#### LINKING WITH INTERNET

The company is not familiar with the possibilities available to them through Internet and would welcome any information regarding the benefits to be derived from establishing this link.

## SECTORAL INFORMATION

Information on other companies within the sector is not easily accessible. JAMPRO could facilitate this process by conducting regular surveys so as to source the relevant data which would assist companies in the sector with analysis and planning.

## DESIGN CENTRE

JAMPRO should ensure that W.I.P.P., and in particular its Technical Department, is aware of the services offered by the Design Centre and the benefits to be derived from establishing ties with the Centre.

## MODERNISATION OF INDUSTRY PROGRAMME

W.I.P.P. has accessed the Modernisation of Industry programme through which it is upgrading its equipment. Owing to financial restraints, W.I.P.P. is approaching this on a phased basis and so the process of modernising equipment will be a long term one as most equipment dates back to the 1960s and 1970s. In the packaging industry, state-of-the-art equipment is of paramount importance if prices are to remain competitive and trendy designs created. The Modernisation of Industry programme has proved beneficial to industry and it is important for it to remain in force on an ongoing basis so that the facility will be available to manufacturers.

APPENDIX 1

BOUND COMBINATION & BASIS REPORT

25/01/2011

1/15	.1025
1/1	.125
3/15	.1675
1/4	.11
5/15	.3125
3/5	.375
7/15	.4375
1/3	.50
1/15	.5625
5/3	.625
11/15	.6875
3/4	.75
13/15	.8125
1/2	.875
14/15	.9375

<u>TEST</u>	<u>COMBINATION</u>	<u>BASIS WEIGHT</u>
104	25 - 25 - 25	.632
125	25 - 25 - 25	.632
150	25 - 25 - 35	.715
175	35 - 25 - 35	.799
200	35 - 25 - 35	.884
250	50 - 25 - 35	1.014
275	50 - 25 - 50	1.129
275 <i>Excluded</i>	50 - 35 - 50	1.312
300 <i>Excluded</i>	47 - 33 - 50	1.349
350	50 - 25 - 90	1.521
375 <i>Excluded</i>	35 - 25 - 25 - 25 - 35	1.250
375 <i>Excluded</i>	35 - 25 - 25 - 25 - 35	1.250
350 <i>Excluded</i>	35 - 25 - 35 - 25 - 35	1.333



- 17. Do you currently have a sales program? \_\_\_\_\_
- 18. What percentage of total sales is derived from overall sales production? \_\_\_\_\_
- 19. If no sales program is currently being used, do you intend to start one? \_\_\_\_\_
- 20. If yes

Year	Item	Quantity
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

- 21. Will you be increasing production of your product in the year \_\_\_\_\_?
- 22. If yes, state type \_\_\_\_\_
- 23. Did you employ any staff or employees through your Technical Department? \_\_\_\_\_
- 24. Based on your experience in the market, does your packaging require

- 41PP 1. White paper \_\_\_\_\_
- 2. Brown paper \_\_\_\_\_
- 3. Colored paper \_\_\_\_\_
- 4. Die cut \_\_\_\_\_
- 5. B flute \_\_\_\_\_
- 6. \_\_\_\_\_
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42. Are there any other factors that you would like to mention? \_\_\_\_\_ No

- 43. What is your present level of production? \_\_\_\_\_
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**POOR QUALITY ORIGINAL**

13. List other packaging services required: \_\_\_\_\_  
\_\_\_\_\_  
14. How other comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Interviewer: \_\_\_\_\_ Date: \_\_\_\_\_

**POOR QUALITY ORIGINAL**

# WEST INDIES PULP & PAPER LTD.

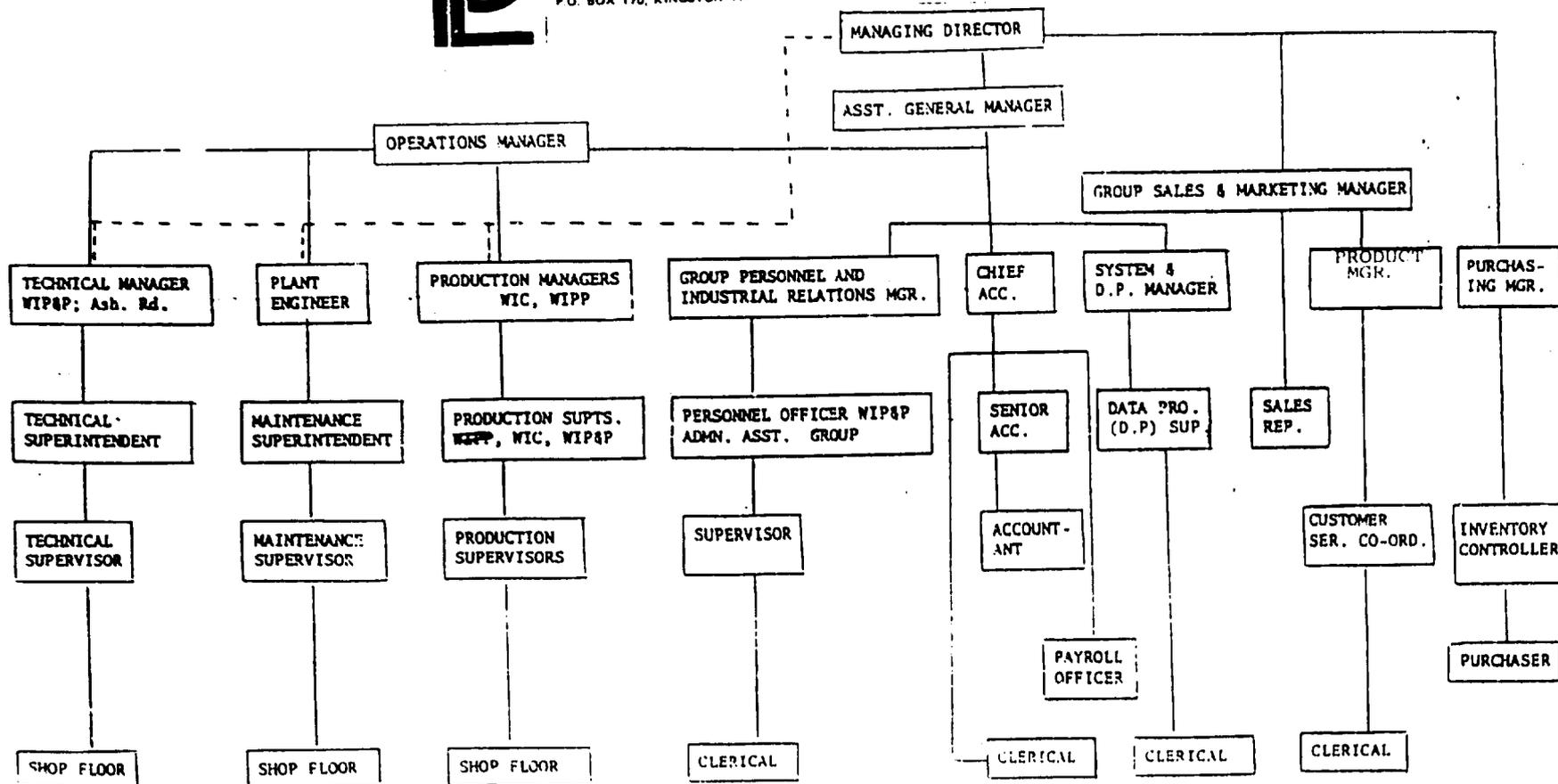
A MEMBER OF THE WEST INDIES PULP & PAPER GROUP OF COMPANIES  
Paper Mill - Free Town, Clarendon



Administrative Office:  
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P.O. BOX 170, KINGSTON 11.

Telephone: 926-7423-4, 926-4877  
Telex: PAPER0 2350  
Cable: PAPER00

APPENDIX III



N.B. .... Temporary Line of Supervision

21235

(2 of 2)



Management  
Options<sup>b</sup>

**UNDP/UNIDO PROJECT  
PROJECT # DP/JAM/94/002**

**VOLUME 2**

**TO STRENGTHEN THE COMPETITIVENESS  
OF THE JAMAICAN MANUFACTURING SECTOR**

Prepared for : United Nations Industrial Development Organisation (UNIDO)  
&  
Jamaica Promotions Corporation (JAMPRO)

Prepared by: Management Options Limited  
16 Norbrook Drive  
Kingston 8

August 1995

Contract No. 95/074/AV

**UNDP/UNIDO PROJECT TO STRENGTHEN  
THE COMPETITIVENESS OF  
THE JAMAICAN MANUFACTURING SECTOR**

**VOLUME 2**

**TABLE OF CONTENTS**

**SECTION 1**

COMPANY AUDIT OF NATIONAL PROCESSORS LIMITED

**SECTION 2**

COMPANY AUDIT OF LEADOR ALUMINIUM STEEL AND  
WOOD COMPANY LIMITED

**SECTION 3**

COMPANY AUDIT OF CASUAL DESIGNS LIMITED

**SECTION 4**

COMPANY AUDIT OF CARIBBEAN TOOLING LIMITED

**SECTION 5**

COMPANY AUDIT OF PLAS PAK LIMITED

**NATIONAL PROCESSORS LIMITED**  
**COMPANY AUDIT**

Prepared for: United Nations Industrial Development Organisation (UNIDO)  
&  
Jamaica Promotions Corporation (JAMPRO)

Prepared by: Management Options Limited  
16 Norbrock Drive  
Kingston 8

August 1995

# NATIONAL PROCESSORS LIMITED

## TABLE OF CONTENTS

	<u>Page #</u>
BACKGROUND	1
FINDINGS	
MARKETING	3
OPERATIONS	18
FINANCE AND CONTROL	41
ORGANISATION & MANAGEMENT	47
CONCLUSIONS	56
RECOMMENDATIONS	62

# COMPANY AUDIT OF NATIONAL PROCESSORS LIMITED

## INTRODUCTION

**National Processors Limited (NPL)**, a wholly owned subsidiary of the Grace Kennedy group, has been located at Temple Hall in Stony Hill, St. Andrew since its inception in 1972.

Originally established as a contract manufacturer under license for overseas principals, **National Processors Limited** concentrated at the outset on the production of personal care products. Branded products were introduced in the early 1980s, but those lines have been discontinued. The company no longer produces personal care products, as the company lost all its licensing agreements. The principals took their business to other Caribbean countries and elsewhere outside the region where the sourcing of products is more economical.

**NPL** was severely affected by the loss of these manufacturing contracts. The company continued for a while to produce personal care products for the local market, but they faced very severe competition from local manufacturers. This unfavourable climate led to a significant reduction in overall production and factory space utilization at the complex between 1989 and 1994.

The company entered the export market in the 1970s exporting to CARICOM only. Operations became profitable in the early 1980s and to date that decade has been the company's most successful period. The company then employed an average of seventy five (75) full-time employees and twenty five (25) seasonal workers.

NPL works closely with other members of the **Grace Kennedy** group and its two customers are **Grace Kennedy - Merchandise** and **Grace Kennedy - Export**. **Grace Kennedy - Merchandise** handles the distribution of products on the local market, while **Grace Kennedy - Export** handles the export market.

In the short term, the company's main objectives are to develop the **Fresh Start** range of products and reestablish the company as a profitable entity. In the long term, the company plans to concentrate on the production of dry pack products with a view to becoming the leading manufacturer of dry pack and other consumer goods in the region.

The company's mission statement reiterates its vision for continued growth and development:

To be the major light manufacturer of food and other consumer products for **Grace Kennedy**; To produce products of such high quality and standards as to satisfy customers' needs and expectations while realising the potential of all our employees.

## FINDINGS:

## MARKETING:

### SALES:

Below are the company's sales figures by product for 1993 and 1994 and the projected sales figures for 1995:

#### Sales of Dry Pack Products - Table M1

PRODUCT	SALES HISTORY		PROJECTED SALES
	1993 \$	1994 \$	1995 \$
Pre-sweetened Quench Aid	100,000	2,400,000	4,000,000
Fresh Start - orange	400,000	8,700,000	15,000,000
Quench Aid - regular	29,856,945	36,596,345	45,153,900
TOTAL	30,356,945	47,696,345	64,153,900

### PRODUCT MIX

NPL now has the following products on the market:

**Quench Aid**            Regular and Pre-sweetened

**Fresh Start**           Orange flavour

Pre-sweetened **Quench Aid** and **Fresh Start** orange flavour, were launched on the market in 1993 under the **Grace** brand name.

**Product Specifications - Table P1**

PRODUCTS	SIZE	TYPE OF PACKAGING
Quench Aid (Regular)	12 x 72	72 foil sachets in a display box; 12 display boxes per case
Fresh Start	48 x 137g	1 foil sachet inside an outer display box; 48 boxes per case

**NEW PRODUCTS:**

The local market is now demanding new and exciting **Quench Aid** flavours, similar to those being offered by competitors such as **Kool Aid**. **Fresh Start** fruit punch flavour is to be launched on the market in May, 1995 under the **Grace** label. The new product will be exported on a small scale, but initially Jamaica will be the main target market.

Response to product tastings has been very positive and it is expected that for the period May - December, 1995, sales will be in the region of 1,800 cases per month. A minimum increase of 10% is expected in the following year. The projected income from sales appears below:

**Projected Sales - Fresh Start - Fruit Punch for years 1995 and 1996 - Table P2**

PRODUCT	PROJECTED SALES	
	1995 \$	1996 \$
Fresh Start - fruit punch	7,500,000	12,400,000

The company has already identified dry pack soups as an item which they can produce and plans are underway to relocate to **NPL** the production operations of dry soups already being produced under the **Grace** label. No surveys have yet been conducted by **NPL** to

ascertain if there is a demand for any other product which they have the ability to produce. NPL is experiencing a fair degree of success with recently launched products.

### THE MARKET

#### Market Research

As distributor for NPL's products, Grace is responsible for market research. However, due to the wide range of products they distribute, NPL is not always able to get the data it needs to make critical decisions in areas such as marketing and product development. NPL has therefore recently become involved in conducting its own market research.

#### Sales Mix - Table P3:

PRODUCT	LOCAL	EXPORT
Quench Aid	68%	32%
Fresh Start	50%	50%

The main local market segments are supermarkets and wholesalers and the distribution patterns appear below:

#### Market Segments - Table P4

PRODUCT	MARKET SEGMENTS	
	SUPERMARKETS	WHOLESALEERS
Quench Aid	45%	55%
Fresh Start	55%	45%

Quench Aid is targeted at families primarily in the lower middle to upper middle income groups, with children ages 4 to 13 years. Fresh Start is targeted to children and teenagers aged 4 to 16 years in middle and upper income families.

**Quench Aid** and **Fresh Start** are both exported to CARICOM. Information on the export market segments was not readily available from **Grace Kennedy - Export**, which controls this end of the market.

### DESIGN DEVELOPMENT

The **Grace Technology Centre** is responsible for product design within the **Grace Kennedy** group and they are assisted in these projects by local design consultants. **NPL** uses the same packaging both locally and overseas.

Despite testings in-house during production, problems related to packaging design are usually discovered by customers after the product enters the market-place.

Feedback from the customers filters back to the company through:

- The Customer Service Department
- Wholesale and retail outlets
- Grace Kennedy - Merchandising
- Grace Kennedy - Export
- Market Surveys

The company reviews packaging/product design as needed and this is usually prompted by customer feedback or perceived or real loss in market share due to a competitor's superior packaging/product design.

**Grace Kennedy** is currently reviewing the design of two products. The packaging for Fresh Start is being modified, as customers have complained that the product is lost once placed on the shelf; the current design does not highlight the product and the packaging appeals very little to children who have a significant influence on sales.

New packaging will be designed for Quench Aid as a range of new flavours are soon to be introduced on the local market. The new design will be based on customer feedback which indicates that packages should not crush easily on shelf and colours should be bright and attractive.

### PRICING

The retail prices in supermarkets are NPL's only source of information on competitors' prices and their markups. NPL's normal markup is 10% and local market pricing is cost-based but market-driven, to some extent.

For the export market marginal costing is used as a base to determine prices and contribution to overheads is minimal. There is no set markup

Prices are normally reviewed following an increase in the cost of inputs. Frequent price changes occurred in 1993 due to the rampant inflation. Since then, price changes have occurred only once. Changes in prices are first communicated to **Grace** by telephone and this is later confirmed in writing.

## DISTRIBUTION

NPL's distribution is handled locally by **Grace Kennedy - Merchandising**, whose markup is 26 1/2%. This distributor has:

- Its own sales, merchandising and promotions force
- An efficient distribution network islandwide
- Retail outlets (**HiLo**) supermarkets, within the group.

Sales staff are paid directly by **Grace Kennedy - Merchandising** or **Grace Kennedy - Export** and they receive a basic salary plus incentives. As distributor, **Grace Kennedy** transports goods to customers in delivery trucks, and merchandising support for all **Grace** products is provided in-house. There are approximately one hundred merchandisers each covering one to five outlets depending on the size of the outlets for which they have responsibility. The frequency with which they visit the retail outlets varies from daily to once per week and depends on the size/location of the outlets. These merchandisers are either employed directly or on a contract basis by **Grace Kennedy - Merchandising**.

This current arrangement for local distribution has numerous advantages, namely:

1. **NPL** has to liaise with only one distributor and this simplifies the processes for placing orders, making deliveries and collections;
2. The entire process from production, to distribution is controlled by the same group, so both manufacturer and distributor are motivated to increase product sales. **NPL** therefore does not have to monitor the distributor as closely to ensure that every effort is being made to promote/sell its products.
3. **GK - Merchandising -**
  - Is a well established and experienced distributor with a reputation for good service
  - Offers the widest coverage islandwide.

- Has a large fleet of vans and trucks at its disposal.
- Distributes a wide range of other products

Given the reputation of this company, customers are usually willing to try new products. This can assist **NPL** in its development thrust over the next few years.

This system does however have some disadvantages, namely:

1. **NPL** does not have direct contact with the market;
2. Feedback from the market comes in second-hand, may take some time before it reaches **NPL** and may not be as detailed as **NPL** desires;
3. **Grace Kennedy** does not provide specialised treatment for **NPL**'s products in the market-place; monitor the competitors' products; conduct regular market surveys and provide **NPL** with the market intelligence needed to formulate plans to become the market leader.
4. Information on overseas distribution is not readily available through **Grace Kennedy** - **Export**, the company within the group which handles export.

### PROMOTIONS

**Grace** spends approximately \$4.5M annually on local advertising and promotions for **NPL**'s products. These promotional activities are either planned and carried out in-house or by an agency. Products are promoted locally through:

- Advertising
- Trade shows
- Word of mouth
- Point-of-purchase promotions such as sampling and tasting
- Posters on stands in outlets
- Billboards

- Consumer promotions such as radio contests

NPL considers trade promotions and radio contests to be the most effective form of local advertising because trade promotions encourage the larger wholesalers to stock the product and this leads to a broader distribution/mass market consumption. Also, radio contests, particularly riddles and other guessing games, have a strong appeal to the mass market, encourage product loyalty and establish the brand name among consumers.

Overseas promotions are mainly by word of mouth and through advertising funded by **Grace Export**.

## THE COMPETITION

### Market Share

NPL has limited market information as market research is the responsibility of their distributor, **Grace Kennedy - Merchandising**. However, this division is rarely able to provide them with the detailed information they need and NPL has therefore opted to start conducting its own market research though initially on a small scale.

Research recently conducted by the Quality Manager at NPL estimates the company's market share at 60%, but the accuracy of this figure is debatable as it was based on a review of citric acid imports, and this ingredient is widely used in other types of food processing.

**Market Share - Unsweetened Powdered Drink Mixes - Table M2**

PRODUCT	% SHARE OF MARKET (EST.)
Quench Aid	42%
Kool Aid	33%
Flavour Aid	25%
Total	100%

**Market Share - Sweetened Powdered Drink Mixes - Table M3**

PRODUCT	% SHARE OF MARKET
Tang	80%
Fresh Start	10%
Other	10%
Total	100%

### Information on Competitors

NPL gathers information on main competitors in the market on an on-going basis. This includes data on:

- Market share
- Price
- Quality
- Delivery capability
- New products
- Promotion activity
- Stock availability
- Consumer preference
- Packaging

The information is collected through Grace's seven (7) HiLo supermarkets islandwide and it is assumed that these trends are representative of the entire market. The data collected is analysed and used as a reference/guideline in:

- Modifying prices
- Analysing company's performance
- Product development strategies
- Establishing the company's position in the marketplace

Tables M4 and M5 which follow provide additional information on the strengths and weaknesses of competing brands and differences with competing products.

**Strengths and Weaknesses of Competing Brands - Table M4**

BRAND	STRENGTHS	WEAKNESSES
Flavour Aid	Relatively cheap Known brand	Mediocre flavour Packaging/advertising dated
Tang	Quality product Strong brand name Attractive packaging Strong advertising support	Inconsistent delivery One flavour
Kool Aid	International marketing support 3 flavours with outstanding taste and quality Own display stands Attractive packaging Strong, accepted brand name	Some mediocre flavours Inconsistent delivery Limited distribution

**Comparison of Quench Aid and Fresh Start with Competing Products - Table M5**

KEY AREAS	ADVANTAGES	DISADVANTAGES
PRICING	Quench Aid more economical than Kool Aid	
PACKAGING	Quench Aid packaging provides greater moisture barrier, so the product does not get hard	Quench Aid packets crush more easily on the shelf. Customers on the local market prefer existing colours used in competitors' packaging; Fresh Start is not very visible on the shelf as the packaging does not stand out
PRODUCT	Fresh Start is available in two flavours, whilst Tang is only available in one	
PROMOTION SUPPORT	Good support from Grace	
MARKET LEADER		Tang is market leader
DISTRIBUTION CAPABILITY	Extensive distribution network with high ratings in customers relations and well known and accepted brands; Very few stock-outs, whilst distribution arrangements for Tang and Kool Aid are less reliable	

Although the available data gives **Quench Aid** the edge as market leader for unsweetened powdered drink mixes, the figures are estimated. This highlights yet again the need for accurate market research. The recent launching of **Fresh Start - Fruit Punch** gives it the edge over its main competitor **Tang**, which offers only one flavour. In addition, the packaging for **Fresh Start** is being modified and through **Grace** delivery will be consistent, an area in which the competitor is weak.

### COMPANY RATING

Using as guidelines its current level of performance and the competition it faces, **NPL** rates its business activities as follows:

#### Company Ratings - Marketing - Table M6A

MARKETING:	EXCELLENT	GOOD	FAIR	POOR	UNSAT.
MARKET SHARE		x (Quench Aid)	x (Fresh Start, growing)		
PRODUCT QUALITY		x			
PRODUCT RANGE	x (Fresh Start)	x (Quench Aid)			
PACKAGING		x			
PRICING	x (Quench Aid)	x (Fresh Start)			
SALES FORCE	x				
DISTRIBUTION NETWORK	x				
WAREHOUSING		x			
DELIVERY CAPABILITY		x			
CUSTOMER SERVICE		x			
PROMOTION		N/A			
PUBLIC RELATIONS		N/A			

**Company Ratings - Operations, Financial, Administration, Management**  
**- Table M6B**

<b>OPERATIONS:</b>	<b>EXCELLENT</b>	<b>GOOD</b>	<b>FAIR</b>	<b>POOR</b>	<b>UNSAT.</b>
CAPACITY		x			
CAPACITY UTILISATION			x		
LOCATION		x			
STATE OF EQUIPMENT		x			
PRODUCTIVITY		x			
RAW MATERIALS		x			
SUPPLIERS	x				
QUALITY CONTROL	x				
LABOUR SKILLS		x			
LABOUR RELATIONS		x			
R & D		N/A *			
<b>FINANCIAL:</b>					
PROFITABILITY					x
CASH FLOW		x			
CASH RESERVES		N/A			
AVAILABILITY OF CREDIT		x			
OWNERSHIP	x				
<b>ADMINISTRATION:</b>					
ADMINISTRATIVE SKILLS	x				
OFFICE FACILITIES			x		
AUTOMATION			X		
<b>MANAGEMENT:</b>					
MANAGEMENT EXPERIENCE		x			
MANAGEMENT SKILLS		x			
MANAGEMENT TURNOVER		(nil)			
BOARD OF DIRECTORS		x			

\* Grade Technology Centre does Research and Development for NPL

The ratings show a fairly good self-assessment of NPL's current position. Most activities were rated "good". Particular areas of strength are product range of Fresh Start, pricing of Quench Aid, sales force, distribution network, supplier relationship, quality control,

ownership, administration skills and management experience and skills. Main areas of weakness are capacity utilisation, cash flow, office facilities and automation.

### CUSTOMER SERVICE

The **Grace Kennedy** group handles customer complaints and every effort is made to compensate the dissatisfied customer.

**NPL** itself receives very few customer complaints. **Quench Aid** is the product receiving the most complaints and this is usually due to a fault on the filler machine resulting in packages occasionally leaving the factory empty or below the specified net weight. As the complaints are sporadic, no specific pattern has emerged and there is no set policy for handling complaints in-house. The steps usually taken are outlined below:

1. The Quality Control Manager is informed of the problem;
2. He/she in turn informs the person(s)/section(s) involved;
3. The Quality Control department carries out investigative work to ascertain whether or not the complaint is valid;
4. Corrective action is taken if necessary.

Customer feedback is -

- Solicited through market surveys and tastings conducted by the **Grace Technology Centre** and **Grace Kitchens** prior to the launching of new products;
- Solicited on an ongoing basis through surveys carried out by **Grace Kennedy - Merchandising**;
- Filters back to **NPL** through salesmen and **HiLo**, the supermarket chain within the group.

However, this information is not always adequate and so NPL's management team has recently started conducting its own surveys on a quarterly basis.

### **GOVERNMENT REGULATIONS AND MARKET ACCESS**

The main government regulations which have an impact on the business are:

1. The Jamaican Standard Specification for Processed Food issued by the Bureau of Standards;
2. Health regulations which require each worker in plant to hold a valid Food Handler's Permit and
3. The Factories Act.

These regulations have a positive impact on overall operations as they enforce and reinforce the importance of a safe and clean work environment and healthy workers.

NPL does not currently benefit from any government incentives and their products do not qualify for preferential market access.

## OPERATIONS REVIEW:

### PRODUCTION FACILITY

The factory is located in Temple Hall, St. Andrew on over two (2) acres of land.

The production area occupies two buildings, one of which was originally dedicated to the production of cosmetics. The total production area is 20,000 sq. ft., 50% of which is now not being used, while the area available for warehousing is 30,000 sq. ft. The available storage space for raw materials, packaging materials and finished goods is also underutilized.

The company's average monthly production over the past three (3) years appears below:

**Average Monthly Production - Table O1:**

PRODUCT	1992	1993	1994
Quench Aid (regular)	200,744 kg.	171,302 kg.	182,056 kg.
Quench Aid (pre-sweetened)	Nil	66,516 kg.	33,441 kg.
Fresh Start - Orange	Nil	25,607 kg.	108,747 kg.

With the introduction pre-sweetened **Quench Aid** and **Fresh Start**, there has been a slight decrease in the production of **Quench Aid** regular, but this latter product will remain one of the company's main items. Of the two newer products, **Fresh Start** has made the greater impact on the market, and production for 1995 should exceed 1994 levels significantly. With the current under-utilisation of capacity, an increase in production will pose no problem and will be a positive step towards returning the company to a profitable position.

## PLANNING AND SCHEDULING

Production scheduling is the responsibility of the Operations Manager and a monthly schedule is prepared based on existing orders. The Senior Production Supervisor and the Maintenance Supervisor are provided with written monthly schedules which are reviewed and updated at meetings held approximately once per week. New goals are set once the previous week's actual production figures are analysed and compared to projections.

The supervisors, in turn, inform the line leaders verbally of the schedule and modifications as they occur. The line leaders pass on the information to the factory workers.

Factors which determine production scheduling are:

1. Orders
2. Production capacity
3. The available stock of finished goods
4. The delivery of raw materials ordered.

Factors which adversely affect production schedules are:

### 1. Staffing levels

Originally, most employees came from the area. However, 25% of these original employees have now purchased homes in Portmore. The lack of reliable transportation Portmore/Temple Hall affects the ability of some staff members to get to work on time and to work overtime.

### 2. Breakdown of equipment:

Most of the existing machinery is old and problematic and needs to be replaced. NPL is now addressing this problem.

### 3. Scheduled and unscheduled power cuts

The capacity of the stand-by power plant, which is unable to service the entire operation and run for extended periods means that some lines have to be closed down during power cuts.

### 4. Unavailability of raw materials

Most raw materials are imported and ordered just in time to meet scheduled production requirements. Unforeseen problems in the shipping process (e.g. inaccurate documentation) sometimes result in raw material shortages.

NPL has no direct contact with the sales department. The lead time given to customers for delivering orders is normally one month and in 90% of the cases the deadline is met. **Grace Kennedy - Merchandising** and **GK - Export** would only be contacted if a problem occurs which would affect the scheduled delivery dates.

## PRODUCTION LINE

### Plant Layout

#### Advantages:

- The plant has straight line layout which facilitates the achieving of production targets while using the minimum amount of space.
- The area around machines/work stations gives workers adequate space to move around.

Disadvantages:

- A few pieces of key equipment, installed on acquisition, make it difficult to reconfigure the line without major dislocation in the production flow.

The plant has adequate water storage facilities for general use.

The facility is also adequately equipped to manage waste as it was built on a series of soak-away pits.

Production space is currently under-utilized and a section is dedicated to the production of toothbrushes for **Addix Jamaica Limited**. This does not interfere with present production needs.

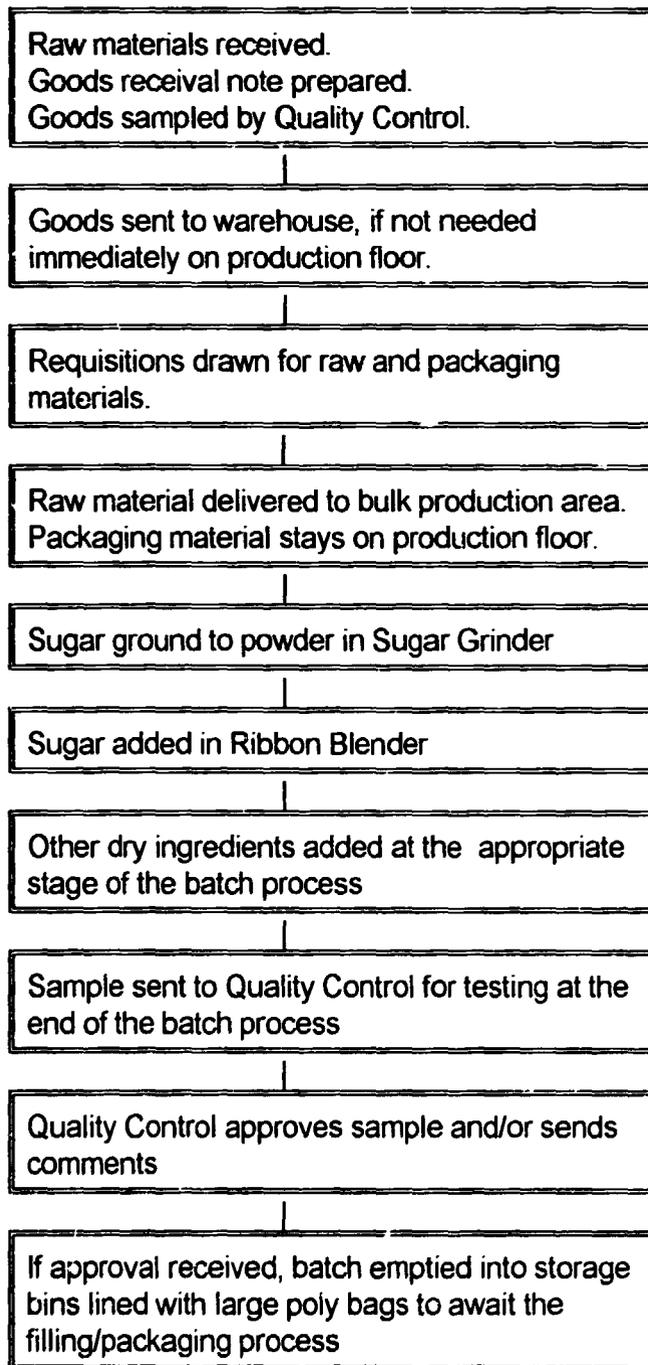
Workforce:

Workers were neatly dressed in full uniform and seemed focused on their jobs, but the level of efficiency among them seemed inconsistent. Those working quickly seemed to be assigned to jobs for which piece rates exist, e.g. packaging. Those moving at a slower pace were working on jobs for which there seemed to be no method or piece rate, e.g. making boxes. Others were monitoring machine-controlled functions.

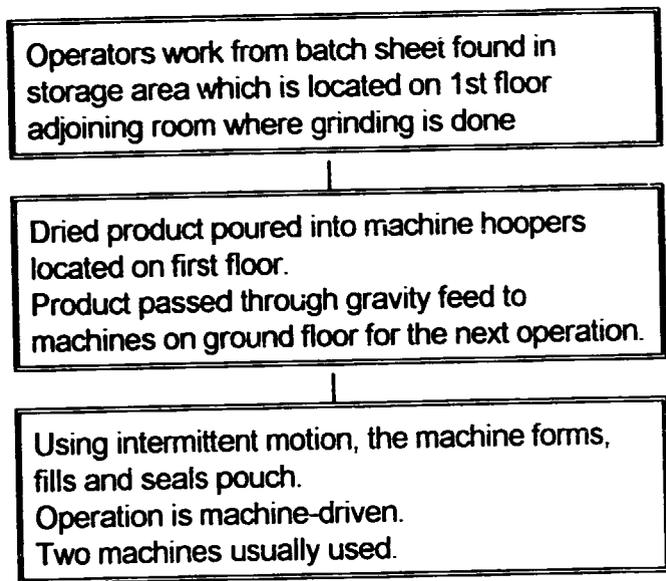
Supervisors present on the floor were not actively monitoring the activities of the workers as the workers appeared familiar with the duties assigned and work flow was smooth.

Production Process

The production process, from receipt through production to delivery, is similar for all items produced.



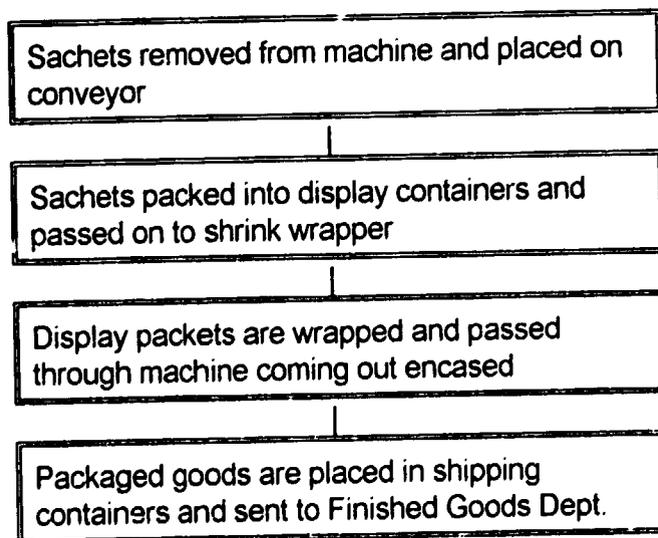
The filling process is as follows:



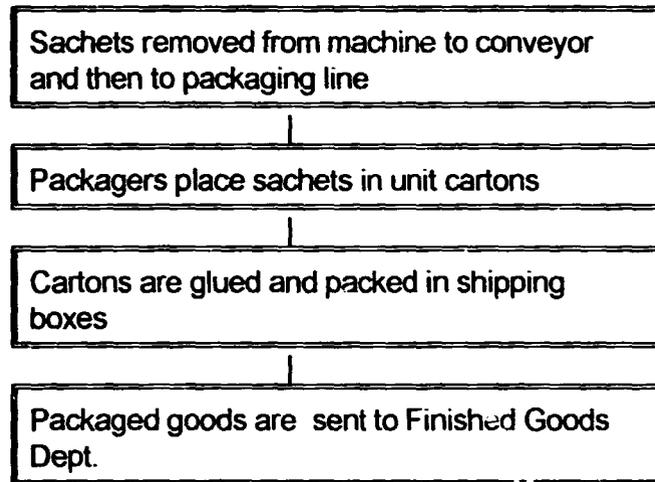
The packaging operations are for the most part manual and are fairly similar for all products. Depending on production requirements, there may be two line-driven packaging operations -

1. For pre-sweetened **Quench Aid**
2. For **Fresh Start**.

For pre-sweetened **Quench Aid** the process is as follows:



The process for packaging **Fresh Start** is as follows:



The third item, **7-gram Quench Aid**, is distributed with an assortment of eight flavours. The finished product is accumulated and packaging begins when all eight flavours are available.

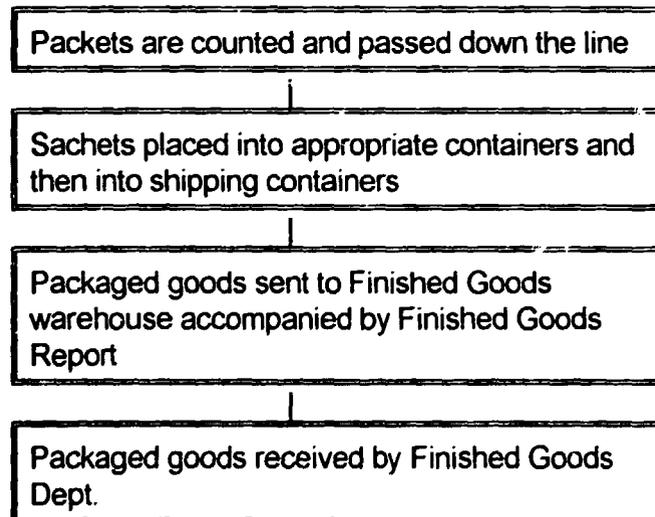


Chart No. 1 which follows, provides additional data on the production area/equipment used. This shows that most of the equipment is over 10 years old.

CHART NO. 1

PRODUCTION AREAS/EQUIPMENT USED

AREAS	EQUIPMENT USED		# WORKERS	NO. OF SUPERVISORY STAFF
	AGE (Yrs )	NAME/USAGE		
RAW MATERIAL or BULK PRODUCTION		<u>Fitzpatrick</u> Reduces sugar to powder	} }	} } One
	15 (Purchased as reconditioned)	<u>Winkworth Mixer with ribbon blender</u> Blends raw materials	} } }	} } } Senior
		<u>Stokes Mixer</u> Stand-by for Winkworth Mixer	} }	} }
	15	<u>Auto Sieve</u> Semi-automatic sieve for raw materials	} }	} } Production
FILLING	7	<u>Klockner Bartlet</u> Hoppers located in bulk storage area on 1st floor. Hoppers filled on 1st floor, gravity fed into machine set up on ground floor in cool, enclosed room. Printed paper on roll feeds into machine. Machine folds, forms, fills and seals.  Machine dedicated to the production of 7-gm. <u>Quench Aid</u>	} } } } } } } } } }	} } } } } } } } } Supervisor
	12	<u>Klockner Bartlet</u> Machine set up to produce different products in keeping with orders	} } } 2	} }

AREAS	EQUIPMENT USED		# WORKERS	NO OF SUPERVISORY STAFF
	AGE (Yrs )	NAME/USAGE		
PACKAGING	10 - 15	Machine set up to produce different products as required Shrink wraps Quench Aid (regular) packets	1	} } One
		Manual packaging operation for Quench Aid (regular)	15	} Production }
	2 - 3	<u>Burnley Packager</u> Shrink wraps pre-sweetened Quench Aid (Different method from Quench Aid - regular)	2	} } Supervisor }
		Manual packaging operation for pre-sweetened Quench Aid	6	}

## PRODUCTION CAPACITY

The packaging capacity on a single shift is as follows:

### Daily Capacity - Table O2

PRODUCT	GRAMS/PK.	CASES/DAY	SACHETS/CASES
Quench Aid (regular)	7	250	864 sachets
Quench Aid (Pre-sweetened)	125	300	48 sachets
Fresh Start	137	300	48 packs

The plant is capable of operating on a double shift. However, due to current needs, it operates a single shift which utilises approximately 45 - 50% of the plant's capacity. The under-utilization of capacity is due mainly to the lack of sales and limited product range. Plans are underway to correct this in the long term.

The key points regarding usage, capacity and cycle time of the main pieces of equipment used on the production lines are as follows:

#### Fitzpatrick

Usage: Grinds to powder one half of sugar used for each batch  
Capacity: Exact figures not available  
Two hours production daily adequate for current needs

#### Auto Sieve (semi-automatic)

Usage: Only fumaric acid is sieved and not all products have this ingredient  
Loading time: Less than 3 minutes required to fill hopper  
Cycle time: 5 - 7 minutes  
Capacity: Exact figures not available  
Two hours production daily adequate for current needs

Winkworth Mixer

Set-up/unloading time: 10 - 15 minutes to empty at end of cycle and all else determined by ingredients being added to batch

Cycle time: Approximately 30 - 45 minutes mixing time for all products

Capacity/batch: 230 kgs.

Batches/day: 8 batches (average) - 8 batches **Quench Aid (regular);**  
6 batches **Pre-sweetened Quench Aid and Fresh Start**

Annual Capacity: 460,000 kgs.

1994 production: 324,244 kgs.

Capacity utilisation: 70%

Klockner Bartlet

Set-up/unloading Time: Product dependent as machine may have to be cleaned and washed after a particular run

Cycle time: Not applicable as runs are continuous except for the lunch break

No. of Machines: Two machines in plant - newer machine dedicated to 7-gm. **Quench Aid** only; older machine used for all products

Annual Capacity:

Product - 7-gm Quench Aid:

Maximum daily capacity: 90 cases

Pre-set daily capacity  
(based on present production requirements): 75 cases

Total current capacity/7 1/2-hr. shift:  
864 sachets x 7-gms. x 75 cases  
= 453,600 gms. or 453.6 kgs.

Annual Capacity:	113,400 kgs.
1994 production:	182,056 kgs
Capacity Utilization:	100%

(Based on pre-set standards, machine working at full capacity and approximately 38% of current production completed on second machine or during overtime)

**Product - Pre-sweetened Quench Aid**

Maximum daily capacity:	350 cases
Pre-set daily capacity	
(based on present production requirements):	300 cases
Total current capacity/7 1/2-hr. shift:	
48 packs x 125-gms. x 300 cases	
= 1,800,000 gms. or 1,800 kgs.	
Annual Capacity:	450,000 kgs.
1994 production:	33,441 kgs.
Capacity Utilization:	7.4%

(The above is based on the pre-set standard).

**Product - Fresh Start**

Maximum daily capacity:	350 cases
Pre-set daily capacity	
(based on present production requirements):	300 cases
Total current capacity/7 1/2-hr. shift:	
48 packs x 125-gms. x 300 cases	
= 1,800,000 gms. or 1,800 kgs.	
Annual Capacity:	450,000 kgs
1994 production:	108,747 kgs.
Capacity Utilization:	24%

(The above is based on the pre-set standards)

Based on the 1994 production figures, the capacity utilisation of the older of the two Klockner Bartlett machines, used in the production of all three products, is as follows:

<b>Quench Aid - regular</b>	68,656 kgs.
(192,056 kgs. - 113,400 kgs.)	
<b>Quench Aid - pre-sweetened</b>	33,441 kgs.
<b>Fresh Start - orange</b>	108,747 kgs.
	-----
<b>Total annual production</b>	<b>210,844 kgs.</b>
	-----

Capacity utilisation (based on pre-set standard): 47%

Xrite and Burnley Packager

Dwell time: 1 - 5 seconds  
 May be adjusted depending on material being used

Capacity: Dependent on -  
 Package being wrapped  
 Efficiency and number of workers assigned

Line Balancing

Due to the nature of the production process, very little time is needed to balance the production line. The main measures used are:

- Shifting operators as required to different sections of the line. All operators are multi-skilled;
- Adding or removing employees from line depending on needs;
- Setting up a second line if necessary.

### Training

All members of the production staff have been cross-trained and can therefore work on more than one line and on more than one operation. On-the-job training is conducted in-house for new employees, and employees are sent on courses as required by their job. Supervisors gain their experience while working as operators and later receive additional training at the supervisory level.

### Equipment

The available equipment in-plant is adequate to meet production needs. Additional equipment is not needed to balance the production line. The packaging operation, which is currently mainly manual, could be automated at a future date to meet increased production. At the moment, such a move would not be cost effective.

Ninety per cent (90%) of the equipment maintenance personnel have received training by Klockner Bartlet, but require refresher courses. Most of the new equipment are biased towards electronics and there is no electronic technician on staff.

### Production Time

The plant operates for the most part one shift per day with 7 1/2 hours dedicated to production and a half hour lunch break. The production department works overtime on an average of three times per week. This is due mainly to machine breakdown and scheduled and unscheduled power cuts.

### Plans for Utilizing Excess Capacity

The unused section of the production floor, which faces the area where the bulk production process takes place, is now being refurbished and modified. The 2-floor section currently used in the production of dry fruit mixes will be duplicated in this area to facilitate the processing of dry soups mixes.

The processing operations for dry pack noodle soups which now takes place at Grace's canning plant concentrates on three flavours - Chicken, Fish and Cock - with Beef flavour being produced on a smaller scale. The equipment for these operations are scheduled to be removed to NPL by the end of April, 1995. In addition, new equipment has been ordered and should be in place by the end of July, 1995. The entire operation will be line-driven and packaging will be done from conveyors. The feasibility of having one packaging section for all products and automating the packaging line will be examined as part of the expansion process.

These plans are in keeping with the company's vision of becoming the region's leading manufacturer of dry pack products.

### PRODUCTION TECHNOLOGY

Standard operating procedures are in place and employees are authorised to interrupt a process when non-conformities or other problems occur. The procedures in place are now being documented in keeping with the requirements of the ISO 9000 programme.

The company keeps records of -

- Equipment idle time and reasons
- Equipment down-time and reasons

This information is analysed and used to improve the production process. However, prior to implementing engineering or process changes, the following steps are taken -

1. All affected departments discuss and agree upon changes
2. Affected personnel are duly informed
3. Changes to be made are recorded and dated.

Depending on the nature of the change to be made, the cost impact is sometimes estimated before approval is formally given.

The plant uses the following technologies -

- Machine Tools
- Production Planning and Inventory Control System
- Statistical Process Control.

## PURCHASING

Purchasing procedures and policies have been documented.

The plant has a centralised purchasing system which satisfies current company needs. Purchasing needs are assessed each month by reviewing orders and existing stock levels.

The computerised inventory control system which monitors stock levels gives reorder points for raw materials and raw material inventory status.

Prior to purchasing bulk raw material, the company reviews and analyses the pros and cons of -

- Volume discounts
- Risk of spoilage
- Quality of goods
- Inventory carrying costs
- Risk of deterioration of material
- Delivery capabilities of supplier

Depending on the type of material being purchased, the risk of theft is also considered.

The company experiences raw material shortages on a regular basis due to -

- Efforts to maintain a just-in-time inventory
- Customs related problems which increase time goods spend on docks.

In order to alleviate these problems, the following steps have been taken -

- Appropriate lead time built in when placing orders
- Discussions with Customs department re: importance of efficiency in clearing goods

- Suppliers have been briefed on the shipping documentation required for goods entering Jamaica

In order to minimise obsolescence of inventory and prevent overbuying, purchasing is informed of all engineering and material changes.

In order to minimise losses through scrap, the company -

1. Has a clear definition of scrap
2. Has scrap inspected by a manager before it is dumped
3. Reuses scrap where possible
4. Maintains a scrap inventory record.

NPL does not have a formal list of approved suppliers, but the company purchases regularly from about ten suppliers on whom they can rely for good quality, timely delivery and reasonable payment terms.

The company uses the following quality control measures as guidelines in purchasing and evaluating suppliers:

- Ascertaining delivery capabilities of suppliers before placing orders
- Taking into account supplier lead time when placing orders
- Providing suppliers with a clear definition of expected quality specifications
- Following up with suppliers to ensure that orders are delivered on schedule
- Evaluating the quality of raw material purchased
- Documenting supplier quality
- Assessing supplier performance periodically.

## AVAILABILITY OF INPUTS

Listed below are the main materials used in the production process and their main sources:

**Raw Material - Table O3**

RAW MATERIAL	SOURCE	LEAD TIME FOR ORDERING
Sugar	Local	2 weeks
Fumaric acid	Brazil (currently purchasing from local supplier who sources material in Brazil)	8 weeks
Flavours	U.S.A.	8 weeks

Listed below are the packaging materials used and their main sources

**Packaging Material - Table O4**

PACKAGING	SOURCE	LEAD TIME FOR ORDERING
Foil packaging	Germany	12 weeks
Cartons	Local	4 weeks
Shrink film	U.S.A.	8 weeks

The raw materials used are available all year round. The company is satisfied with the quality of raw materials and packaging being purchased and experiences no difficulty in sourcing them. However, in order to safeguard against problems normally associated with the sourcing of inputs, the company is also establishing links with alternate suppliers.

## COSTING

NPL maintains up-to-date files on:

- Standard costs
- Materials and equipment cost data
- Standard overhead rates
- Past project costs
- Current labour costs.

In establishing standards, the company's main objectives are cost reduction, inventory control, increasing efficiency and work simplification. Records are maintained to facilitate the modification of work standards as needed.

The company's total costs are distributed as follows:

**Cost distribution - Table O5**

COSTS	%
Raw Materials	38
Packaging	27
Labour	6
Plant Overheads Transport & Freight	12
Other	17
Total	100

Periodic checks are also made to evaluate actual operating costs and trends versus budget projections. A full costing of each product is prepared each month.

## QUALITY CONTROL

The Quality Manager has overall responsibility for quality control at NPL. This starts with random checks on incoming raw material and in conducting these tests, the Quality Department may seek assistance from any of the following institutions:

- Grace Kennedy Technology Laboratory
- The Bureau of Standards
- The University of the West Indies
- The Pesticide Laboratory.

When placing orders, suppliers are asked to provide a certificate of analysis.

Less than 1% of incoming raw material is found to be defective. However, should this increase, the following steps would be taken:

- Local Companies - Goods would be returned
- Foreign Companies - Company would be contacted and informed of findings, and asked how to dispose of raw material

During the production process, random spot checks are conducted. In addition quality is checked:

- At the end of the bulk making process
- At the end of other major sections
- At the beginning of a batch immediately after filling the hoppers to ensure that the feeding process is smooth and regular
- At the end of a batch just prior to a flavour change when the hoppers are almost empty.

Close monitoring of the process at the key points helps to minimise variations in weights of the packets filled.

At present, the ratio of Quality Control Officers to Production Workers is 2:40 and workers are expected to check the quality of goods produced at each operation they complete. The quality system relies heavily on problem prevention, detection and correction and the experience of workers.

Employees are familiarised with the company's quality standards by reading the section(s) of the quality manual relevant to their area, attending in-house quality training programmes and following instructions issued by their supervisor.

Training in quality control is a regular feature in the department and the two quality control technicians and the Quality Manager have participated in a number of courses over the past two years.

The Quality Control Manager is responsible for developing and upgrading quality control manuals for all products.

The Quality Control technicians prepare daily and monthly reports. Members of the Quality Department are familiar with and understand the statistical quality control techniques used in the reports and the department is now in the process of instituting Statistical Process Control (SPC). The company's quality objectives are measurable and all employees are aware of these. Quality records indicate that:

- 1% - 2% of work in process is rejected daily due to quality problems
- Quality problems have been increasing over the past six months owing to difficulties at the filling operation
- No finished goods have been returned due to quality problems.

There have been a few isolated consumer complaints. These are handled by **Grace Kitchens**. In plant, the relevant investigations are carried out and corrective action taken.

The company is in the process of putting in place the detailed documentation for ISO 9000 as it plans to implement the standards within the next two to three years.

## SECURITY

In order to secure stock -

1. Raw materials are stored in a designated area away from the production floor and requisitioned only when needed;
2. A Warehouse Supervisor has responsibility for the area;
3. Goods received are recorded on Goods Receipt Notes;
4. Goods issued on requisitions only;
5. Stock taking conducted monthly.

With the exception of sugar, the raw materials are not really considered a target for theft. Sugar is the only raw material for which there are recorded losses and this is less than 5% of stock annually. When losses occur, it is usually in the area of finished goods following a break-in.

Special security arrangements are in place for export shipments and these are handled directly by Grace Kennedy - Export where the containers are packed.

## HOUSEKEEPING AND MAINTENANCE

The production area is cleaned at the end of the work day or as required. There is also an ongoing cleaning/maintenance programme for:

- Maintenance of building
- Periodic cleaning of ceiling, windows and fans
- Regular maintenance of equipment
- Cleaning of storage areas
- Maintenance of plumbing fixtures
- Maintenance of electrical installations.

Once a year during the annual Christmas break, the entire plant is thoroughly cleaned and painted where necessary.

Maintenance is carried out during production time only if the equipment breaks down or if adjustments have to be made. Maintenance is planned based on frequency of use of equipment and is scheduled outside of normal production time, during slow production periods, when entire line is down and on weekends when possible.

The equipment seems to be well-maintained, but the actual records show that machine breakdown has caused the plant to lose up to 25% of available production hours. Since May, 1995, this has been reduced to 12 - 15% following training conducted by technicians from Bartlet.

The following preventive measures are in place to ensure safety of workers, equipment and building and promote healthy production practices:

- Selected staff trained in first-aid application
- Adequately stocked first-aid kits available
- Trainees use equipment only under supervision
- Fire extinguishers in place and checked regularly by local company contracted for that purpose
- Fire drill conducted periodically
- Signs in place in some of the areas where caution should be exercised
- Floors cleaned regularly to prevent slipping
- Protective clothing worn where applicable
- All employees wear protective shoes
- Emissions are controlled
- **Grace Kennedy** inspectors conduct monthly inspection
- Hazardous materials are securely stored and properly identified
- Adequate ventilation

The cleaning/maintenance programmes for the buildings and grounds appear to be effective as the production area was clean and odour-free and the buildings in good condition. The production/storage areas appeared well organised and walkways were free of obstruction and well-defined. All lines were not in operation, but the production process was running smoothly. The grounds are fairly well kept, free of garbage and appear clean.

## FINANCE AND CONTROL

The last set of audited accounts is dated 1994 and monthly financial statements are prepared on an ongoing basis. The company is financed through:

- Supplier credit
- Retained earnings
- A bank overdraft up to a \$1M limit
- Medium-term (5-year) loans.

In 1994, the company secured a \$1.6M loan through the Trafalgar Development Bank for a major project and they are planning to borrow \$8.5M this year.

Below are some key factors which indicate the company's financial status:

### Current Ratio - Table F1:

1993	1994
1.09	1.03

The current ratio is marginal. However, this is not of major concern as the company is part of a strong conglomerate.

### Inventory Turnover - Table F2:

Target	Actual
6	5 approximately

The company is not meeting its targeted inventory turn. Doing so will be difficult, bearing in mind that production is being affected by late receipt of raw material and packaging.

**Days Receivable - Table F3:**

Target	Actual
30	31

Days Receivable are easily controlled, as all receivables are internal to the Grace Kennedy group.

**Gross Margin - Table F4:**

GROSS MARGIN		
1992	1993	1994
31%	13%	15%

NPL has no access to data which would allow it to compare its performance to other companies in the sector.

**Net Profit Margin - Table F5:**

1992	1993	1994
+5%	+1.3%	-3.4%

Over the past three years, the company's declining performance can be attributed to:

- A shift in reliance due to the loss of principals;
- Adjusting to new thrust in manufacturing, namely producing own brands for **Grace**.

Although 1993 had a lower Gross Margin, its Net Profit Margin was higher than 1994. This suggests that overheads are increasing and are at a level which the company's sales cannot support.

## INFORMATION AND CONTROL SYSTEMS

Grace Kennedy has developed accounting manuals which are available to the entire group, but these are rarely consulted by staff in day-to-day operations. NPL is in the process of modifying these manuals for use in their company.

The existing accounting system is partially computerised. The Grace Kennedy group has an Internal Audit Department responsible for conducting audits at companies within the group. NPL has no area which it would classify as sensitive and employees are therefore not rotated.

Following are some of the Information and Control Systems:

- Books kept up-to-date and balanced monthly;
- Journal entries approved by Financial Controller and supported by substantiating documents;
- Insurance coverage reviewed annually;
- Monthly declaration made to insurance brokers of stock in-house;
- 30-day credit terms;
- Monthly stock count and reconciliation;
- Just-in-time ordering;
- Goods receipt notes utilised.

Accounts receivable are all due from Grace Kennedy. This simplifies the entire collection process and there is no need to monitor payments/approved limits for numerous customers.

### Employee Records (employment, overtime, absenteeism, leave):

Master files with employee records are kept at Grace Kennedy's head office. The company's Administrative Assistant keeps copies of these records. Below are the main employee related records:

- Leave forms to be completed and approved;
- Workers use time-cards to indicate time in/out;
- Overtime has to be approved;
- Vacation, sick leave and overtime worked appears on time-cards and computer records.

The entire operation closes at Christmas for annual vacation. This ensures that there are few disruptions during the year due personnel taking leave.

Budget:

A budget is prepared semi-annually and reviewed in-house mid-year by **NPL's** General Manager and the three Department Heads who provide the relevant data for their sections.

Budgeted expenditure is monitored through -

- Monthly reviews;
- Preparation of variance reports to explain the differences;
- Corrective action taken at the departmental level.

In preparing the budget the data used is historically based; and guidelines from **Grace Kennedy** regarding group changes, the foreign exchange rate and the inflation factor are incorporated.

NPL does not have any documented long term strategic business plan.

## AUTOMATION

Computerised data processing is used for general management and accounting records. NPL has IBM personal computers with Lotus 123 and a Word processing package. Staff receive basic computer training.

Though a recent assessment has not been done of the company's automation needs, the existing software packages are being reviewed with a view to upgrading/increasing the level of automation.

NPL has access to the main frame computer at **Grace Kennedy**, from which they are able to access information on stock levels three times per week. This networking system will be expanded in the long term, as **Grace Kennedy** plans to link all factories and offices within the group, so as to facilitate internal group communications. **NPL** has not conducted an assessment of its automation needs in all departments in the long term.

## ORGANISATION AND MANAGEMENT

### HUMAN RESOURCE MANAGEMENT

NPL now employs a total workforce of forty eight (48) full-time employees and ten (10) casual workers broken down as follows:

#### RECORD OF EMPLOYEES - Table H1

RECORD OF EMPLOYEES		
CATEGORY	FULL-TIME	PART-TIME
Managers	4	-
Technical Staff	5	-
Sales Staff	-	-
Supervisors	5 (2 Production, 2 Technical, 1 Warehouse)	-
Clerical/Secretarial	4	-
Production Workers	30	-
Casual Workers	-	10
TOTAL	48	10

Job descriptions are in place for all employees and the company's salary scale and fringe benefits compare favourably to other companies in the sector. Employee benefits offered by the company include:

- Uniforms
- Health Insurance
- Life Insurance

- Company sponsored training courses
- Meal allowance during overtime
- Incentives for achievement of excellence
- Subsidised lunch

As a general rule, the company's payment policy does not link pay and benefits to performance. However, all production lines attract incentives and these are based on exceeding set production targets.

Most employees have been with the company for over ten (10) years and the annual employee turnover is almost zero. This is probably due to the fact that a large percentage of the workforce comes from the area where job opportunities are few, and management/employee relations are fairly good.

Weekly paid workers are unionised, but this has not led recently to any disruption of work. The last strike was in the early 1980s.

Employees are aware of the procedures in place to air their grouses, request transfers and make suggestions. Exit interviews are conducted, though infrequently, as employees rarely leave.

The company keeps employee absentee records and employees are not paid for uncertified absences. On the whole, absenteeism is not a major problem and its cost to the company over the past year has been minimal.

The company has a pool of casual workers who are employed during peak production periods.

Below is the company's manpower needs over the next three (3) years based on plans for expansion:

**Manpower needs for 1996 - 1999 -Table H2**

CATEGORY	NUMBER
Managers	1 - 2
Technicians	2
Supervisors	2
Clerical/Secretarial	2
Production Workers	10

The company has a formal performance appraisal programme for monthly paid staff including top executives. These appraisals are conducted two to three times per year using measurable standards and specific pre-established goals. Company managers feel that the average employee does not have a negative response to performance evaluations, but considers it more paperwork. The company, on the other hand, uses the evaluation to:

- Counsel staff
- Determine employee training needs
- Improve staff/management communication
- Become aware of employees' inclinations and job goals
- Assist in calculating end-of-year incentive payments

A similar programme for weekly paid workers is likely to come on stream next year.

Personnel policies are periodically reviewed and evaluated with supervisors and management.

The company prefers to hire people and train them rather hiring trained people, who may have difficulty adapting to standards at NPL. It spends approximately J\$100,000.00 annually on local training.

Training is conducted through:

- On-the-job training
- An informal apprentice training programme
- Private courses and seminars (including JAMPRO and overseas)
- In-house seminars and courses

The company feels that it has received the best results from using a combination of the above training techniques.

### ORGANISATION

The company is controlled by a Board of Directors chaired by Professor Gordon Shirley, who is the only external member. Other members of the Board include:

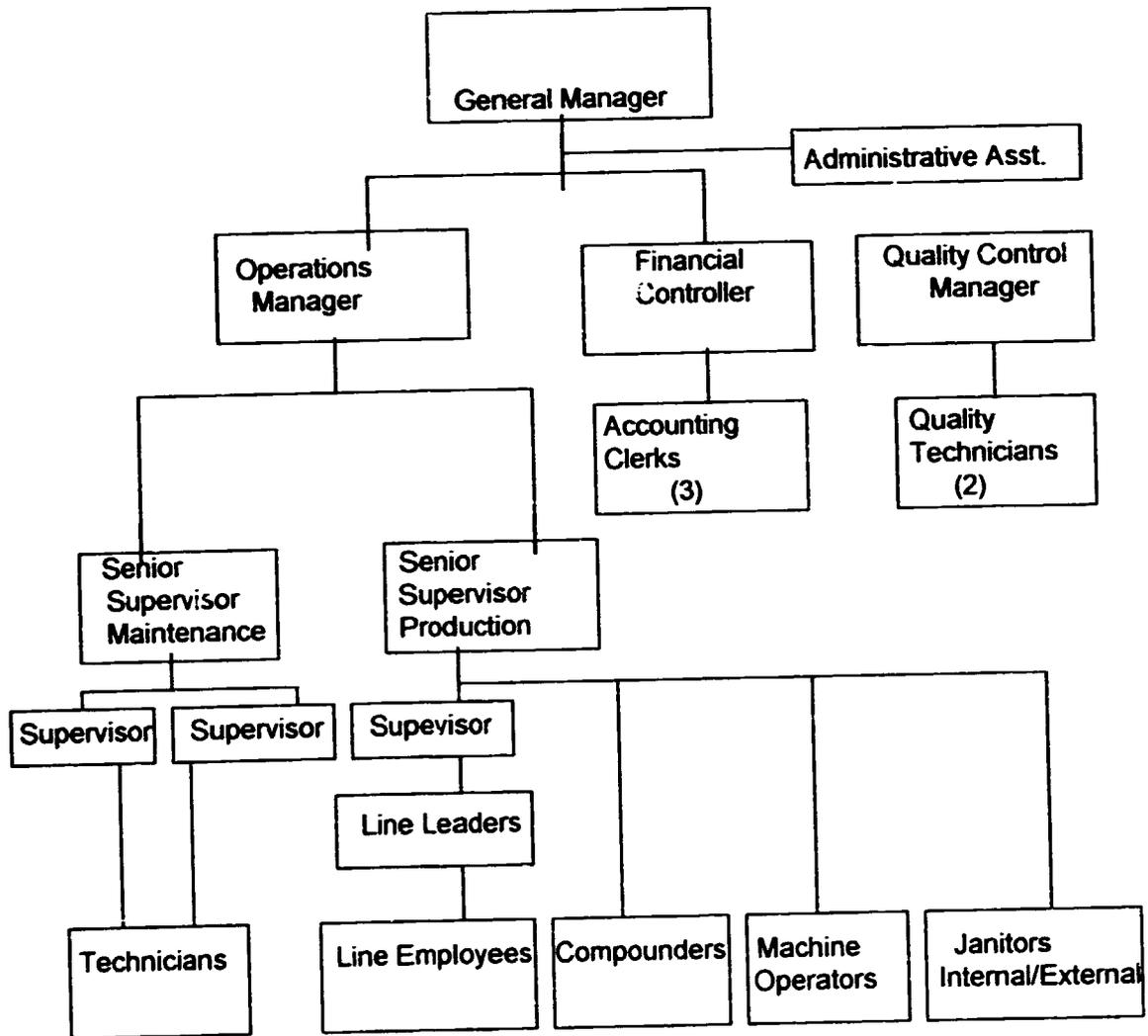
Phillip Alexander	Group Manufacturing Director
Earl Patrick	Group Marketing Manager
Anthony Wright	Product Category Manager (Merchandising)
Marlene Campbell	Managing Director
Michael Bridge	Director

NPL's Financial Controller and Operations Manager also attend Board meetings.

An organisational chart with clearly defines lines of authority does not exist for the entire company. A draft outline was prepared and this appears overleaf. However, each department has an organisational chart and the relevant section of the chart appears on

each job description. New employees are informed of the existing reporting relationships as part of their orientation.

# ORGANISATION STRUCTURE



## MANAGEMENT/EMPLOYEE COMMUNICATIONS

Key management decisions are made by NPL's management team following discussions and at the **Grace Kennedy** board level. The supervisory staff, production workers and other employees are then made aware of these developments or directives, but they are not involved in the decision making process.

The monthly staff meetings are an important vehicle for communicating with employees. The company's strategic goals are recorded and the relevant aspects are communicated to employees at these meetings. Also, employees are informed of the company's short-term goals such as objectives for the current month and the next six months and current orders/projects.

Department heads and supervisors receive regular feedback on the performance of their departments/sections at informal meetings, during supervisory meetings and following monthly evaluation of actual performance/projections. This feedback is usually verbal and is rarely passed on in writing.

Only the company's key employees are informed of the company's financial goals and position on a regular basis.

## SECTORAL COOPERATION AND NETWORKING

NPL is represented by the **Grace Kennedy** group in the following organisations:

The Private Sector Organisation of Jamaica (P.S.O.J.)

The Jamaica Exporters' Association (J.E.A.).

NPL is a member of the Jamaica Manufacturers' Association (J.M.A.) and sits on the Standards Committee of the Bureau of Standards.

NPL has established ties with other companies in the same field and the benefits derived can be summarised as follows:

**Network Benefits - Table H3**

BENEFITS	COMMENTS
LOANS	Borrows equipment Borrows raw materials (occasionally)
PERSONNEL	Shares maintenance personnel rarely

Companies in the sector still consider themselves competitors and do not share information or pursue joint marketing strategies.

## RELATIONSHIP WITH JAMPRO

The company is aware of the services provided by **JAMPRO**, participates extensively in **JAMPRO's** training programmes and has accessed services available at the **Design Centre**.

**NPL** is -

- Satisfied with the services offered by the training department and plans to continue using this facility;
- Will continue working with the **Design Centre**;
- Will pursue its interest in the **M.O.I.** programme so that the company can benefit from the available opportunities.

With regard to improving the services offered by **JAMPRO**, **NPL** feels that consideration should be given to:

- Developing the **Tool Makers Institute** with a view to making trained maintenance personnel more easily available;
- Offering training geared to familiarise technicians/maintenance personnel with the technology of the 21st century.

## CONCLUSIONS:

### MARKETING:

#### Market Knowledge:

Most of the marketing functions are handled by Grace Kennedy Merchandising and Grace Kennedy Export. There seems to be little communication with NPL on the market, as much of the information requested was not readily available at NPL and had to be accessed directly from Merchandising or Export. The company has therefore begun to inform itself through its own market research. Whilst NPL may not be directly involved in marketing decision-making, it is always useful for the manufacturer to fully understand the chain from production to consumer, the customers needs and requirements in the marketplace. This usually produces greater commitment to quality and focuses production and product development.

#### Market Share:

Quench Aid is the market leader in unsweetened powdered drink mixes, a position bolstered mainly by extensive distribution and competitive pricing. Fresh Start, being a relatively new product, has only 10% market share, but this should improve given the distribution capability and the weaknesses of the market leader, Tang.

#### New Products:

NPL is experiencing a fair degree of success with recently launched products, and seems to be responsive to competitive conditions in terms of developing new flavours and improving or redesigning packaging.

### Pricing:

Pricing is cost-based, with a standard 10% markup. There seems to be little regard to positioning in determining prices, as there does not seem to be a collaborative approach with Merchandising and Export to setting prices which maximise throughput whilst generating profits for NPL. Current prices are not adequate to generate profitability, as the company is in a negative position despite increasing gross margins. Also, the breakdown of costs reveals that non-plant overheads account for 17% of total costs, which is more than the standard 10% markup. This suggests that overhead recovery is inadequate and is not being monitored closely enough, and/or that market conditions cannot support any increases. If the latter is the case, then there are implications for cost control and reduction/elimination.

### Distribution:

NPL's local distribution system is a major competitive advantage, as it ensures the broadest possible reach and good merchandising. It enjoys the advantage of having its products distributed by companies within the same group which allows management to concentrate on production and production efficiencies. However, the company faces the disadvantages of -

- Working through a major distributor unable to give its products specialised attention on an ongoing basis
- Losing direct contact with the market
- Having less control over the data collection process in the market place

Whilst market research helps in this regard, it does not totally alleviate the problem in terms of the detailed information which can only come from day-to-day contact with the customer.

### Promotions:

Grace Kennedy also provides excellent promotional support in the form of advertising and in-store events.

### Customer Service:

There seems to be a good system in place at Grace Kennedy Merchandising and Export for handling customer complaints. However, it seems that not all information is communicated to NPL. This is important for NPL to improve quality. NPL's own efforts to regularly conduct customer surveys is laudable, but should really be a function of the distributor.

## OPERATIONS:

### Plant Layout:

The plant is well laid-out, spacious, and has adequate back-up in terms of water storage. However, the standby facilities for power generation are inadequate, resulting in production halting when there are cuts in the public power supply.

### Capacity Utilisation:

The plant is under-utilized in terms of space and equipment, using only 50% of the available space, and 45% to 50% of equipment capacity on a single shift basis. The former is being addressed by the relocation of the dry soup mix plant from Grace Canning to NPL. The latter can only be addressed by increased sales of current products and/or the development of new products.

### Production Scheduling:

Planning and scheduling seem to be carried out with a short term horizon i.e. schedules are based on existing orders, with little communication with sales personnel about pending/projected orders. The fact that the plant is operating at low capacity utilisation, yet runs overtime 3 times per week suggests that planning and scheduling need improvement.

Also, meeting delivery schedules 90% of the time is unacceptable.

Communication of production schedules is also an area of weakness - it is largely verbal, and passes through at least 4 levels, creating opportunities for misinformation and/or misinterpretation.

The management does not have an accurate fix on the capacity of major pieces of equipment, in particular, the Fitzpatrick and the Auto Sieve. Without this, it is impossible to properly plan production and expansion. Also, the utilisation of the Klockner Bartlett machines is unbalanced, with one running overtime, and the other at 31.4%.

#### Maintenance:

Another factor affecting production is the high level of machine downtime due to equipment breakdowns, unscheduled maintenance and power cuts. This suggests that the maintenance programme is reactive rather than preventive, and is not properly scheduled. Machine downtime has led to an increase in costs as production hours lost lead automatically to overtime. The main problem seems to be that the technicians are not adequately trained to repair the Bartlett machines. The training held in May 1995 was effective and has resulted in machine downtime being reduced significantly to between 12% to 15%. This is still too high.

#### Training:

Workers seem to be adequately utilised during normal production periods. The emphasis on cross-training and flexibility facilitates this. Training is mainly on-the-job. However, there is need for regular refresher courses and for training to keep staff abreast with the needs of new technology.

#### Purchasing:

The purchasing procedures in place seem to be fairly effective, except that it does not allow enough lead time for ordering imported materials. This has led to regular shortages. In order to support the concept of maintaining a just-in-time inventory, the company made a good decision to work closely with the Customs Departments and to brief their suppliers on

shipping documentation requirements for goods entering Jamaica. This should alleviate the raw material shortages.

#### Quality Control:

The work of the Quality Control department appears to be effective, judging from the relatively low level of returns. Most quality problems seem to stem from problems with a single machine.

The planned implementation of the ISO 9000 standards will serve to strengthen the department and prepare the company for meeting international competition. This is facilitated by the support received from the Grace Technology Centre.

### FINANCE AND CONTROL:

NPL's accounts are up-to-date. Analysis shows an a weak financial status and unfavourable profit position. However, this is less of a concern for viability, as the company is part of a strong conglomerate.

#### Information & Control:

The information and control systems in place are adequate as the company is guided by those which already exist within the Grace Kennedy group. Of concern is that manuals are rarely consulted by staff, so that one is not sure whether the procedures are actually being followed. Plans for automation are far advanced, and are also being driven by group efforts.

Whilst management prepares a budget semi-annually, and therefore is forced to think about future developments and their impact on the organisation, a long term business plan has not been developed and documented. This would force a long term view of the company within its competitive environment and guide the management in the development of growth strategies.

## ORGANISATION AND MANAGEMENT:

### Human Resource Management:

The company's human resource management is in good order as evidenced by the very low turnover and absenteeism, and the absence of industrial unrest. No doubt, the existence of good personnel policies which include job descriptions for all posts, good employee benefits, incentives, formal performance appraisal system and support for training has contributed to the stable climate. It must be noted that incentives are based on group production targets rather than on individual effort.

### Board of Directors:

The company's Board is made up primarily of directors who work at Grace, with only the Chairman being external. There is a good mix of production and marketing skills on the board, which should be useful in making the company more market driven.

### Management/Employee Communication:

Much of the communication between management and employee is verbal. Whilst this facilitates interaction and feedback, it can lead to confusion and misinterpretation. The monthly staff meetings with all staff are an excellent feature, as management discusses immediate and future prospects of the company.

## INTERACTION WITH JAMPRO:

NPL interacts with JAMPRO mainly for training and design services, and is satisfied with the services given. They express a desire for more technical training to be provided, particularly in the area of maintenance. The company does not use JAMPRO's marketing services, as marketing is carried out by other companies in the group.

## RECOMMENDATIONS:

The main problem facing NPL is the vast underutilisation of capacity in terms of plant and equipment. This results in the company not generating enough income to cover overheads, and therefore a lack of profitability. The recommendations therefore focus at various ways of increasing throughput and increasing efficiency.

### MARKETING

#### Market Information:

In placing greater emphasis on market research, NPL needs to ensure that departments assigned to projects are adequately staffed. Options to be explored include -

- Discussing with Grace Merchandising and Export the inefficiencies in the current system and requesting that an expert in the group's marketing department be assigned to NPL's market research projects (even on a part-time basis). This can be facilitated by the presence of the Group Marketing Manager and the Product Manager on the Board.
- Creating a small marketing department at NPL. However, this will increase costs and could result in duplication of functions performed by the distributor.
- Liaising closely with JAMPRO in order to secure information on the relevant local and overseas markets on a regular basis. This source will become even more vital once JAMPRO links with Internet. This link with JAMPRO will facilitate the collection of data, the analysis of which will play a pivotal role in guiding the development of plans for the proposed expansion.

Research projects should include:

- Market surveys in order to identify other products in demand which could be produced by NPL;
- Regular feedback from customers regarding existing products - say, through focus groups;
- Survey of market share for each products, and competitive analysis.

#### Design Development:

**Grace Technology Centre** is responsible for design within the group. However, since NPL is charged with the responsibility for implementing packaging changes, they should also maintain and seek to strengthen ties with **JAMPRO's Design Centre** as this will provide easy access to a wide range of local designers and visiting consultants in the field; international trends in the field of design; and specialists able to provide an objective and market-sensitive critique of designs developed in-house.

NPL should test the effectiveness of working with both Centres by using this approach when developing the new labels for **Quench Aid** and seek the **Design Centre's** input before finalizing the modified packaging for **Fresh Start**.

#### The Competition

NPL's goal over the next two to three years should be to make significant gains in the market share for sweetened powdered drink mixes. The recent launching of **Fresh Start - Fruit Punch** gives it the edge over its main competitor **Tang**, which offers only one flavour. The company should treat plans for package modification as priority in order to really compete with **Tang** and to satisfy consumer preferences. If over the next year, market response to the two existing flavours is consistently positive and projected targets are met, NPL should move on to the next phase, the launching of a third flavour.

### New Products:

It is in NPL's interest to become proactive in the development of new products in order to maximise capacity utilisation. The company should therefore consider the following:

#### 1. Dry Pack Soup Mixes

The production of dry soup mixes will soon be a part of the plant's regular production. In seeking to increase the market share in this range of products, consideration should be given to:

- a) The introduction of some of the traditional Jamaican soups not currently available on a large scale on the market such as pumpkin soup, pepperpot soup and mannish water. This thrust would satisfy not only the needs of those who prefer Jamaican flavours, but it would also place a dry pack vegetable soup on the market and set the stage for export into the ethnic markets overseas.
- b) Conducting surveys to determine consumer preference and needs as regards:
  - Type of noodles preferred in terms of size, colour and shape;
  - Taste - in particular use of salt and spices for the local and overseas markets; special soups or broths for diabetics, dieters and the fast growing health foods market;
  - The demand for one-minute soups/broths which could be made available in office or school canteens as lunch options.

#### 2. Dry Pack Fruit Drink Mixes

In seeking to increase the market share in dry pack fruit mixes, **Grace** should consider introducing some of the popular tropical flavours not yet on the market. Some of the flavours which could be considered are soursop, carrot, tamarind, otaheite apple and June plum.

Market surveys and tastings would determine consumer preference. Should these new flavours gain popularity on the market, it would make it easier to increase **NPL's** market

share, as few of the competitors offer these flavours. These tropical drink mixes would also be well suited for the overseas ethnic markets.

Two disadvantages which would have to be considered when making the final decision are:

- The seasonality of the fruits and the resulting implications for year-round production;
- The lack of orchards which could pose difficulties in sourcing.

#### Pricing:

The management needs to reexamine its markup, as the current 10% is inadequate to cover overheads. They may find however, that the market is unable to bear any or sufficient increased costs. Along with Grace Merchandising and Export, the company should examine the issue of positioning in its pricing strategy; determine price points which maximise sales and calculate back to the ex factory price.

#### Communication:

NPL needs to establish systems to ensure that information from the market is collected by Grace Merchandising and fed back to the company. This may be as informal as a monthly meeting, or may be regular reports from the sales representatives and merchandisers in the field.

### OPERATIONS

#### Standby Power:

The management should examine the feasibility of installing standby power facilities which can keep key equipment running during power cuts. This should reduce equipment downtime, production hours lost, and overtime.

### Transportation for Staff:

Prior to implementing expansion plans, the company should examine the impact which the lack of reliable transportation is having on staffing levels and in turn, on output to determine whether or not a company bus would be a wise investment. This added staff facility would facilitate staff resident in the Portmore area and alleviate the problem being experienced with staffing levels which will become more evident as the company pursues its long-term goals.

### Upgrading Equipment and Automation

NPL should actively pursue their plans to upgrade equipment and increase automation as this will reduce the production time lost due to machine breakdown. To accelerate this process, the company should follow up with **JAMPRO** regarding participation in the Modernization of Industry Programme and the benefits to be derived.

The management also needs to set specific deadlines for implementing developments already being discussed by NPL's management team, such as:

- Moving to a semi-automated packaging line, once production increases
- The feasibility of maintaining one single packaging line for both the dry fruit and the dry soup mixes;
- Attaching retrofits to some of the Klockner Bartlets to reduce manual operations.

However, in order for such upgrading and automation to achieve results, there must be adequate support in terms of trained maintenance personnel and the implementation of a preventive maintenance programme.

### Plant Capacity:

The capacity of each piece of equipment must be calculated. Without this, it is impossible to properly schedule production and plan for capital investment.

### Scheduling and Internal Communications

A proper system of scheduling needs to be put in place to ensure that overtime is minimised and delivery schedules met. This will involve close communication with sales personnel about projected orders and trends. This will also assist in purchasing of raw materials.

In order to improve communications within the production section, the monthly schedule should be posted on a notice board in the factory and updated as required. This measure would keep workers informed of targets on an ongoing basis and minimise errors.

### Maintenance

In order to reduce overtime and increase the effectiveness of the equipment maintenance programme, the company train technicians and monitor closely the available records for machine down-time. A preventive maintenance programme should be implemented which would include scheduled maintenance outside of production hours.

### Purchasing:

The relevant personnel in-house should follow up on the steps taken by the company to eliminate the recurrent problem of raw material shortages in order to ensure that they are effective. These include:

- Adhering to lead times established for placing orders
- Liaising with Customs re clearance of goods as required
- Briefing suppliers as necessary re shipping documentation
- Establishing links with alternate suppliers

Whilst the company tries to minimise inventory by just-in-time methods, it must balance the cost of carrying inventory against the cost of lost production due to raw material shortages. These can and should be calculated and analysed, and adjustments to lead time made if necessary.

## FINANCE AND CONTROL

### Overheads:

The company needs to examine its overheads with a view to eliminating or reducing some of them. This is necessary as the 10% markup for overheads is inadequate, and the market may be able to absorb any/much increases in price.

### Accounting Manual:

A deadline should be set for the completion on NPL's accounting manual as it is company specific and will prove invaluable when new employees join the accounting department and when the ISO 9000 is being implemented.

### Automation:

NPL needs to conduct an assessment of its automation needs in all departments to ensure that the new systems adequately address the company's needs.

### Long-term Planning:

NPL should prepare a business plan describing the company's long-term goals and planned objectives and strategies over the next 5 to 10 years and a detailed implementation plan outlining steps to be followed monthly in order to achieve the planned objectives. This will cover areas such as market research, product development, staff development, quality management, training and preparation of documentation related to ISO 9000, expansion of markets, equipment upgrading and acquisition, automation.

This plan should be closely monitored on a monthly basis by the management team and revised twice yearly. Broken down into achievable monthly goals, the project will seem more realistic and could act as a motivating force for the entire staff.

## ORGANISATION AND MANAGEMENT

### Productivity Schemes

Operations in plant should be examined with a view to putting in place productivity schemes which motivate workers and ensure that above average performers are adequately rewarded. This will lead in the long term to increased levels of efficiency and production. The Quality Control Department must be adequately staffed in preparation for this phase, as at the outset, technicians will have to maintain a stronger presence on the floor so as to ensure that the quality of outputs is not affected.

### Performance Appraisal Programme:

A deadline should be set for the introduction of the performance appraisal programme for weekly paid workers. Prior to introduction, workers must have a clear understanding of the objectives of this programme, which could be introduced in conjunction with the productivity schemes. This will require a number of training sessions to explain the process.

### Training

In keeping with plans to upgrade equipment and increase automation, the maintenance staff should receive the necessary training in electronics, while production staff should become computer literate and be familiarised as much as possible with computerised systems to be introduced well in advance of the implementation phase.

Adequate funding must also be included in the budget for the training of technicians overseas. This is already a priority and will become increasingly important as the plant acquires new equipment.

### Management/Employee Communications

Feedback to department heads and supervisors should be in writing, preferably in the form of a report or summary covering the period under review. These reports/summaries would be discussed and interpreted at department meetings. This exercise would give these

members of staff a clearer understanding of the company's global objectives, departmental inter-dependence, forecasting and the need to take corrective action. This sort of exercise also provides solid training for new supervisors and trainee managers.

#### Personnel Manager/Officer

As the workforce increases, NPL will have to determine when a Personnel Manager/Officer should be brought on stream to administer personnel related matters and training.

#### Organisational Chart

The company needs to prepare an organisational chart which outlines reporting relationships for all departments/positions. This should be posted in an area where it is easily accessible to all employees.

#### Working Environment

The grounds are fairly well-kept. However, landscaping the area surrounding the plant would give NPL a facelift and make the entire working environment more pleasant and attractive.

## RECOMMENDATIONS TO JAMPRO

### Technical Training

JAMPRO should upgrade the services offered by the Tool Makers' Institute. In addition they should -

- a) Conduct a survey among local manufacturers to identify the type of equipment they use and the pieces which prove most problematic to maintain in good working order;
- b) Establish links with specific overseas equipment suppliers, based on the information coming out of the survey, and arrange for their technicians to conduct workshops in Jamaica on an ongoing basis. Some of these companies could be asked to co-sponsor the workshops which could be viewed as indirect promotions;
- c) Approach a reputable local training institution informing them of the need in industry for skilled technicians/maintenance personnel trained to work with state-of-the-art electronic equipment. This institution would work closely with the visiting technicians and would be encouraged to develop certificate and/or diploma programmes in this field;
- d) Establish a data bank of local technicians/maintenance personnel and encourage them to participate in an ongoing skills upgrading programme geared to expose them to the technology of the 21st century;
- e) Involve all interested factories in the programme arranging for the visiting technicians to work in-house alongside their maintenance personnel.

This programme would be geared to develop a cadre of technical personnel with expertise in the repair and maintenance of specific types of electronic equipment and the high cost of training maintenance personnel overseas would be significantly reduced.

### Industrial Engineering:

NPL may require the assistance of JAMPRO in:

- a) Calculating plant and equipment capacity

b) The development of an effective production scheduling system

Market Information:

NPL may also require JAMPRO's assistance in researching the local and overseas markets.

Design Services:

NPL may require the services of the Design Centre in terms of information about packaging trends, and the availability and expertise of local designers.

**LEADOR ALUMINIUM STEEL  
AND WOOD COMPANY LIMITED**

**COMPANY AUDIT**

Prepared for: United Nations Industrial Development Organisation (UNIDO)  
&  
Jamaica Promotions Corporation (JAMPRO)

Prepared by: Management Options Limited  
16 Norbrook Drive  
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August 1995

# LEADOR ALUMINIUM, STEEL AND WOOD COMPANY

## TABLE OF CONTENTS

	Page #
BACKGROUND	1
FINDINGS	
MARKETING	2
OPERATIONS	7
FINANCE AND CONTROL	19
ORGANISATION & MANAGEMENT	20
CONCLUSIONS	24
RECOMMENDATIONS	29
APPENDIX A	34

**COMPANY AUDIT OF**  
**LEADOR ALUMINUM, STEEL AND WOOD**  
**COMPANY LIMITED**  
**BACKGROUND**

Leador Aluminum, Steel and Wood Company started operation in early 1969 manufacturing aluminum dinette sets and living room suites. The company was started by Mr. Pitts who died six months after, leaving Mrs. Pitts to continue operations. The company was originally located on Lyndhurst Road and moved in September 1969 to its present premises on Cassia Park Road.

The current owners are the Managing Director, Mrs. Pitts, and her brother. The management team consists of the General Manager and the Managing Director.

Leador Aluminum, Steel and Wood Company no longer works with aluminum or steel. The company produces wooden furniture. However since the company was originally registered as such, the name has not been changed.

The company does not have a formal mission statement, however the management agrees that the company operates on the philosophy:

**“To strive for growth and development and significant contribution to the country by producing high quality furniture for both local and export markets”**

Leador Marketing is affiliated to Leador Aluminum and was established in 1979 for the sole purpose of marketing products made by Leador Aluminum. Both companies are owned and operated by the same parties.

## FINDINGS

### MARKETING:

#### SALES:

Information on sales levels was not made available. However, 99% of sales are made on the local market, with the balance being exported to Trinidad. All sales are to large furniture retailers, commonly known in the trade as dealers.

#### PRODUCT MIX AND BRAND NAME:

Product mix consists of various styles of the following, which are targeted to specific markets (a more detailed listing is in Appendix A):

#### LIST OF PRODUCTS - Table M1

<b>PRODUCT</b>	<b>STYLE</b>	<b>TARGET MARKET</b>
Dining sets	Banquet dining sets	Upper middle income households
	Elegance dining set	Middle Income households
Bedroom Set	Duke Bedroom Set	Lower middle income
	Majestic Bedroom Set	Upper and upper middle income households
	Lady D Bedroom Set	Middle & Upper middle income
Breakfronts	Elegance breakfront	Local households, all income levels
	Carlton breakfront (2 styles)	Local households, all income levels
Whatnots	H-shaped (2 styles)	Local & overseas market (all income levels)
	L-shaped	Local & overseas markets (all income levels)
	Elegance (3 styles)	Trinidad, all income levels
Upholstered living room sets	Stewarts (4 piece)	All households
	Elizabethan (3 piece)	All households

A dining room set consists of a table and chairs, and a bedroom set consists of a dresser, chest of drawers and night table.

No new products have been launched in the past 3 years, but products are regularly upgraded in terms of design. The company is considering launching wardrobes as a new product in the local market, has made samples, but needs to carry out more research.

### DESIGN DEVELOPMENT AND PACKAGING

The company designs its own products. Changes in packaging and product designs are stimulated by feedback from dealers, customers and workers, and are made after consultation with them. For example, the concept of exporting to Trinidad, and the type of product to be marketed there was developed with Courts. Design-related problems are usually discovered during production and corrected before sale.

Foam is used to package products for both local and export markets. Corrugated paper and boxes are also used for the latter. Packaging is solely for the protection of furniture to ensure that there is no damage in transit.

### PRICING

The policy for local market pricing is a hybrid of cost-based and market driven and the policy for exports is cost-based. The normal mark-up used for costing purposes for both the local and export market is 25%. The company offers volume discounts to its main dealers. Standard dealer mark-up on products is 66%.

The company has little information on competitors prices, and whatever it does have is gleaned by observations of competitors products sold by dealers. It has no information on competitors mark-up.

Normally the company reviews prices twice per year. However, this policy has been changed over the last six months and prices are reviewed monthly because of the constant changes in the cost of raw materials - suppliers prices may change as often as weekly. Prices have been changed five times within the last three years. Changes in prices are discussed and negotiated with dealers and final pricing decisions are confirmed in writing.

### PROMOTION

In the furniture trade, promotions to the end consumer are carried out at the retail level by the dealers. They advertise products but not brand names. Discounts are given to the larger dealers for use in promotions.

Products are promoted locally and overseas to dealers by direct selling and participation in trade shows which also exposes the company's products to the end consumer. Dealers are sometimes invited to tour the factory so that they can satisfy themselves of the company's quality.

### DISTRIBUTION

99% of the company's products are marketed locally. The company has been exporting to Courts in Trinidad since 1992.

The Managing Director and General Manager carry out the sales function, visiting the 8 dealers to whom they sell at least once per month. Goods are delivered by the company truck.

The advantages of the present distribution system are control of storage space, special care in delivery and few customers which makes it easier to monitor receivables. The disadvantage of the system is the cost of delivery which is borne by the company.

The company ships directly to its customer overseas with the assistance of Jamaica Export and Trading Company (JETCO) and Courts Jamaica Limited

### CUSTOMER SERVICE

Complaints are handled by both the Managing Director and the General Manager. Feedback from customers is received in meetings with dealers and potential dealers. Complaints relating to product quality are communicated to supervisors. Problems sometimes cannot be traced to a specific individual. There is no summary or analysis of customer complaints/rejections. Most customer complaints relate to packaging.

### COMPETITORS

The company's competitors are local manufacturers of wooden furniture. The management of the company believes that their product designs, reliability and quality are superior to their competitors. The industry is very competitive, and competitors compete on price. Information on competitors in the wooden furniture market is difficult to obtain and market share is difficult to assess.

The company receives limited information from dealers. Available information on principal competitors is used to measure and analyse company's performance, to modify prices and to develop new products. The information is also used as a guideline in establishing trends and the company's position in the marketplace.

**Table M2 - COMPETITIVE RATING**

ACTIVITY	R	A	T	I	N	G
	Excellent	Good	Fair	Poor	Unsatisfactory	
<b>Marketing</b>						
Market Share			X			
Product Quality	X					
Product range		X				
Packaging		X				
Pricing		X				
Distribution Network			X			

Management was unable to comment on ratings against the competition for any other areas as they felt that they did not have enough information. They admitted that JAMPRO's assistance is needed for marketing research.

**GOVERNMENT REGULATIONS AND MARKET ACCESS**

Taxes such as the General Consumption taxes affect the company by reducing customers purchasing power.

The company does not pay duty on its raw material

## OPERATIONS

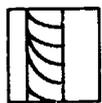
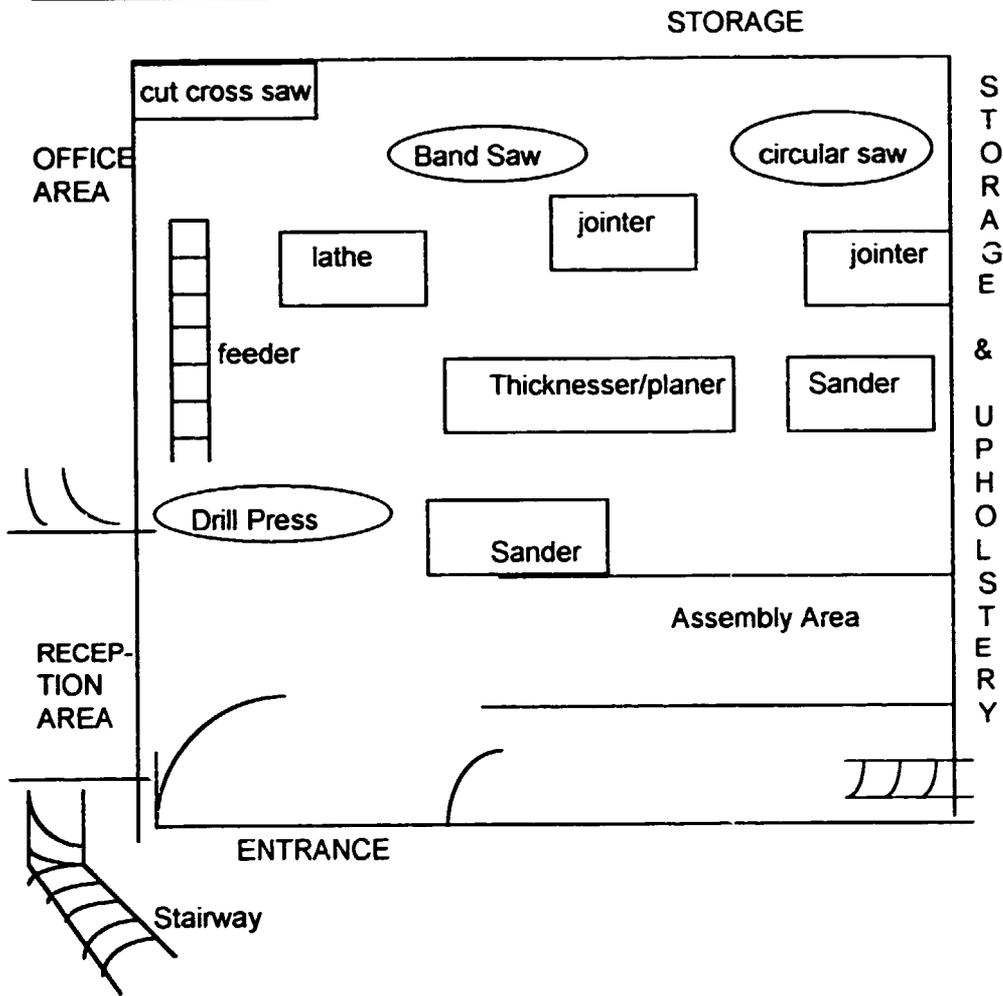
### PRODUCTION FACILITY

The production area is approximately 7,000 square feet. The total square footage for land and the warehouse is half acre and 5,500 square feet respectively. This space is inadequate as the company needs and additional 3,500 square feet for production and storage of raw materials, packaging and finished goods. The production plant is owned by the company. The company has recently purchased a water tank in order to facilitate production during water lock-offs. There is no standby electricity facility.

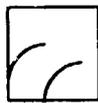
Due to the lack of space, the plant is not laid out according to the flow of production. Equipment is placed wherever space is available, and this limits movement. The walkways are not clearly defined and the plant appears disorganised due to limited space. So limited is the space, that workers sometimes have to work outside the factory.

The plant layout is depicted on the following page :

**PLANT LAYOUT**



Stairs



Entrances

(The office area, Reception Storage & upholstery are located on the upper floor of the factory)

## PRODUCTION PLANNING AND SCHEDULING:

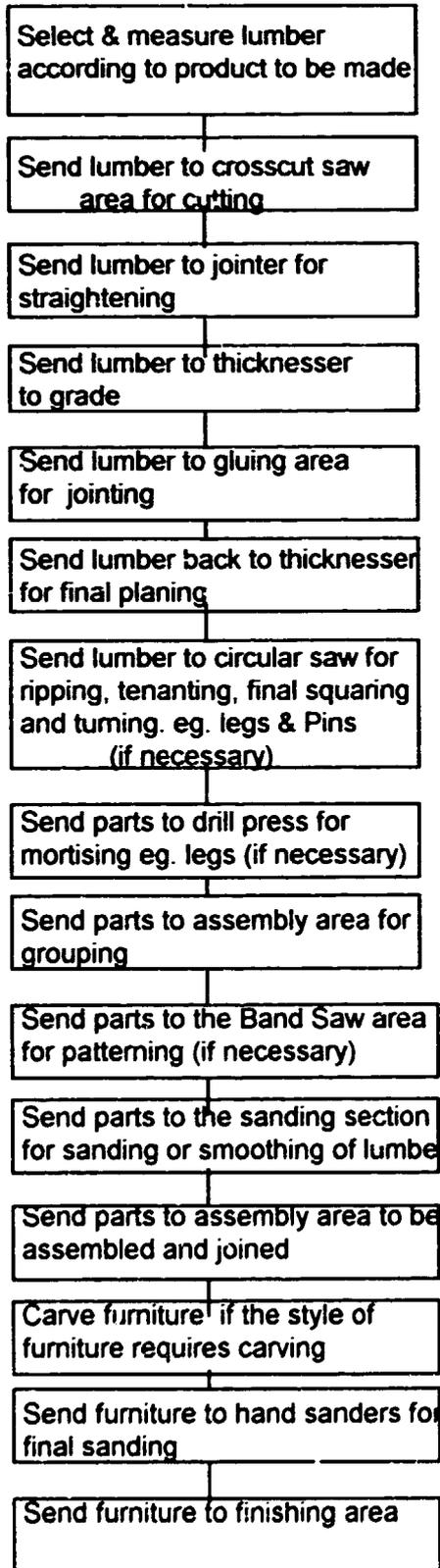
The Senior Production Supervisor and the General Manager are responsible for scheduling production. Production levels are determined based on orders, production capability, estimated contracts and available stock of raw material and finished goods. Production levels are determined annually and reviewed monthly and weekly. Production schedules do not change much before completion.

The normal lead time given to customers for meeting deadlines is four to six weeks. 80% of outgoing orders are delivered on time. Late deliveries occur because of shortages of raw material, loss of power, and employee absenteeism.

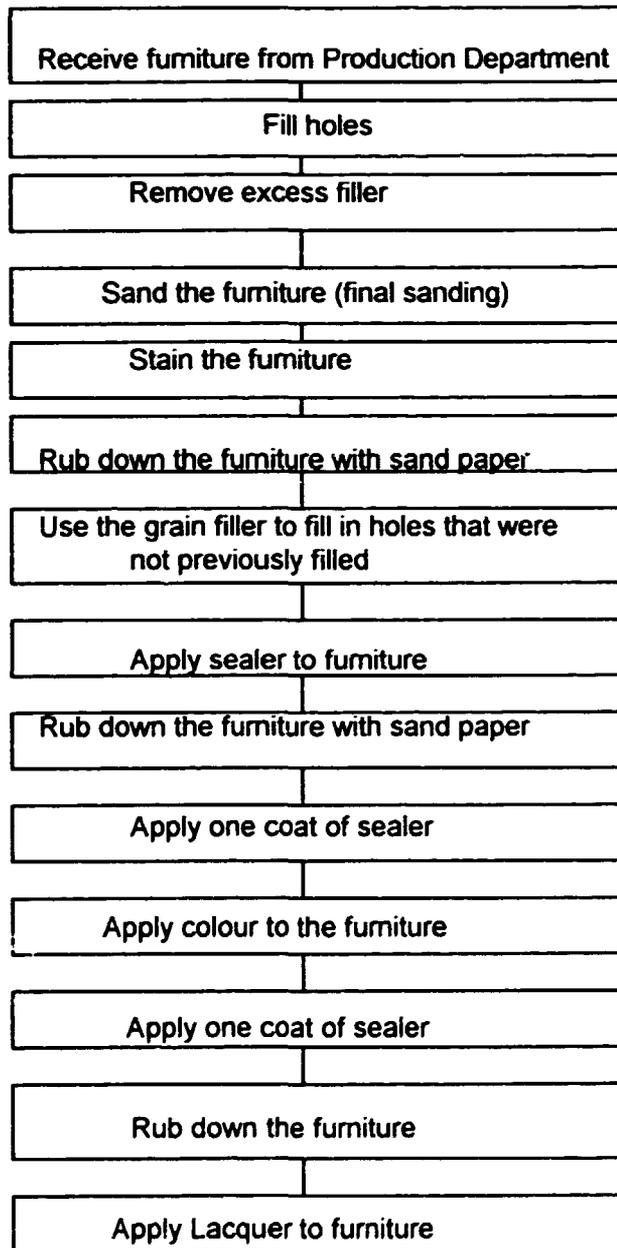
Production levels are communicated to supervisors by management through informal meetings. The supervisors then inform their workers of the schedule.

## PRODUCTION LINE:

The following functions are carried out by the general production workers before being passed to other departments:



The following functions are carried out when the furniture is sent to the Finishing Department:



## PRODUCTION CAPACITY

The plant operates one 8-hour shift. Overtime (extra 4 hours per shift) is a regular feature in the Production Department from September to December to meet the demand at Christmas.

The management is unaware of plant capacity, but estimates that they are using about 80%. The limited space and absence of work measurement techniques limits the company's ability to better utilise capacity.

Deadlines for orders are met 90% of the time, with power outages, absenteeism and late delivery of raw material being the main reasons for late delivery.

Extra hand tools, utilisation of multi-skilled employees in different section and close monitoring of production by trained supervisory staff are used to balance the production line. Supervisory staff are able to balance the line through their experience as operators, on-the-job training and supervisory courses.

Most equipment can be described as adequate. Some can be described as state of the art and a few need upgrading. The older machines have been reconditioned. The company also owns hand tools such as drills, air tools and sanders. Following is a list of major machinery:

**LIST OF MACHINERY - Table P1**

TYPE OF MACHINERY	AGE	# OF MACHINES
JOINTER	5 YEARS	1
JOINTER	10 YEARS	1
THICKNESSER	24 YEARS	1
THICKNESSER	10 YEARS	1
CROSSCUT SAW	25 YEARS	1
JIG SAW	3 YEARS	2
JIG SAW	2 YEARS	1
LATHE	15 YEARS	2
BAND SAW	17 YEARS	1
CIRCULAR SAW	25 YEARS	1
CIRCULAR SAW	10 YEARS	1
CIRCULAR SAW	5 YEARS	1
DRILL PRESS	15 YEARS	1
SPINDLE	25 YEARS	1
SPINDLE	2 YEARS	1
SANDER	15 YEARS	1
DRUM SANDER	5 YEARS	1
SMI STROKE SANDER	1 MONTH	1
RIP & JOINT	10 YEARS	1
DUST COLLECTION MACHINE	5 YEARS	1
DUST COLLECTION MACHINE	1 MONTH	1
SEWING MACHINE	25 YEARS	2
COMPRESSORS	25 YEARS	4
VIBRATORS	25 YEARS	4

Most of the machines are older than 10 years with many being over 20 years.

**AGE OF MACHINES - Table P2**

# of years	# of machinery
< 5 years	5
< 5 years	4
< 10 years	8
< 20 years	7

The company does not have trained personnel to maintain and repair equipment.

### PRODUCTION TECHNOLOGY

There are no documented standard operating procedures. They have attempted to maintain records of equipment idle and downtime, but these efforts fell through. Management state that they need help in this regard.

Production technology is very basic, with no use of computers, robotics or automation.

All departments and personnel are informed of any engineering or process changes before implementation.

### PURCHASING:

The Managing Director and the General Manager purchase raw materials. Purchasing policies and procedures are not documented. Although the current purchasing systems is satisfying the company's needs (shortages of material are not regularly experienced), management feels there is still room for improvement. e.g. a better schedule for purchasing raw materials and determining the volume to be purchased in order to avoid shortages and take advantage of the best supplier prices.

The company has 10 regular suppliers. Problems occasionally experienced with are terms of payment and delivery time. Purchasing decisions are made based suppliers delivery capabilities, suppliers lead time, inventory carrying costs, quality of goods and risk of theft. Purchasing quality control practices

include providing suppliers with a clear definition of expected quality levels, examining suppliers lead time, following up with suppliers to ensure that orders are delivered on schedule, evaluating quality of raw material purchased, and assess suppliers performance periodically.

The company monitors stock levels of goods in storage though a combination of random, but regular, stock checks and inventory control system recorded manually.

The main features of the inventory control systems are the safety stock levels and reorder points for raw material. There is no clear definition to define scrap and scrap inventory record is not maintained.

#### **AVAILABILITY OF INPUTS - Table P3**

	PRODUCT	SOURCES	LEAD TIME FOR ORDERING
Raw Material	Lumber	U.S.A & Belize	6 weeks
	Lacquer	local suppliers	as ordered
	Sealer	local suppliers	as ordered
	Glue	local suppliers	as ordered
	Stain	local suppliers	as ordered
	Filler	local suppliers	as ordered
	Thinner	local suppliers	as ordered
	Nails	local suppliers	as ordered
Packaging	Foam	Local manufacturer	as ordered
	Corrugated Cartons	Local manufacturer	4 weeks

The company does not experience any difficulty in sourcing raw materials and packaging, and is satisfied with the quality most of the time. However, finishing materials can be inconsistent in quality, and this is not discovered until application.

## COSTING:

The company maintains up-to-date files with standard costs, material costs, labour cost and past project costs. Periodic checks are made to evaluate actual operating costs and some comparison is made with budget. However, no records which would facilitate review and modification of work standards are maintained. This is an area in which management would like assistance.

The company was unable to give a breakdown of costs.

Full costing of each product is carried out when the cost of inputs increases and for new products

## QUALITY CONTROL

The quality system relies on problem prevention, problem detection and correction and experience workers. No quality control manual has been prepared so employees are made aware of company's quality standards through experience and by following supervisors' instructions.

Incoming materials are checked on arrival by the Managing Director or the General Manager checks. 5% - 9% of incoming raw materials are defective. Suppliers are contacted when the company receives a high percentage of defective raw material and arrangements made for replacement.

Supervisors and operators are responsible for quality control during production, but management appoints quality control technicians on an ad hoc basis when needed. Quality is checked at the end of the line, and spot checks are conducted at random during production. 1% - 2% of work in progress is rejected daily due to quality problems. Less than 1% of finished goods are returned due

to quality problems. Returns are due mainly to damage in transit and occasionally with the quality of finished goods. Most of the quality problems occur in the sanding operation. Since the beginning of 1995, quality problems have been decreasing as the problem with the quality of finished products is being addressed through closer monitoring

Staff training in quality control is on-the-job and on-going. The senior supervisor has attended a training programme at the Bureau of Standards.

The company is not aware of the ISO 9000 standards.

### SECURITY

Stock is stored in storage rooms, which are kept locked except during deliveries. Less than 2% of stock is stolen or missing each year.

The gate of the premises is kept locked and non-employees are not allowed to enter the plant without permission from management. The finishing supervisor monitors the front gate.

The company has never experienced any breaches of the security arrangements

### HOUSEKEEPING & MAINTENANCE

The grounds are well kept and free of garbage. The plant and storage areas are dusty even though the production area is continually cleaned with an electronic dust remover. Maintenance of the building is on going.

Some of the operators act as repair personnel and maintenance is only carried out when equipment breaks down. The incidence of machine downtime is 10% of available production hours. Machine use is restricted to trained personnel

Fire extinguishers are in place and checked regularly. Hazardous materials are securely stored.

### ENVIRONMENTAL IMPACT

Dust and fumes from spraying equipment are considered harmful to the general health of the workers. The dust remover reduces the level of dust in the plant. The company has plans to install spray booths in order of prevent the fumes from being inhaled.

The shavings from lumber is sold to horse breeders.

## FINANCE AND CONTROL

Information on the company's financial and control function was not available due to the resignation of the accountant and leave of absence of the other administrative staff. It should be noted however that the information is on file and can be acquired at a later date when the company returns to normal operation.

## ORGANISATION AND MANAGEMENT

There are no written job description for employees.

The company offers employees benefits such as uniforms, health insurance, company sponsored training courses and meal allowances during overtime. Pay and benefits are not linked to performance. Whilst not being sure, management believes that the company's salary scale and fringe benefits compare favourably to other companies in the sector.

Most employees have been with the company for at least 5 years. Annual employee turnover is less than 5%. When it occurs, it is usually due to salary, suspicious circumstances and frequent unpunctuality. Exit interviews are conducted and absentee records are kept.

Employees are not paid for periods when they are absent from work. However it is felt that perhaps stronger measures are needed as this does not reduce absenteeism. Incentives to cut down the level of absenteeism are offered by paying for sick leave not taken and rewarding regular attendance with a half day off with pay for every three months of regular attendance. The management has never worked out how much absenteeism has costed the company.

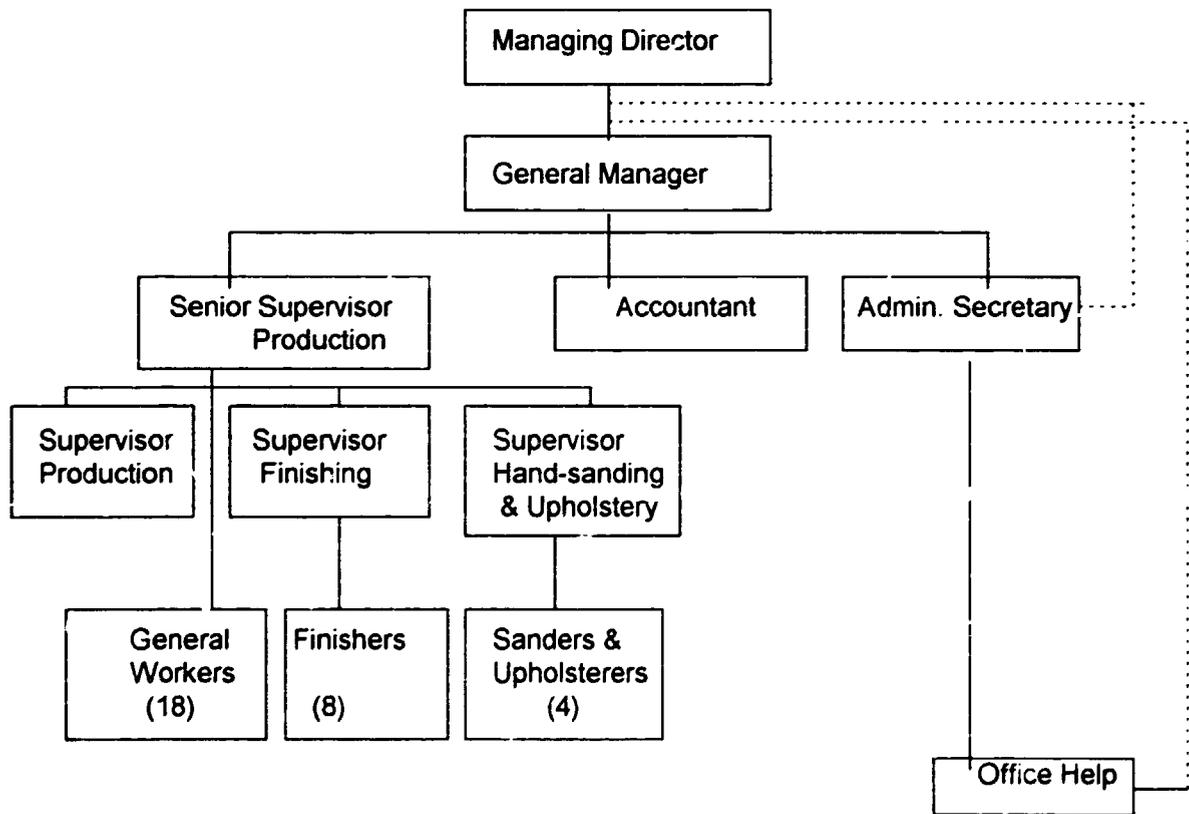
The company has a formal performance appraisal programme for employees, however this is done at irregular intervals.

Employees are encouraged to communicate to management any grouses they may have, as the company practices an open door policy. Employees are not members of any trade union.

Personnel policies are periodically reviewed and evaluated with supervisors and management.

The company prefers to hire trained workers. Training is usually conducted on the job and through apprenticing with more experienced workers. Occasionally, workers attend JAMPRO courses.

**ORGANISATIONAL CHART**



Leador Aluminum does not have a formal organisation chart. The above was constructed based on descriptions of the reporting relationships.

## MANAGEMENT/EMPLOYEE COMMUNICATION

Key management decisions such as prices of products, market entry, marketing, and production levels are made following discussion with management and consultation senior supervisory personnel. Decisions such as work schedules and furniture styles are made after consultation with workers, management and supervisors. The company's strategic goals are communicated from top management to all employees and modified as conditions change. The company does not have in place a 5 year strategic plan, but intends to develop one at some time. Assistance is needed.

Information such as feedback on performance and orders are communicated through informal meetings. General staff meetings are held only when problems occur.

## SECTORAL COOPERATION AND NETWORKING

The company was a member of the Private Sector Organisation of Jamaica (PSOJ), but resigned as it was not (?). The company has not established ties with any other company in the same field.

## RELATIONSHIP WITH JAMPRO

The managers admitted that Ledor Furnishing has not sought to access some of the services for which they should request JAMPRO's assistance. One problem the company mentioned was the task of filling out the export questionnaire which requires the origin of each material used in production and documented fact relating to this request. This they said sometimes proved bothersome and tedious.

They have found JAMPRO staff easy to communicate with. However, they recommend that JAMPRO needs to get close to the manufacturers so that they become familiar with their needs. They are most likely to use the marketing, engineering and modernisation of industry services in the future.

# CONCLUSIONS

## MARKETING

The company's marketing activities are fairly well organised, and the main problem is a lack of market information.

It has developed a range of 16 styles of various types of furniture carefully targeted to specific consumer segments, which it sells through 8 furniture retailers, or dealers. This focus on such a small customer base ensures close contact at the highest level, and facilitates collections of accounts receivable. It also translates into larger orders, giving the company a basis for planning raw material purchases, production and cash flow. On the other hand, the dependence on a few dealers may limit sales, as the dealers also stock competitive products.

The close contact with customers facilitates feedback on quality and delivery problems, and indicates areas of potential demand. Most customer complaints seem to relate to damage due to inadequate packaging.

Cost-based pricing, whilst ensuring that the company is able to cover costs, does not take into account the demands of the market. Prices are negotiated with the dealers, and the company is at a disadvantage because of its lack of knowledge of competitors pricing (which the dealers know and can therefore play off one against the other).

The company's lack of knowledge of the competition extends to other areas including their production capabilities. Without this knowledge, it is difficult for

the management to develop and implement competitive strategies, whereby it builds on the weaknesses of its competitors.

## OPERATIONS

Management is unaware of plant capacity, thus making it impossible to properly an aggressive sales programme, plan production, purchases and cash flow - if management does not know what the plant can produce, it cannot really know what it can sell. Capacity utilisation is also a very simple method of measuring and monitoring the company's productivity.

The company has a serious problem with inadequate space for production. This has affected the layout, making it inefficient in terms of production flow, lack of clearly defined walkways, and congestion. There is space on the property for construction of additional facilities.

The normal lead time given to customers is four to six weeks. 20% of orders are not delivered on time due to shortages of raw material, loss of power and employee absenteeism. This level of late deliveries is unacceptable and management agrees that assistance is needed for a proper scheduling system. However, a good scheduling system will not solve the problem entirely, as power outages and employee absenteeism will still have to be addressed. Running 50% overtime for 4 months each year (September to December) is very costly in terms of labour, and may also be addressed by better scheduling.

Standard operating procedures have not been documented. This could lead to procedures not being thought through properly, not being communicated to supervisors and workers properly, being misinterpreted, being inconsistent, and not being followed. The absence of records of equipment idle time and down

time means that management is unable to monitor the reasons, and make permanent improvement.

The maintenance function is weak - there are no specific maintenance personnel, and the workers are not trained. There is no maintenance programme, which is only carried out when equipment breaks down (machine downtime is 10% of available production hours). Although not identified by management, this could be one of the reasons for late deliveries. When machines are down, the company is affected in two ways - the cost of repairs may be major, as there has been no preventive maintenance, and production time will be lost.

Although management feels that the purchasing system is adequate, the fact that late deliveries are attributed to raw material shortages suggests that there is room for improvement. Of course, if scheduling is a weakness, then purchases of raw materials will not be very accurate in terms of quantity and timing.

Costing is an area of weakness. Although basic information on costs is kept on file, this does not seem to be used to monitor actual operating costs. Costings are only reviewed when direct costs increase. Increases in indirect costs are not monitored.

Quality control relies heavily on the operators during production, and the supervisors at the end of the line. Less than 1% of finished goods are returned due to quality problems, but this is not a good measure of quality, as it does not take into account the dissatisfied customers who may NOT return the goods. Formal training in quality control and quality procedures is very weak. The management is not aware of ISO 9000 standards.

The company should be commended for its efforts to make the working environment safe for its workers. The introduction of the dust remover in the plants reduces the level of dust that workers are exposed to, and the company plans to install spray booths in order to reduce the level of fumes generated when furniture is sprayed.

The plant generates a significant amount of waste in the form of wood shavings. This has economic value, as it is sold to horse breeders, but it is not measured nor recorded.

### **FINANCE AND CONTROL**

Information on the company's finance was not available due to problems with staffing. A proper accounting system should be easily accessible by management and should not be so dependent on one or two key personnel.

### **ORGANISATION AND MANAGEMENT**

There are a number of weaknesses as well as strengths in this area. One of the major weaknesses is the lack of written job descriptions which would identify the duties and responsibilities of each post very clearly. Absence of job descriptions also means that performance criteria, which should be the basis for objective performance appraisal, are not documented. Thus, performance appraisals seem only to be carried out when problems arise. The company also lacks a formal organisation chart and therefore working relationships are communicated to the employees verbally.

One of the major problems is a high level of absenteeism. Management has tried several ways of alleviating this problem, but it persists, and has become a serious impediment to production and on-time deliveries.

General staff meetings are held only when problems occur. The management states that it practices an open door policy and employees are encouraged to air their grouses.

The resignation of the accountant, and the leave of absence of the Administrative Secretary highlights the problem of absence of documented policies and procedures, and therefore total dependence on key people. Management is now in the position where it is unable to access information which is critical to the proper running of the company.

The company does not have a 5 year strategic plan, and therefore has no strategies in place to deal with the dynamic business environment and to make and communicate plans for future growth.

## **RECOMMENDATIONS**

Based on the above findings and conclusions, Leader Aluminum should consider the following recommendations. We believe that these will lead to the future growth and profitability of the company.

### **MARKETING**

1. Conduct research into the local and Trinidadian markets to identify potential demand and new products. This research may be carried out by the management themselves by visiting retail outlets and interviewing dealers and customers, the assistance of JAMPRO in providing market data and organisations such as the JMA and the JEA
2. Visit the Trinidad market to determine whether there is the potential for further increasing sales. If so, an export expansion plan should be developed and implemented. Regular visits to the market (at least once per year) should be a part of the plan. This will ensure that the management builds a relationship with customers there, receives regular feedback, and is able to monitor and respond to changes in that market.
3. The company should become members of the JMA and/or the JEA. This will allow them to meet with their competitors, air and hopefully solve matters of joint concern, and gather information on the industry and markets.
4. Before negotiating with dealers, the management should research competitors prices. They will thus be able to establish a negotiating range, with the market price being the high, and the company's cost plus markup being the low.
5. Improve packaging as most quality problems seem to stem from this.

## OPERATIONS

1. The first task is to determine the plant's capacity and capacity utilisation. Unless this is done, scheduling, plant layout and capital investment will be done in a vacuum.
2. Production scheduling should be done on an annual, monthly and weekly basis. Since the company only deals with 8 customers, it should be possible to get estimates of annual sales which can be used to plan production well in advance. This will assist in better purchasing of raw materials and could significantly reduce overtime.
3. Despite very limited space, improvements in plant layout may be possible by reorganising machinery to achieve a better flow and having clearly defined walkways.
4. Consideration may also be given to the feasibility of constructing additional space, but this should only be done after a thorough analysis of existing capacity, plant layout and future demand.
5. A system of work measurement as a basis for accurate costing should be in place.
6. A proper maintenance programme for machinery is needed. Simple preventive maintenance procedures could go a long way in reducing the 10% downtime. Workers should be trained in these procedures, and a system put in place for ensuring that the maintenance schedule is followed.
7. Standard operating procedures should be documented. This exercise will reveal areas of inefficiencies, which management should correct. Management should review and monitor these procedures from time to time to ensure that they are being followed and are still relevant.
8. Equipment idle time and down time should be documented and analysed in order to determine its impact, and to identify ways of solving the problem.

9. Power outages should be documented, and the cost calculated, to determine the cost effectiveness of standby generating facilities. This will reduce production hours lost and could also reduce overtime.
10. The company should implement the ISO 9000 standards within the next 3 to 5 years.

### **FINANCE AND CONTROL**

1. The company needs to hire an accountant as soon as possible to fill the vacant position
2. The accounts should be automated, so that information will be more readily accessible.
3. Accounts should be kept up to date, and should be presented to management each month along with analyses of key ratios. Management should use the accounts to monitor the performance of the company, and to identify areas for improvement. The specific ratios to be monitored over time are:- Current Ratio, Days Receivables, Inventory Turn, Gross Margin, Net Profit Margin, Debt to Total Assets.
4. Management should familiarise themselves with the accounting system, so that they are able to access information even in the absence of key personnel

### **ORGANISATION AND MANAGEMENT**

1. Job descriptions for all employees should be written, so that proper performance evaluation can be carried out
2. Performance Evaluation should be carried out once per year

3. The organisation chart should be documented and employees be made aware of working relationships and the importance of their function to the company
4. Pay should be linked to performance. This measure could perhaps be used along with the incentive schemes to decrease the level of absenteeism.
5. The effect of absenteeism should be quantified in order to accurately determine the impact and cost of the problem.
6. Management should enlist the workers assistance in solving the absenteeism problem by determining exactly what is causing it, and what would motivate them to come to work regularly and as scheduled.
7. General staff meetings should be held regularly. This will ensure that workers have a forum for airing grievances, and for management to inform employees of the general performance of the company and allow for input into problem solving and planning. This could very well lead to greater loyalty and commitment to the company.
8. The company should develop a 5 year strategic plan in order to plan strategies for growth. This is needed to encourage management to think about the furniture industry, the market and their company in a systematic and focused way and to define specific goals and objectives which can serve as benchmarks to measure progress in implementing plans for the future. This plan can also be used to encourage financial institutions to support plans the company has for loan financing and provide employees with information about where the business is going and their role in it.

## **ASSISTANCE FROM JAMPRO:**

The company will require the assistance of JAMPRO in a number of areas:

1. Information on the local and Trinidad markets
2. Expansion of sales in Trinidad through the provision of market information, identification of and introduction to dealers, and assistance with shipping through JETCO.
3. Information and assistance in product design and packaging, as most quality problems seem to stem from the latter
4. Calculating plant capacity
5. Developing a proper method of scheduling production
6. Plant layout and placement of equipment
7. Preventive maintenance programme and training of workers
8. Work measurement and costing
9. Introduction of ISO 9000 standards to the management, and assistance in implementation
10. Development of a strategic business plan

## APPENDIX A

**LIST OF PRODUCTS - Table P2**

PRODUCT	STYLE	SIZE	TARGET MARKET
Dining sets	Banquet dining table (7 piece)	length 84" width 42" height 30"	Upper middle income households
	Banquet dining chairs	length 20" width 18" height 44¼"	
	Banquet dining table (9 piece)	length 96" width 42" height 30"	
	Elegance dining table (7 piece)	length 70" width 42" height 30"	Middle Income households
	Elegance dining chair	length 19" width 18" height 45½ "	
	Elegance dining table (5 piece)	length 52" width 34" height 30"	
Bedroom Set	Duke dresser	length 51¼ " width 17 ¾" height 27"	Lower middle income
	Duke chest of drawers	length 35 ½" width 17 ¾" height 38¼ "	
	Duke night table	length 18 ½" width 14 ¾ " height 26"	
	Majestic dresser	length 61 ½" width 19" height 32 ½"	Upper and upper middle income households
	Majestic chest of drawers	length 35 " width 19" height 43½"	
	Majestic night table	length 20¼ " width 14½" height 27"	
	Majestic Headboards King size	across 76" height 46"	
	Queen size	across 60" height 46"	
	Double	across 54" height 46"	

PRODUCT	STYLE	SIZE	TARGET MARKET
	Lady D dresser	length 56½" width 18" height 29"	Middle & Upper middle income
	Lady D chest of drawer	length 38" width 18" height 39"	
	Lady D night table	length 20¼" width 14 ½" height 27"	
Breakfronts	Elegance breakfront	across 5" width 19" height 88"	local households all income levels
	Carlton breakfront (a)	length 54" width 19" height 88"	local households all income levels
	Carlton breakfront (b)	length 46" width 18" height 88"	
	Heritage	length 54" width 19" height 77"	
Whatnots	H-shaped (a)	length 60" width 16" height 62"	Both local and overseas market (all income levels)
	H-shaped (b)	length 72" width 16" height 62"	
	L-shaped	length 54" width 16" height 59 ¾"	
	Elegance (a)	length 72" width 17" height 71"	Exported to Trinidad all income levels
	Elegance (b)	length 60" width 17" height 71"	
	Elegance (c)	length 36" width 16" height 63"	
Upholstered living room sets	Stewarts Sectional (4 piece)	length 197" width 116" height 30"	
	Elizabethan (3 piece)	length 136" width 58" height 30"	

**CASUAL DESIGN LIMITED**  
**COMPANY AUDIT**

Prepared for: United Nations Industrial Development Organization (UNIDO)  
&  
Jamaica Promotions Corporation (JAMPRO)

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August 1995

# CASUAL DESIGNS LIMITED

## TABLE OF CONTENTS

	<u>Page #</u>
BACKGROUND	1
FINDINGS	
MARKETING REVIEW	2
OPERATIONS REVIEW	11
FINANCE & CONTROL REVIEW	22
ORGANISATION AND MANAGEMENT REVIEW	27
CONCLUSIONS	30
RECOMMENDATIONS	36

# **COMPANY AUDIT OF** **CASUAL DESIGNS LIMITED**

## **BACKGROUND**

Casual Designs Limited, located at 11 Derrymore Road, is owned and operated by Mr. Douglas and Mrs. Jerise Williams and their daughter Tracy. The company manufactures fashion wear mainly in knits. The list of products includes ladies' and children's sleepwear, fashion blouses, tights, dresses, shorts and other casual clothing.

The company started its first year of operations in 1982 with approximately 700 sq. ft. in an old house on Barbican Drive with only five (5) employees. Its original objective was to produce high quality clothing and to make profit. Casual Designs now has 28 employees, 23 of whom are employed to the factory and the remaining are employed to the company's retail outlet located in Sovereign Centre. The company entered the export market in 1987 and became profitable in 1988.

Casual Designs does not have a formal mission statement, however the directors agree that their company operates on the philosophy:

**"To strive for the production of high quality clothing which can be recognized, marketed and sold internationally enabling a significantly high rate of return on investment in order to facilitate expansion."**

Casual Designs is affiliated to Screen Scene a screen printing company owned by the son of the major directors. Screen Scene does the printing for some of Casual Designs garments.

## MARKETING REVIEW

### SALES:

#### ACTUAL AND PROJECTED SALES - Table M1

	1992	1993	1994	1995	1996
PIECES	54,000	39,600	31,680		
DOZENS	375	275	220		
CHANGE		-27%	-20%		
VALUE	\$4,100,000	\$8,600,000	\$6,100,000	\$7,000,000	\$8,000,000
CHANGE		48%	-29%	12.8%	12.5%

Unit sales have been falling since 1993, however in 1994 price increases increased dollar sales to almost twice the value of 1992 .

The local market accounts for 99% of total sales. Table M2 shows a breakdown:

#### Local market - Table M2:

Local Market	Percentage
Department Stores	80%
Gift shops, boutiques	20%

Over the past 3 years the company has experienced declining sales in the local market except for seasonal peaks e.g. at Easter and Christmas. This is due to the reduction of sales in the tourist areas and the fierce competition by imports in the local market. Therefore, it is trying to enter other markets such as overseas and the uniform market.

Unfortunately, the company suffers from Jamaicans perception that local products are of inferior quality. The local market is more interested in purchasing clothing with a difference i.e. made by foreign manufacturers. The perception is that foreign goods are of better quality and have a different sense of style.

#### **Foreign Market:**

The company now exports to a single customer (a boutique) in Cayman and this accounts for about 1% of total sales. However, there are plans for expansion and management is in the process of identifying demand in other markets. A trip was made recently to Guadeloupe by one of the directors and plans are underway to enter the children's segment of this market.

#### **PRODUCT MIX:**

Casual Designs produces and markets fashion knits and interlock jersey knits mainly for ladies and girls. These items include dresses, shorts, tops, as well as night wear. The company also produces boys shorts and T-shirts for ages 2 - 8 years. No new products that have been launched within the last three years. The company keeps abreast of fashion trends in styles and colours and updates its designs accordingly.

The company markets under the brand "Jerise". This brand name is well established and known to major local clothing retail outlets.

Plans are underway to launch a line of boys clothing and to diversify from knits to cotton and woven fabric. These plans will not necessitate a major

investment as all that is needed is a conversion of some of the machines to facilitate working with woven material.

Research has shown that there is a demand for school uniforms and the company is exploring this as it is capable of producing this product.

The management recognises that they will have to modify their products in terms of style and improve quality in order to enter markets abroad. The markets which have expressed interest are upscale, and therefore have higher expectations of quality.

### DESIGN DEVELOPMENT

Product design is carried out primarily by Mrs. Jerise Williams using the following methods:

- Copies current, leading fashion trends in both overseas and local markets; as well as personal insights and ideas.
- Feedback from customers about design issues and changes by putting samples in retail outlet
- Discussions with retailers on designs most in demand

Designs are changed 2 to 3 times per year.

The company sources information on product design from the JAMPRO Design Centre, local and overseas design consultants, trade publications, buyers and visits to overseas markets.

Design related problems are usually discovered when the prototype is being made.

## PACKAGING

Packaging consists mainly of labels, tags and plastic covering to prevent soiling. Items are not packed individually for sale but in sets, according to style. Garments for export are packed in boxes. The company spend approximately \$10,000.00 on packaging on an annual basis.

### PACKAGING SPECIFICATIONS - Table M2

PRODUCTS	SIZE	TYPE OF PACKAGING	MAIN TARGET MARKET
Garments	2 - 12 Small - X-Large	Plastic Bags	Domestic
Garments	2 - 12 Small - X-Large	Boxed	Export

## PRICING

Pricing for both local and overseas markets is cost plus. The normal markup is 33.3%, but prices are higher for goods supplied to the tourist trade. Prices are competitive with those of other local manufacturers. The company does not know much about the pricing strategy or mark-ups used by others in the industry.

Prices are not competitive to those of imported products (perhaps because goods supplied by Informal Commercial Importers to retail outlets do not include taxes and other operating expenses which Casual Designs has to pay).

The company has a standard price list and prices are communicated to customers on order forms and verbally. Sales are held in the retail outlet in October and February to make way for goods for Christmas and Easter. Prices change about once per year based on increases in the cost of labour and raw materials.

### DISTRIBUTION

Sales are handled in the Corporate Area by the principals of the company, (mainly Mrs. Williams) who pay regular visits to customers and prospective customers. Goods are usually delivered by Mr. Williams. A sales person is responsible for distribution and collection from sales outside of Kingston, and is a commission of 12.5%. The company also owns its a retail outlet located in the Sovereign Centre.

The company ships its products directly to its customer in Cayman. Occasional visits are made to this market by Mrs. Williams, and contact is maintained by a family member in Cayman.

### PROMOTION:

Promotion is mainly by word of mouth. A brochure for the export market is being designed. Fashion shows have been used in the past, but this proved expensive and not suitable for such a small business, as there was little benefit in terms of sales. A radio advertising campaign was launched for the opening of the company's Sovereign store which proved effective.

The company actively promotes its products prior to holiday seasons. eg. In October for Christmas and in February for Easter.

### COMPETITORS

The main local competitors are Kidz, Handtex, Mijan Limited, Spunk Limited and other small manufacturers of tights and fashion wear. The most significant competition comes from imported garments which compete on lower price, and internationally known brand names. Casual Design's main competitive advantage is their styling and their retail outlet. Management believes that no local manufacturer has any significant market share of the garment market.

Management does not do any competitive analysis, as they have found that information on competitors in local and overseas markets is very difficult to attain. The main source of information is from visits to stores locally and overseas to compare prices and quality.

Competition in overseas markets is high. The markets are usually more up-scale, and the quality of products superior. However, in the area of Tie and Dye there is less competition.

**COMPANY RATING WITH COMPETITORS - Table M3**

ACTIVITY	Excellent	Good	Fair	Poor	Unsatisfactory
<b>Marketing</b>					
Market Share					X
Product Quality		X			
Product Range		X			
Packaging		X			
Pricing		X			
Sales force		X			
Distribution		X			
Warehousing		X			
Delivery capability		X			
Customer Service		X			
Promotions & Advert.				X	
Public Relations				X	
<b>Operations</b>					
Available capacity	X				
Capacity utilisation	X				
Location	X				
State of equipment				X	
Productivity		X			
Raw Materials	X				
Supplier relationship		X			
Quality Control			X		
Labour Skills		X			
Labour Relations		X			
Research & Dev.		X			
<b>Financial</b>					
Profitability					X
Cash Flow					X
Cash reserves					X
Availability of credit		X			
Ownership		X			
<b>Administration</b>					
Administration skills		X			
Office facilities		X			
Automation		X			
<b>Management</b>					
Experience		X			
Skills		X			
Turnover	X				
Board of Directors		X			

The directors rate Casual Design well in most areas of operation, finance, administration and management, with the company's major weak areas being market share, promotions and advertising, public relations, quality control, productivity, state of equipment, profitability, cash flow and cash reserves. Its main strengths are believed to be in capacity and capacity utilisation, location and raw material availability.

### CUSTOMER SERVICE

Mrs. Jerise Williams deals directly with this area.

The most common customer complaint is quality, and this is due to mistakes in sewing or serging of garments. Customer complaints and rejections are usually communicated upon receipt to the staff. The faulty garments are returned to the factory, and corrected. Employees are also urged to be more careful.

When products are defective the supervisor is notified and the information is then passed on to the workers. If work remains sloppy after warnings and discussion with operators, disciplinary action such as suspension or termination of employment is taken.

### GOVERNMENT REGULATIONS AND MARKET ACCESS

At present, government regulations that affect the company's performance or market access are General Consumption Tax, Jamaica Bureau of Standards compliance charges and Exporter Registration. Nonpayment or underpayment of these taxes and charges by importers and small

manufacturers allows them to undercut Casual Designs prices. The removal of stamp duty on raw material has been beneficial to the company.

The requirement for government regulations are seen as added paper work, time consuming , bureaucratic and resulting in increases in cost and price. The company does not operate under any government incentive, but qualifies for preferential market access to other Caribbean countries by way of CET (which the company is not presently using).

## OPERATIONS REVIEW

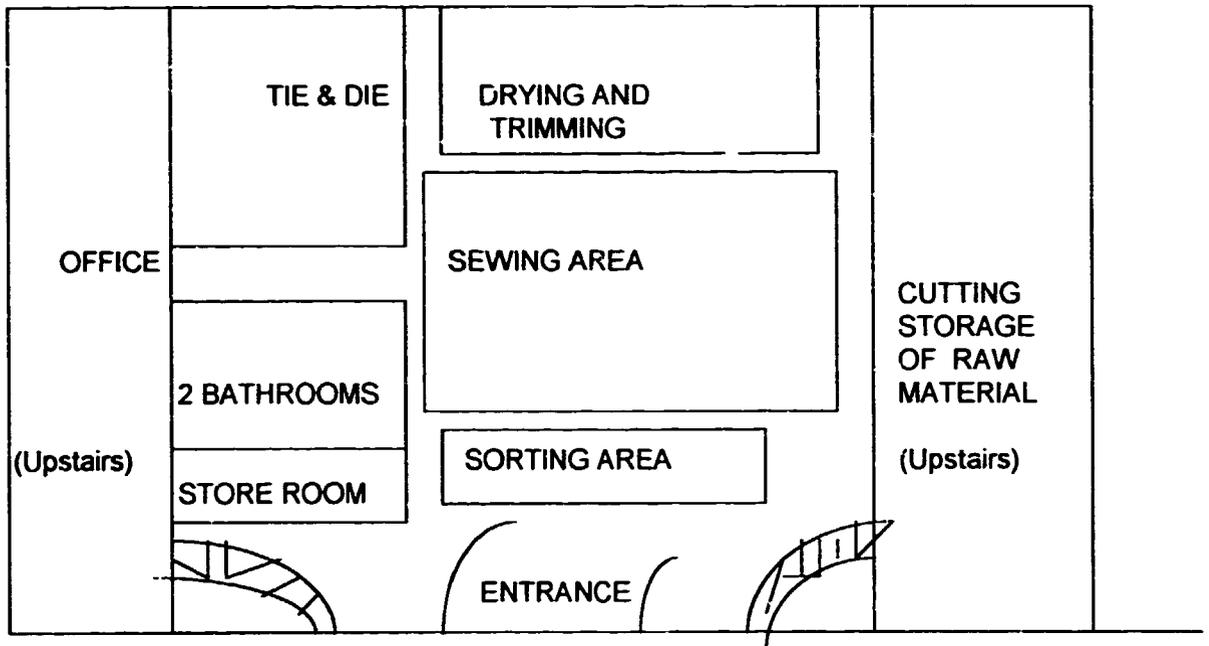
### PLANT

Over the years Casual design has changed significantly. It now employs approximately twenty two (22) workers and has moved to Derrymore Road where it operates from approximately 6,000 sq. Ft. This is broken down as follows:

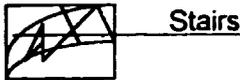
Production Area:	2,400 sq. ft
Warehouse :	1,600 sq. ft.
Land :	700 sq. ft
Lunch Room :	700 sq. ft.
Office :	700 sq. ft

The building is leased and the space is adequate to meet current production and warehousing needs. Machinery faces the office, thus facilitating monitoring of production from the office.

PLANT LAYOUT



**Codes**



The layout of the plant was designed by JAMPRO. As seen from the diagram the plant is well utilized. In fact the area seemed too small and additional space may be needed. The plant seems orderly and organized as walkways are fairly clear of obstructions (however, on the day of inspection, there were finished tie and dye products hanging on lines inside the plant which caused the walkway to be congested. This was due to the fact that the weather on that day was not suitable for hanging the garments outside and therefore items had to be hung on inside lines).

PRODUCTION:

Monthly production for the past three years has been:

AVERAGE MONTHLY PRODUCTION PER UNIT 1992 - 1994 - TABLE O1

<b>PRODUCT</b>	<b>1992 (monthly)</b>	<b>1993 (monthly)</b>	<b>1994 (monthly)</b>
Garments	375 doz	275 doz	220 doz
Decrease		-20%	-27%

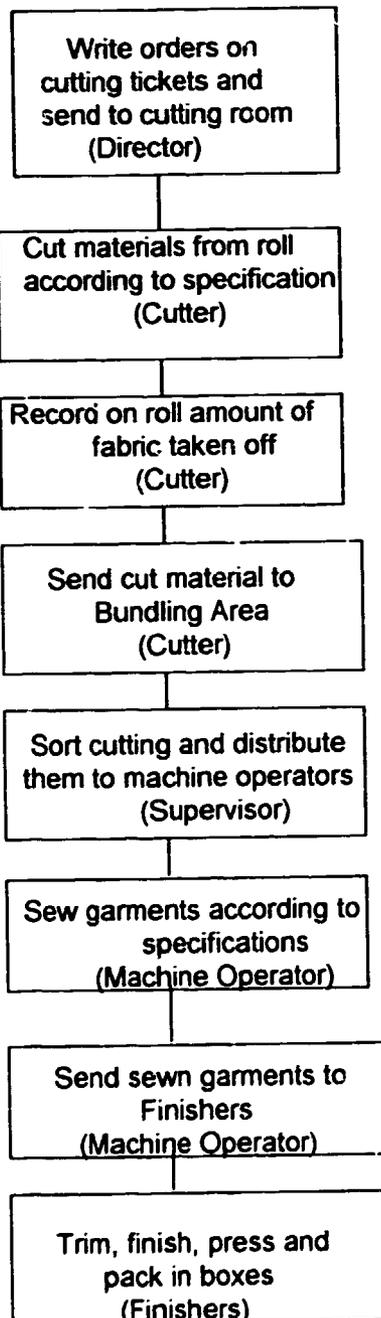
PLANNING AND SCHEDULING

Mr. Williams is responsible for determining production levels weekly, scheduling production and communicating this to supervisors, sales personnel and factory workers by way of written orders.

The lead time given to customers for orders is one week in normal seasons, but 3 - 4 weeks for rush seasons such as Christmas and Easter. 90% of outgoing orders are delivered on time.

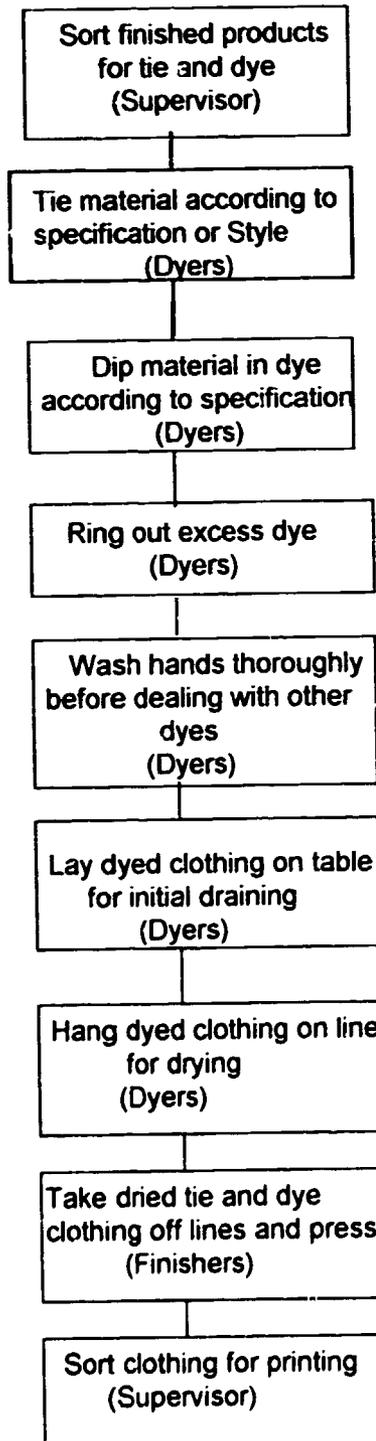
PRODUCTION LINE

Production Process



In cases where products are to be tie and dyed, the finished products are sent to the tie and dye section.

**Production process for tie and dye**



The production process flows easily from one operation to the next. It is very labour intensive and involves much physical handling of products.

Employees are trained to operate on more than one line and more than one operation in order to balance the production line. It is usually necessary to reallocate employees to different production lines two times per day in order to produce enough of each item to meet orders. The supervisor is trained to balance the production line through her experience as a operator and attendance at training courses and seminars in supervisory management .

### MACHINERY AND OTHER FACILITIES

#### Machine Listing - Table O2

Type of Machinery	Age	Capacity	Number of Machines
Sergers	over 20 years	Not sure	6
Straight Stitch	over 20 years	Not sure	9
Elastic	over 20 years	Not sure	1
Button Hole	over 20 years	Not sure	1
Blind stitch	over 20 years	Not sure	1
Taper	over 20 years	Not sure	1

The directors state that the capacity of the machines varies and therefore cannot be measured. There are plans to increase automation in the future and upgrade the equipment as a part of their long-term expansion program. The

company does not presently have sufficient capital or a high level of sales to embark on this program in the short term.

Although machinery can be described as antiquated, the company is not in need of additional equipment to balance the line.

Preventive maintenance of machinery is carried out every morning before production begins by a technician who is contracted to the company. This has resulted in minimal downtime due to machine breakdown and scheduled maintenance.

Records are kept for equipment idle and down time and the reasons. The reasons are analysed and are used to improve the production process.

There is no stand-by generator and there are no plans to purchase one at this time.

Water is used in the production process for tie and dye and the company is sometimes plagued with water problems. There is no back-up water storage facility and there are no plans to buy a water tank.

Standard operating procedures exist. Even though they are not formally documented, all employees are aware of them.

### PURCHASING

Purchasing of raw material is a managerial function carried out by Mr. Williams in the local market and Mrs. Williams in the foreign market. Material bought from local suppliers is usually on credit and this method of purchasing facilitates the company's cash flow.

Although purchasing policies and procedures are not documented, the directors have basic criteria to be met when purchasing raw material. These criteria are: quality of goods and volume discounts. The allowance for damages on raw material purchased is 10%.

Purchases of raw material from foreign mills has to be in bulk or large quantities and sometimes the minimum quantity is too high for the company. This therefore leads to material being purchased locally. The company has been purchasing material from Rainbow Mills in the United States for over 8 years with a lead time for ordering of 8 weeks.

Dyes and other components such as buttons are bought locally wherever available.

Quality control on incoming raw material consists of:

- Checking the delivery capabilities of suppliers
- Taking into account supplier lead time when placing orders
- Providing suppliers with clear definition of expected quality
- Following up with suppliers to ensure that goods are delivered on schedule
- Evaluating quality of raw material when received
- Making a mental note of quality (it is not documented)

It is felt that this is adequate as the company deals with one main supplier.

Monitoring of stock levels is the responsibility of Mr. Williams, and this is done with a manually recorded inventory control system and monthly stock checks. Stock of material and garments are kept on shelves in the plant and components such as buttons and thread are kept in the office and issued as

needed. The main feature of the inventory control system is safety stock levels whereby orders are placed based on stock available and the seasonal demand expected.

Inventory of scrap is not conducted. Scraps is sometimes sold.

### QUALITY CONTROL

Quality control is carried out at every major stage in production. The operators are expected to act as first-line quality control officers. The supervisor and one of the directors, Ms. Tracy Williams, are responsible for checking finished goods. This system is responsible for the minimal amount of defective work-in-process and finished product as the product passes through the inspection of at least 5 persons. It is assumed that during handling, the workers check the garments for quality, but this is not necessarily so.

If a product is deemed defective, it is shown to management who makes the decision to alter it or put it in the store room with other defective products. It is estimated that 1% to 2% of work in process is rejected and 1% to 2% of finished goods is returned for poor quality.

There have been a few occasions when products have been returned because of quality problems. However, these were minor sewing problems due to the items not being serged properly. In these cases, the products were returned and corrected, then sent back to the customers.

There are no quality control manuals in place, and the quality system relies heavily on problem prevention, problem detection and correction and the

experience of workers. All employees are aware of quality standards by way of the supervisor's instructions. The supervisor has been trained at JAMPRO in supervisory skills for manufacturing.

Quality control of raw material purchased is management's responsibility. Mrs. Williams is the main purchaser of raw materials. The quality of raw material is usually excellent, only 1% or less is defective, and this is usually ignored. However, if a case should arise of a high percentage of damaged raw material, the suppliers are contacted and credit is usually given.

Although the company is aware of ISO 9000 standards, plans to implement the policies are not yet being considered.

#### HOUSEKEEPING AND MAINTENANCE

The production area is cleaned once per day and there are arrangements in place for maintenance of the building and cleaning of the plant. The grounds are well-kept, neat and free of garbage and the building appears to be well-maintained.

Preventive measures are in place to ensure the safety of workers and to promote healthy production practices in the form of a first aid kit and restriction of use of machinery to trained personnel. Fire extinguishers are also in place and checked regularly and fire drills are occasionally conducted. The use of protective clothing is not applicable as the factory does not produce or contain the waste material of any hazardous item.

The work force were properly attired in their uniforms and appeared neat and tidy. They were diligently applied to their tasks and the supervisor was present on the floor assisting with the sorting of garments to be printed.

**SECURITY:**

One security personnel is stationed at the gate of the property on a 24-hour basis.

Stock is kept under lock and key, with small items such as buttons stored in the office. Workers bags are checked about 2 times per week.

The company has experienced no breaches of security.

## FINANCE AND CONTROL

### FINANCIAL CONDITION

Both monthly and annual financial statements are prepared on the computer. The date of the last audited accounts is February 28, 1994. The company is financed as follows:

Directors loans/advances	41%
Retained Earnings	33%
Suppliers Credit	13%
Long-term loan	13%

As at February 28, 1994, the following ratios were:-

$$\text{Current Ratio :- } \frac{\text{Current Assets}}{\text{Current Liability}} = \frac{877,000}{615,000} = 1.43 : 1$$

Whilst this ratio is positive, showing some degree of short term financial strength, it is still less than the generally accepted 2:1 ratio.

$$\text{Inventory turnover :- } \frac{\text{Cost of Goods Sold}}{(\text{Beginning} + \text{Ending Inventory}) \div 2} = \frac{\$4,600,000}{(\$6,500 + 524,000) \div 2} = 17 \text{ times}$$

This ratio shows that the company turns its inventory once every 21 days, which is excellent, as the company does not carry excess inventories. However, of concern is the build-up of inventory during the year from \$6,500 to \$524,000.

$$\text{Days Receivable :- } \frac{\text{Ending Accounts Receivable}}{(\text{Sales}/365 \text{ days})} = \frac{\$127,000}{\$6.1\text{M}/365 \text{ days}} = 7 \text{ days}$$

Casual Designs offers its customers 14 - 30 days credit. The above ratio indicates that the company's actual collection period is less than the terms stated. This is due to the fact that most of the sales at the retail outlet are cash.

**Analysis of Profit and Loss Account for Period 1992 - 1994 - Table FC1**

Details	1992	1993	1994
Sales	\$4.1 M	\$8.6M	\$6.1M
Cost of Goods Sold	\$3.1 M	\$6.3M	\$4.6M
Gross Profit	\$1M	\$2.3M	\$1.5M
Gross Margin	24%	26.7%	25%
Net Profit	\$142,000	\$219,000	(\$113,000)
Net Profit Margin	3.4%	2.5%	-1.9%

Gross margin has remained stable, which shows good control of direct costs. However, Net Profit Margin has been declining and is now negative as a result of declining sales. Management attributes this performance to the downturn in the tourist trade, increased competition from importers and the pressure to launch new styles in order to keep up with the latest fashion trends. The directors are unaware of how the company's gross margin compares with other companies in the garment sector.

## INFORMATION AND CONTROL SYSTEMS

The financial management of the company is the sole responsibility of Mr. Williams. The accounting system is fully computerised and was implemented in 1994. Accounting manuals have been developed and are kept up-to-date. Accounting ledgers are balanced monthly and are current. All journal vouchers are approved by Mr. Williams and journal entries are supported by substantiating data. Despite these systems and controls, we experienced difficulty in accessing accurate data on sales and profitability.

Credit terms are Cash on Delivery or 14 to 30 days credit dependent on quantity purchased. No credit application forms are used and credit can be approved by any of the three directors. Credit limits are established by Mr. Williams.

The incidence of bad debts is minimal. No credit agencies are used for collections which are overdue. Customers who take goods on credit are monitored by regular phone calls until the accounts are settled.

Insurance coverage is reviewed every three months especially if there is a surplus in inventory.

### **Accounting items and method of control - FC2**

<b>Item</b>	<b>Method of Control</b>
Cash Flow	Bank balances, collectibles, and payables
Accounts Receivable Collections	Record of receivables used to monitor customers on telephone
Accounts Receivable Aging and Bad Debts	Keep contact with customers by telephone. If unable to collect, call in the police
Inventory	Cutting order ticket which estimates amount of fabric needed
Purchasing	Done verbally by telephone calls to suppliers. Sometimes purchased by Cash on Delivery
Accounts Payable	No formal system. Relies on the memory of director
Employee records (employment, overtime, absenteeism, leave)	Recorded in employee files

The directors believe that the information and control system is adequate. Misuse of company funds is avoided, as all cash and financial transactions are handled by a member of the family.

Budgets are prepared by Mr. Williams only if they are needed when applying to a financial institution for loans.

### **COSTING**

Files are kept on past project costs and standard costs. Periodic checks are made to evaluate the actual operating costs and trends versus budget projections. Records are maintained to facilitate modification of work standards to increase efficiency. Full costing is carried out on each product as soon as a style is created or modified to meet market trends.

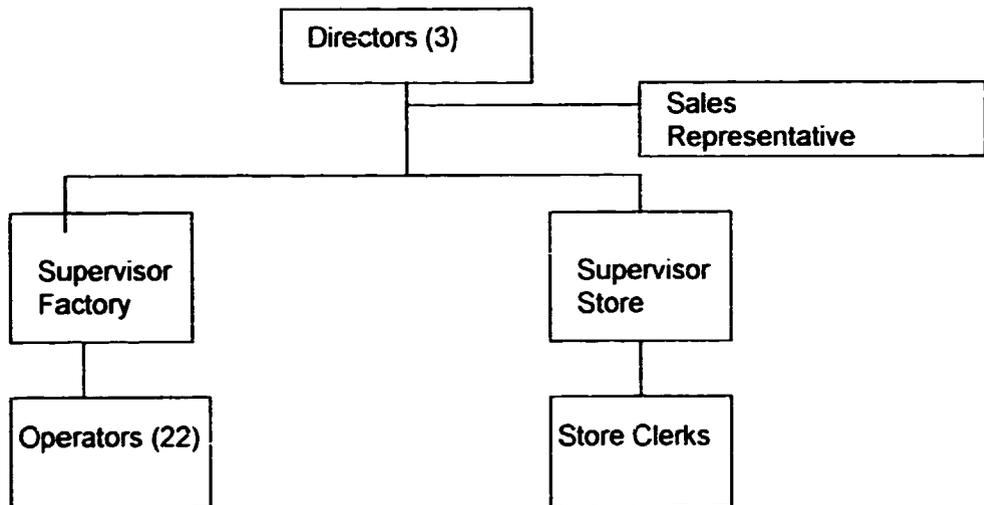
Total costs are broken down as follows:-

**Cost Analysis - FC3**

ITEMS OF COST	PERCENTAGE
Raw Material	61%
Plant Overhead	18%
Labour	17%
Transportation and Freight	1%
Packaging	1%
Miscellaneous	2%
TOTAL	100%

## ORGANISATION AND MANAGEMENT

There is no documented Organisation Chart. The following was developed from information given by the management:



All staff are aware of their duties. Duties are explained to new employees by their supervisors. However, there are no formal or documented job descriptions or performance evaluation system for factory employees. Job descriptions have been written for supervisors and store personnel. Informal performance evaluations are done, usually when a problem arises..

### MANAGEMENT AND STAFF RELATIONSHIPS:

Key management decisions are made after consultation with supervisory staff and following discussions with other directors.

The company's strategic goals although not recorded, are communicated by management to all employees. All employees are aware of the company's

objectives for the current year and month and supervisors receive regular feedback on the performance of their departments.

Staff meetings are held monthly and information is passed on at regular management meetings and following evaluation of actual performance.

The employees are not unionized. There are procedures in place for employees to air their grouses and make suggestions.

Absenteeism and high turnover are major problems. Most of the employees have been with the company for 2 - 4 years, and the annual turnover is 5 - 7 workers per year. Absenteeism records are kept and exit interviews are conducted. Reasons given for high turnover are poor supervision and the relationship between management and staff. The directors are unable to say how much these problems have cost the company or to forecast future manpower needs as this is dependent on orders received.

#### EMPLOYEE BENEFITS

The company's salary scale and fringe benefits compare favourably to other companies within the garment sector. The base rate for operators is \$850.00 per week. The company also has an incentive programme geared at reducing absenteeism.

Employee benefits include health insurance, life insurance, company sponsored training, and meal allowance during overtime. Employees who come early to work are given breakfast.

## TRAINING

The directors believe that it is cheaper to hire trained people. However, most employees are hired and then trained. Training is conducted on-the-job for machine operators. There is an apprentice training programme for the tie and dye operators; and supervisors are sent on courses and seminars run by JAMPRO and private training institutions.

## SECTORIAL COOPERATION AND NETWORKING

Casual Designs is a member of the Jamaica Manufacturers Association (JMA)

The company has established ties with other companies in the industry and has derived benefits such as equipment loans; sharing of expensive equipment, personnel and information; as well as joint programmes with consultants through JAMPRO.

## RELATIONSHIP WITH JAMPRO

The company has received assistance from JAMPRO in the areas of training, export shipments, design, pattern making, technical support, sourcing of information and marketing. Although the company is satisfied with the services, the directors are concerned about the staff turnover there. This is seen as a bother when new recruits are sent out from JAMPRO to the company without relevant company information which was previously given. The directors suggest that JAMPRO improve the quality of service by minimizing staff turnover and implementing a central data base for client information. Casual Design wishes to use JAMPRO's assistance in export marketing in the near future.

## **CONCLUSIONS:**

Casual Designs is being affected by the current recession in the local market and the downturn in tourism. The company is fighting for survival in an extremely competitive environment with a drastically reduced market. As a result, sales and profitability have fallen. The company has attempted to compensate for declines in volumes by increasing prices, but this has not been adequate to maintain profitability.

### **MARKETING:**

The company recognises the need to produce quality products in order to satisfy the needs of customers. Its marketing efforts have focused on anticipating and identifying the needs of customers and then producing products to suit their needs. Their approach to product development can definitely be seen as a strength, as they have managed to maintain their focus on their target market, and a fairly narrow product range whilst keeping designs fashionable.

The tourist market, previously one of the company's major markets, has fallen, and therefore the company relies on sales from local department stores and boutiques. The company is presently trying to enter other markets such as overseas and the uniform market. The concern is whether the company can compete in overseas markets, when they are unable to effectively compete in their home market. Also, whilst the uniform market may seem vibrant, is there really a need for another manufacturer?

The company is weakest in the area of market knowledge. It is unaware of its present market share or of competitors strategies or products. There is

limited knowledge of competitors and this is extremely important in a highly competitive environment. Thus, whilst the management rates itself fairly well against its competitors, and develops strategies based on these perceived strengths and weaknesses, if this information is incorrect, they may very well find themselves adopting the wrong strategies.

Whilst the management states that its pricing is cost-based, it does practice differential pricing by offering higher prices to goods sold to the tourist trade, which denominate their sales in foreign currency and can therefore charge higher prices. The major problem it faces is the unfair competition with imported goods which evade or do not reflect the correct customs duties and taxes.

Review of prices is done about once per year, and is triggered by changes in raw materials and labour costs. However, the Gross Margin of the company has remained stable, whilst the Net Profit Margin has declined, showing that increases in overheads are not being covered by the markup of 33.3%. Increase in overheads are more difficult to monitor as they tend to increase very gradually over time, and are therefore less noticeable.

Regular sales in the retail outlet prior to the major holiday seasons results in stock being cleared out and cash generated to ensure adequate inventory when sales are highest.

Distribution capability in terms of sales and deliveries is very limited, relying on the directors and the sales representative. The retail outlet is a major strength, as it provides:

- Higher margins
- A vehicle for market testing of new products
- An outlet for samples

- Cash payments for goods sold

The company relies heavily on word-of-mouth as its main promotional tool. This is an effective and inexpensive promotions strategy if there is widespread knowledge of the company and product, recognition of brand and favourable feelings towards the company and the brand. Without these significant factors, "word-of-mouth" is useless and sometimes destructive.

### OPERATIONS

The location on Derrymore Road is excellent, as it has allowed the company closer proximity to their retail customers whilst operating in an industrialized environment. Proximity to its target markets minimises transportation time and cost and the complex allows for better security.

Plant layout is good and allows for smooth flow of production and good utilisation.

Production has been declining due to falling sales. Capacity is unknown, and therefore so is capacity utilisation. This is a major weakness, as one cannot properly plan increased sales and expansion without knowing present capabilities.

The production process is fairly straightforward, but very labour intensive. The smooth flow is enhanced by workers being multi-skilled and able to move from one operation to another.

The equipment is over 20 years old, but seems to be in good working condition, based on the fact that there is minimal disruption of production due

to machine breakdowns. The daily preventive maintenance carried out before production begins no doubt contributes to this. There is no standby power or water facilities, and since the production process depends on both, disruptions in the public supply will cause production to halt..

Purchasing is managed by the directors, and is therefore under very tight control as evidenced by the excellent inventory turn of 17 times. The small volumes produced by the company does not allow them to take advantage of lower prices offered by foreign suppliers, and this could be one of the factors affecting their competitiveness. However, purchasing from local suppliers allows them to purchase less more often, thereby minimising their investment in inventory.

Quality control is highly dependent on the operators during production and on final inspection of finished goods. It is not totally effective, as there are incidences of defective finished goods reaching the consumer and being concerned. Of greater concern are the defective goods that are not returned by the customer and which the company does not know about.

#### **FINANCIAL CONDITION:**

The company has a good financial recording system and control is maintained solely by Mr. Williams. However, despite this, we encountered some problems in accessing accurate data on sales and production.

The company depends heavily on directors loans and advances for financing. Retained earnings accounts for 33% of financing, showing that the directors reinvest profits into the company. Interest-bearing debt is only 13%, and this is a good policy in a high interest rate environment..

The current ratio of 1:1.43 is good, but could be improved in line with the generally accepted ratio of 2:1. The company although able to quickly meet its short term obligations in case of an emergency but does not have excess which can be applied to capital.

The inventory turnover of 17 times reflects the tight control on purchasing and inventory by the directors. It is impossible to comment on the comparative efficiency of inventory turnover as the company does not have industry data. This is an area where JAMPRO could be of assistance.

The credit policy is 14 to 30 days; however the financial analysis indicates that collections are made, on average, within 7 - 8 days. This is no doubt due to their heavy reliance on the Sovereign store, where sales are all cash. This too is an excellent policy in a high interest rate environment.

Despite the above, the company is in a net loss position, due to the decline in sales.

### **ORGANISATION AND MANAGEMENT**

There is great unity in management decisionmaking and teamwork because the organisation is family-owned and managed.

The management's relationship with its employees seems stable but there is room for improvement. The high turnover and absenteeism indicates disaffection amongst employees, as the exit interviews show that supervision and management is the main reason for turnover. High turnover means loss

of production and productivity, as new workers have to be hired and trained. This turnover needs to be quantified to determine the extent of its impact.

The absence of formal job specifications, job descriptions and performance evaluations is of concern. These tools are very important in making sure that employees know the job they are required to perform, training and experience requirements, the level of authority and the performance criteria. A performance evaluation system facilitates feedback on performance and indicates areas of improvement.

#### RELATIONSHIP WITH JAMPRO:

Casual Designs has benefited from the services provided by JAMPRO. It has used mainly technical support and training services, and is satisfied with the delivery of services. Their main complaint is in having to provide the same information over and over, as staff turns over so rapidly at JAMPRO.

## **RECOMMENDATIONS**

In order to address the weaknesses identified in the findings and conclusions, and to build on the strengths of the company, the following recommendations are made. We believe that these will result in an improvement of the company's sales and profit position and will ensure viability and growth of the company.

### **MARKETING**

1. The company needs to maintain sales to the tourist sector as it generates higher prices, and to compensate for the local recessionary market conditions. In order to do this, the following are recommended:
  - a. At least one director should pay an extensive visit to the North Coast to determine exactly why sales have fallen so drastically, and to invite customers input into strategies which can increase sales.
  - b. Offer customised products to hotels whereby the hotel trademark can be printed on garments sold in hotel gift shops.
2. The company also needs to address the issue of market knowledge:
  - a. Before entering the uniform sector, Casual Designs should do thorough research on the market. JAMPRO may be of assistance in gathering market information. The company needs to identify the level of demand for

uniforms, the competitors, the cost of production in relation to current prices and profitability.

- b. Before entering any other market or country, the company should satisfy the needs of the local market and also build up market share in Cayman, where it has already established a presence. Therefore, at least one visit to Cayman should be made before the tourist season i.e. before December to determine the needs of the market and if possible, to generate new customers and orders.
  - c. Regular visits to the marketplace to determine the changing needs of the market and how well the company's products are faring. Visits to the North Coast should be scheduled at least every 6 months, and to Cayman and other export markets, at least once per year.
  - d. Increase market knowledge by visiting wholesale and retail outlets owned by competitors and collecting information from retail outlets that do business with competitors. This should be done regularly to determine competitors strategies in terms of product and pricing.
  - e. The Sovereign store should be utilised more to gather information on customer needs and new products. For example, each customer could be asked to complete short, simple questionnaire on service, product range, styles, price, etc. Also, focus groups could be conducted, as could surveys of customers in the general mall.
3. Pricing should be reviewed more often than once per year on a product by product basis as the company must return to profitability. Greater market knowledge may indicate that there are product which may be able to stand a higher price whilst remaining competitive.

4. The management must recognise that they serve two types customers (retailers and end consumers through the store) and that they therefore have to tailor their promotions to each. Advertising and promotions are needed to generate sales. However, since the company is small and funds are limited, promotion strategies must be targetted and cost effective.
  - a. Promotional strategies geared to the retailer may include volume discounts, cooperative advertising and customised lines.
  - b. Strategies for the store should not concentrate only on seasonal sales at Christmas or Easter but should be all year around in order to even out sales. Discounts targetted to specific groups (e.g. students, toddlers) can be carried out at various times of the year. Also, incentive programmes may be offered to the customer to encourage them to "sell" Casual Designs products (e.g. a bring a friend programme whereby the customer gets a discount for each friend that they bring).
  - c. Since the brand name "Jerise" is already established, the company needs to increase the level of brand identification, brand recognition, and brand recall in the target markets. This can only be done through effective print media and in store promotion.

## OPERATIONS:

1. The first priority is to determine the plants capacity and capacity utilisation. Capacity can be measured in this case in terms of the rated output of each machine. Calculating capacity will reveal excess capacity and bottlenecks in the production process, and will indicate any additional equipment required to balance the production lines. Most importantly, when matched with actual production, it will tell management the percentage utilisation, and the amount of additional business which the company can handle without additional equipment. JAMPRO may be of assistance in this.
  
2. The company should investigate the cost of a standby power generator, so that it can operate during power cuts. This must be weighed against the cost of production lost to ensure that it is justified.
  
3. Quality control is the major area of concern, as the markets all indicate a need for higher quality. Quality is also tied closely to efficiency and competitiveness:
  - a. The dependence on final inspection needs to be reduced by more inspection during production
  
  - b. Operators need to be trained on the importance of producing first quality all the time, and in the skills required to do so. JAMPRO may be of assistance in identifying weaknesses in skills and developing training programmes to address them. Training must be continuous - a single training programme is not enough to sustain productivity and quality.

- c. It is normal in the garment industry to pay on piece rate. Casual Designs should enlist the assistance of JAMPRO in establishing such rates. Management must recognise that workers will trade-off increased production against quality, so procedures to ensure consistent quality must simultaneously be put in place.
- d. Management should immediately start planning for implementation of the ISO 9000 programme. The certification will facilitate access to overseas markets, but more importantly, the process will identify areas of weakness and uncompetitiveness, and will force fundamental changes and improvement.

### FINANCE AND CONTROL

1. In order to revert to profitability, management needs to examine each expense in detail and effect cuts. It should also examine the structure of its expenses in terms of fixed and variable costs, and determine which fixed costs may be made into variable costs e.g. many companies now contract a janitorial service rather than hiring a full-time janitor.
2. The management should analyse the financial statements each month, and compare them to previous periods (i.e. months, years) as well as any financial information available on the industry through JAMPRO. This is important in monitoring the financial health of the company. Particular attention must be paid to profitability ratios, and these should be related back to the pricing strategy.
3. A five year business plan should be done to encourage the directors to think about their long term goals. and to develop strategies to meet them.

This plan must include a detailed action plan along with deadlines and assignment of responsibility

4. Budgets should be done on an annual basis for the use by management, and not just for financial institutions.
5. A more practical system of accounts payable is needed as the present system depends on the director's memory.
6. The company should continue its policy of low debt. However, it should utilise special funds offered to manufacturers and exporters which offer concessionary interest rates. These are available through the National Development Bank and the Trafalgar Development Bank. In particular, the company should access the TDB funds offered to exporters for export market research and development 3% interest.

### **ORGANISATION AND MANAGEMENT**

1. Since supervision is a problem, the company should seek assistance in finding trained supervisors who are not only trained in garment manufacturing but have excellent supervisory skills in order to motivate staff and make a worthwhile contribution to the company.
2. Job Specifications and Job Descriptions should be written for each post, and should be explained and a copy given to each incumbent.
3. A performance evaluation system for all employees should be put in place, and must be conducted at least once per year. All effort should be made to make this system as objective as possible.

## **RECOMMENDATIONS TO JAMPRO:**

JAMPRO can be of assistance to Casual Designs in the following:

1. Implementation of the centralised data base so that the management does not have to submit the same information repeatedly to JAMPRO
2. Provision of local and overseas market information
3. Provision of industry data on cost structure (locally and internationally) so that the company can measure its performance against the industry standards, and will know which areas need improvement.
4. Calculating plant capacity and capacity utilisation
5. Identification of inefficiencies in production process and skills of operators
6. Development of training programmes to improve operators and supervisors skills
7. Development of piece rates for operators
8. Implementation of ISO 9000 programme

**CARIBBEAN TOOLING LIMITED**

**COMPANY AUDIT**

Prepared for : United Nations Industrial Development Organization (UNIDO)  
&  
Jamaica Promotions Corporation (JAMPRO)

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August 1995

**CARIBBEAN TOOLING LIMITED**

**TABLE OF CONTENTS**

	<b><u>Page #</u></b>
BACKGROUND	1
FINDINGS	
MARKETING REVIEW	2
OPERATIONS REVIEW	5
FINANCE AND CONTROL	11
ORGANISATION AND MANAGEMENT	14
CONCLUSIONS	19
RECOMMENDATIONS	23

**COMPANY AUDIT OF**  
**CARIBBEAN TOOLING LIMITED**

**BACKGROUND INFORMATION**

Caribbean Tooling Limited commenced operations in September 1972 to manufacture tools and molds, and to repair molds used in the production processes of its affiliated companies, Thermoplastics and Plas Pak Limited. All three companies operate from the same compound in the industrial estate at Twickenham Park, St. Catherine.

The company, although a separate legal entity, operates as a department of Thermoplastics Limited. Organizational functions such as Quality Control, Purchasing, Finance and Accounting and Personnel are centralised and shared with its affiliated companies.

Caribbean Tooling does not have a mission statement of its own and its short-term goals are to remain a support organization to Thermoplastics and Plas Pak. Its long term goal is to become a profit centre in the group.

## FINDINGS:

### MARKETING:

#### SALES:

Sales of Caribbean Tooling were not made available to the interviewers.

The services of Caribbean Tooling are not actively marketed outside of the group, as its main customers are Thermoplastics and Plas Pak. Both companies manufacture a range of plastic products such as pipes and fittings, hoses, household items (laundry baskets, washtubs, cups, etc.) and bottles.

#### PRODUCT MIX:

The company provides the following services:

- making molds and tools
- repairing molds

It also makes and repairs molds for bottles for SEPROD and Texaco, as well as molds used to imprint brand names on SEPROD soaps. In the former case, the molds are owned by these companies and kept at Thermoplastics for use in the manufacture of bottles for these companies. In the latter case, the molds are used by SEPROD in their manufacturing process. The policy of the company is to satisfy the demand of its affiliated companies before taking orders from outside.

### DESIGN DEVELOPMENT:

The company designs its own products based on requests for specific types of molds from Thermoplastics and Plas Pak. Design-related problems are discovered when the prototype is made and run, and by customers after sale of the plastic item made by Thermoplastics or Plas Pak.

### PRICING:

The company invoices its customers for the cost of labour at an hourly rate, and the actual cost of materials used. The hourly labour charge was established over 2 years ago.

### THE COMPETITION:

The company's main competitors are the National Tool and Die Division of JAMPRO, Mullings Tools and Ramdial Engineering Works Limited. The company does not have much information on their competitors. The management considers Caribbean Tooling to be more technologically advanced than most of its competitors. Industry insiders consider the facility at Caribbean Tooling the best equipped in Jamaica, and perhaps the Caribbean, and feel that there is a large market for its products and services.

The management rates market share, labour skills and low management turnover as the main competitive advantages of the company. Its main weaknesses are availability of capacity and quality control.

**CARIBBEAN TOOLING LTD COMPARISON WITH COMPETITORS -**

**Table M1**

	R	A	T	I	N	G
ACTIVITY	Excellent	Good	Fair	Poor	Unsatisfactory	
<b>Marketing</b>						
Market Share	X					
Product Quality		X				
Warehousing		X				
Delivery capability			X			
<b>Operations</b>						
Available capacity				X		
Capacity utilisation		X				
Location		X				
State of equipment		X				
Productivity		X				
Raw Materials		X				
Quality Control			X			
Labour Skills	X					
Labour Relations		X				
<b>Financial</b>						
Profitability						N/A
Availability of credit						N/A
Ownership		X				
<b>Administration</b>						
Administration skills		X				
Office facilities		X				
Automation						N/A
<b>Management</b>						
Experience		X				
Skills		X				
Turnover	X					
Board of Directors		X				

## OPERATIONS:

### PLANT:

The company is located at Twickenham Park Industrial Estate in St. Catherine. Caribbean Tooling is at the extreme rear of the Thermoplastics complex.

The size of the plant is limited and machines are placed close together. Walkways are narrow and not clearly defined, but are kept clear. This hampers free movement and makes the plant look crowded and confused. There are adequate storage facilities for raw materials and finished goods.

Security arrangements are centralized for all three companies and seems to be adequate.

### PRODUCTION PROCESS:

The plant is divided into four main sections:

- Lathe Section
- Milling Section
- E.D.M. Section
- Grinding and Bench area (where grinding of molds and assembly is done)

Machinery is grouped according to function. The production process is not organized for line operation as each job varies and does not follow the same production process e.g. some jobs are started and completed in the milling section, while others go on the lathe section and are completed there, and others may go on to the grinding section.

Four (4) workers are assigned to each section. However, these workers are not permanently assigned but can be called upon to work in any area. All sixteen workers are supervised by the Superintendent. Management considers that personnel are inadequate in terms of training and experience.

Workers were not dressed in uniforms nor wore any protective garments or equipment, and no protective gear was offered to the interviewers for the tour. The plant seemed fairly quiet, and the workers were diligently applied to their tasks.

#### EQUIPMENT AND MACHINERY

The plant has the following machines:

- 4 Lathes - these are used for cylindrical and conical turning i.e. for the making of bolts, nuts, shafts and pins
- 4 Milling Machines - these are laid out according to size and function and are primarily used for the production of flat surfaces and drilling holes. One of the milling machines is considered state of the art, as it is a Computer Numerical Control (C.N.C) Machine Tool.
- 1 EDM (Electrical Digital Machine) - this is used to emblem molds by electrical charge. The molds are then used to print trade marks, brand names or logos on items such as soaps or bottles produced by Thermoplastics
- 1 Panograph - this is a cross between a milling and a copying machine, and is used for engraving trade names and brand names on molds.
- 1 Drill Press
- 1 Cylindrical grinding machine

- 1 Tool and cutter grinder
- 2 Surface Grinders
- 1 Power Saw
- 1 Over head crane
- 2 Furnace and welding plants

Many of the machines were not being used during the plant tour. The reason given was that the jobs in progress vary and do not require the same or all of the machines e.g. the plant was presently working on molds that require more lathe and milling work therefore some of the more versatile machines that did combination jobs such as milling and grinding were not being used.

The company has plans to upgrade equipment in the long-term.

There are no stand-by generators, and the company uses coolant instead of water to cool items that are heated. The company has adequate storage facilities for coolant.

#### PRODUCTION CAPACITY

Management states that capacity is difficult to measure as production processes are customised for each job. Thus, each job varies in the amount of time for completion and the machines used.

Time taken to set up the machines for specific jobs as well as machine downtime, limits the company's ability to better utilize capacity.

Workers work 1 shift of 7.5 hours, and overtime once or twice per week and on weekends if necessary. Thermoplastics and Plas Pak operate 3 shifts, 5 days per week.

#### PLANNING AND SCHEDULING:

Production is determined by the manager each day according to orders and is only changed in emergency situations, such as a machine being down.

The lead time given for jobs depends on the type of job i.e whether it is a repair job or a new product and also the type of mold being made. Molds can be made in four to six weeks; repairs are normally completed within a week. The company has a problem meeting deadlines for orders due to machine downtime, inexperience and skills of workers, poor scheduling of labour and machines and problems with procuring materials. Less than 50% of outgoing orders are delivered on time.

Production schedules are communicated by the manager through informal discussion with supervisors who in turn verbally issue duties to operators.

#### PRODUCTION TECHNOLOGY

Although not documented, standard operating procedures are in place. There is no documentation of equipment idle time or down-time.

Numerical Control, Computer Numerical control tools and Electrical Discharge as well as Production Planning and Inventory Control Systems are used in the production process. The company is planning to introduce CAD/CAM systems.

Employees have the authority to interrupt a process when there are non-conformities or any problems occur. Before any engineering or process changes occur information is channeled to all affected departments and personnel for the purpose of discussion and agreement upon changes. The cost impact is usually estimated and recorded prior to change approval.

#### QUALITY CONTROL:

Quality Control is centralised, but the group Quality Control Department has no jurisdiction over quality at Caribbean Tooling, even though the quality of products manufactured by Thermoplastics and Plas Pak begins with the quality of the mold. The department does not have personnel skilled in the techniques of monitoring tool-making operations.

Quality control at Caribbean Tooling is carried out by operators and supervisors, who examine work-in-progress and the finished molds to determine if they meet required specifications. Work-in-progress is checked every 1/2 hour to 1 hour. The system relies heavily on problem detection and correction, rather than on problem prevention. The tool setters in Thermoplastics and Plas Pak usually run a few samples of the items being made from a new mold before full operation is implemented. If there is a problem with quality, the mold is returned to Caribbean Tooling for adjustments.

The company plans to implement ISO 9000 within the next 2 to 3 years, and preliminary work has started. 12 employees have participated in quality control training in the past 2 years - ISO 9000, Quality Auditing and Introduction to Quality Control Procedures.

### PURCHASING:

Purchasing is centralised, and is considered to be bureaucratic and not effective in meeting the needs of the company. This is evidenced by delays in completing jobs due to delays in procuring raw materials.

### HOUSE KEEPING & MAINTENANCE:

Maintenance is centralised and serves all companies in the group. Management complains that repairs to equipment take too long, and hold up production.

The grounds are well-kept, neat and free of garbage and the building appears to be well-maintained. Garbage containers are strategically placed near to different machines on the compound and they are clean and odour free. The floors, ceilings, and windows of the plant are clean; and although the building has many windows the plant uses on a central air-conditioning unit for ventilation. The walkways are clear of obstruction and items seem to be stored neatly in their rightful place. Safety signs are inadequate in number.

## **FINANCE AND CONTROL:**

The financial function of Caribbean Tooling is carried out by the Financial Controller and the Finance department for the group. Analysis of Caribbean Tooling's financial situation was not possible, as financial information on Caribbean Tooling was not made available.

Group financial statements are prepared monthly and the date of the last audited is 1993. Budgets are prepared annually with the input of each department, subsidiaries and their respective managers, and coordinated by the Financial Controller.

The accounting system is fully computerised and accounting manuals are being developed for the group. All journal entries are supported by substantiating data and are approved by the group's Financial Controller.

Accounts Receivable is the function of the Collections Department and the collections journal is analysed weekly. Bad debts are minimal. The group's normal credit terms are 30 days. Credit is approved by the Vice president of Finance, Vice President of Sales and Marketing and the Credit Control Manager. A credit application form is completed by each potential credit customer and trade references are checked before approval is granted. Credit limits and payment terms are established by the Credit and Control Department and reviewed by a committee of managers. Customers who fail to meet terms of payment are sent collection letters, visited personally by a company representative, and called. If these efforts do not bear fruit, then the case is handed over to a collection agency.

Inventory and Purchasing are the function of the Group Purchasing Department in collaboration with the Operations Manager. A weekly report is generated and analysed.

Accounts Payable is the function of the Accounts Payable Supervisor who reports directly to the Vice President of Finance

Information and control systems are reviewed periodically and new systems implemented based on the group's needs and to match company growth.

Audit trails and review of accounts by the Internal Auditor prevent misuse of company funds. Budgeted expenditure is monitored monthly and corrective action is taken at the departmental and top management level.

#### AUTOMATION:

The group has a network system and an IBM AS400. MAPICS software, along with a real-time on-line system is used to update inventory as orders come in. Caribbean Tooling is not privy to this level of automation. A recent assessment of the group's automation needs recommended an expansion of the AS400 and plans are being made to implement the network system at Caribbean Tooling. The group has adequate staff to support automation efforts

Training by in-house personnel or by IBM in computerisation is given to recruits and to staff in order to upgrade skills.

There are no immediate plans to link into any external database or networking system.

## ORGANISATION & MANAGEMENT:

Written job descriptions are in place for all employees.

Mold repair personnel are paid weekly, and tool makers on a monthly basis. Although the company's payment and benefit policy is not linked to performance, the remuneration packages for all levels compares favourably to the manufacturing sector.

Most employees have been with the company for 5 - 10 years. Turnover is low. Absenteeism is recorded, but workers are neither penalised for being absent nor rewarded for regular attendance. The management does not know the cost of turnover or absenteeism.

Workers at Caribbean Tooling are unionized. There are procedures in place for employees to air their grouses and request transfers by way of an open-door policy between management and staff, and make suggestions through suggestion boxes.

Exit interviews are conducted when employees leave the company. Absentee records are kept, but there are no policies for penalising absenteeism or rewarding regular attendance and punctuality. Employees are entitled to ten days sick leave and five (5) days emergency leave in addition to their vacation leave.

Manpower planning is not done until there is an immediate need. This is done by department heads submitting an employee requisition to the Personnel Department.

Performance Evaluations are conducted once per year, using a system that is based on opinions regarding the worth of individual effort. It is felt that the average employee views performance evaluation as a threat and more paper work. The company uses the evaluation to counsel staff, open channels for staff/management communication, determine employee training needs and suitability for job. Top executives are not evaluated

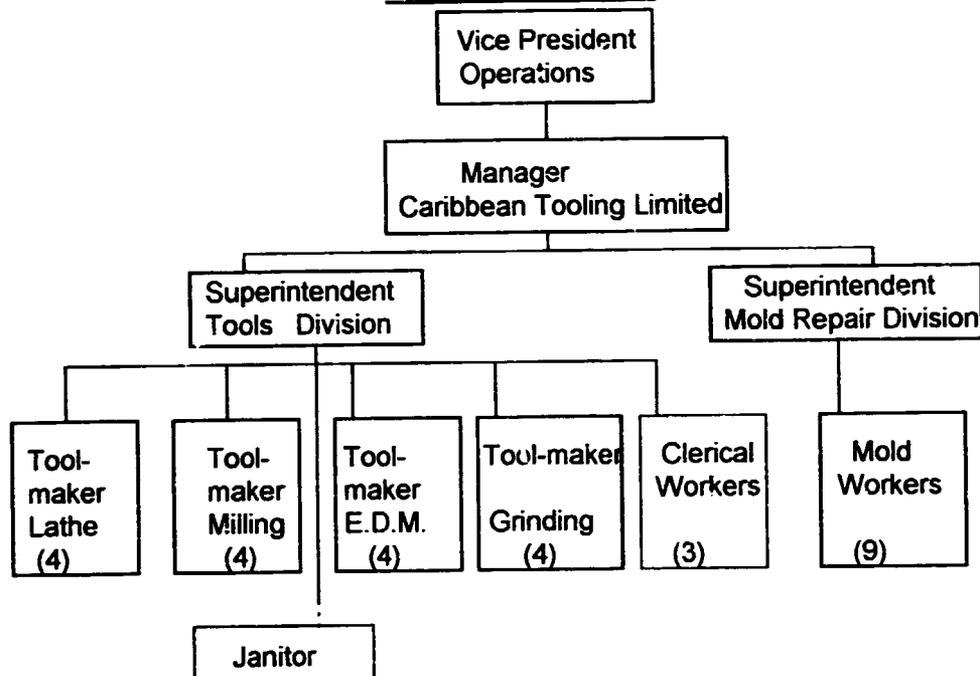
The group spends approximately \$250,000 per year on training. Training is conducted within the company on-the-job and apprentice programmes. In-house seminars and courses are used for clerical workers and apprentice programmes are for technical workers.

#### ORGANISATION CHART:

Caribbean Tooling is organised into two main sections. e. the Tooling Section - which makes and repair tools; and the Mold Repair Section - which makes and repairs molds.

The organisational chart is not documented as the group is currently undergoing a restructuring exercise which has not yet been completed. However, below is a chart based on management's description of reporting relationships.

### Organisation Chart



Reporting relationships are reviewed when needed and recruits and other personnel are told of their reporting relationship in an informal manner.

Workers are assigned grades according to the experience and years of service. There are three grades: - grade 1, grade 2 and grade 3. All the workers in mold repair are Grade 1. The company also has an apprentice programme where workers are taken on as apprentices and trained on the job. These workers are the ones at the lower grades i.e. Grade 3.

Below is a breakdown of employees in Caribbean Tooling:

**Number of Employees - Table O1**

	Male	Female	Total
Tooling	21	-	21
Mold Repair	9	1	10
<b>TOTAL</b>	<b>30</b>	<b>1</b>	<b>31</b>

All workers are permanently employed.

**Employee Benefits - Table O2**

<b>Employee Benefits</b>
Uniforms
Health Insurance
Life Insurance
Company sponsored training courses
Meal allowance during overtime
Travel allowance for travel officers
Company vehicles for management
Scholarships for employees' children
Lunch subsidy of 70%
Seniority allowance for persons working at company for over 8 years
Discounts on staff purchases

**MANAGEMENT AND EMPLOYEE COMMUNICATIONS**

Key management decisions are made following discussions with the senior management team of the group. The manager does not receive regular feedback on the performance of the company.

Employees are not aware of the company's objectives, or strategic plans. Staff meetings are held only when a problem occurs

### SECTORAL COOPERATION AND NETWORKING:

The Thermoplastics Group of Companies is an active member of the Jamaica Manufacturer's Association (JMA), the Chamber of Commerce (JCC), the Jamaica Employers Federation (JEF) and the Jamaica Institute of Management (JIM), and represents each of the subsidiaries in these associations.

Although Caribbean Tooling has established ties with other companies in the same field, they have not derived any benefits.

### RELATIONSHIP WITH JAMPRO:

Caribbean Tooling participates in JAMPRO's Tool and Die courses. The management commends JAMPRO on the level of training, but would like to receive brochures on time. Another problem the company experiences with JAMPRO is the cancellation of courses due to limited participants.

## CONCLUSIONS

Caribbean Tooling was established for the sole purpose of servicing the Thermoplastics Group of Companies, and it has continued to operate that way for 23 years. The company is not operated as a profit centre.

As part of a large, well-established group, the company is able to access support facilities such as Personnel, Information Systems, Purchasing, Finance and Accounting. This leaves the management free to concentrate and focus on production issues such as efficiency, and quality.

### MARKETING:

The company's main market is the Thermoplastics group. No marketing is done, as it is company policy to satisfy the demand of the group before satisfying the demand of any external customers. Orders are late 50% of the time, so it is obvious that the company would be unable to deal with any great volume of orders emanating from more aggressive marketing with the current systems and procedures.

The company plays a very important role in servicing the group, in that costs of mold manufacture and repairs are assumed to be lower, and delivery time shorter than if external suppliers were used. Pricing is cost-based, and the management does not know whether the molds are really cheaper and by how much. However, the labour charge is over 2 years old, and is likely to be much lower than the competition.

The company has no knowledge of the competition, other than the names of a few companies. However, management rates the company very favourably against the competition..

There seems to be a large demand externally for the services offered by Caribbean Tooling, which the company has not tapped into at all.

### **OPERATIONS:**

The company is equipped with the necessary machinery needed to satisfy its present operational needs. Although workers are assigned to specific areas their experience and flexibility allows for worker utilisation in any work area.

The plant is laid out by function and equipment is grouped accordingly in order to minimise on excessive movement of materials and work-in-progress. However, because space is limited, the walkways are narrow and not clearly defined. This hampers free movement, makes the appearance of the plant crowded and more than likely creates inefficiencies.

Plant capacity is difficult (but not impossible) to estimate as some jobs move through a process of different machines while others are started and completed on the same machine. Also, jobs do not necessarily follow a specific production order. This is a fundamental weakness, because if management has no idea of capacity and capacity utilisation, then it cannot plan and schedule production properly.

The company also has a problem meeting deadlines for orders due to machine down-time, which indicates a problem with maintenance. Poor scheduling of labour and machines also contributes to this. Scheduling is done on a daily basis, even though a job to make a mold takes approximately 4 to 6 weeks. This method of production scheduling is reactive, and indicates a lack of forward planning. No doubt, this contributes to the problems with procuring materials - if jobs are scheduled on the same day, then it is difficult to make preparations to locate and procure materials on time.

Standard operating procedures and equipment idle time or downtime are not recorded. Thus, it is difficult to analyse and pinpoint the reasons for downtime, to cost the impact, and to take appropriate corrective action.

Although there is a Quality Control Department for the group, the function of quality control for Caribbean Tooling is internal and relies solely on the operators and supervisors. The group does not possess any experienced quality control personnel knowledgeable of the standards and specifications for products manufactured by Caribbean Tooling. The tool setters in the plants do a sample run with the new mold before full operation.

Quality at Caribbean Tooling fundamentally affects all companies in the group. If there is a problem with the quality of the product after all adjustments are made by tool-setters, then the mold is returned to Caribbean Tooling to be corrected. This further delays production at Thermoplastics and Plas Pak (the first delay being caused by late delivery of the mold). Poor quality molds result in scrap, rework, lost production hours, high costs and dissatisfied customers in all companies of the group.

### **FINANCE AND CONTROL:**

This function is handled by the group, and there is good infrastructure in place. However, the company is not run as a profit centre, and that most of its sales are internal. This is likely to result in management behaviour which does not focus on minimising costs and maximising profitability.

### **ORGANISATION AND MANAGEMENT:**

Employees are not aware of objectives and strategies, and are only given information which is of immediate concern. Most communication is verbal, creating opportunities for wrong information and misinterpretation. Staff meetings are not held regularly, only when a problem arises

There is no formal organisational chart although one is being developed in the restructuring exercise.

Performance evaluation is subjective, and is not based on any measurable, quantifiable criteria. It is therefore seen as a threat. Feedback on performance even at the management level is minimal.

## **RECOMMENDATIONS:**

Based on the above findings and conclusions, the following recommendations are made. We believe that these will improve the performance of the company and lead to future growth and viability.

### **MARKETING**

1. Commission market research to determine if there is a market for tool and mold manufacture and repair. The research should include customer profile and their needs, external factors which affect demand, competitor analysis and supply capability, demand trends, etc. JAMPRO may be of assistance, although there may be conflict, as JAMPRO owns one of the company's competitors.
2. If the research shows a market, develop a 3 to 5 year plan to increase sales externally. Note that this can only be done when the ability to produce on time improves.
3. Establish prices based on market prices i.e. some research into the prices and method of costing used by the competition will be necessary.
4. General Manager to receive training in marketing. It may be necessary to hire a marketing officer depending on the size of the external market in the future.

## OPERATIONS:

1. Calculate capacity in terms of available machine hours, making allowances for set-up time. This can be used to assess and monitor the efficiency of the plant. JAMPRO will be able to assist in this.
2. Estimate via time and motion studies the time taken to carry out each job as a basis for pricing and production scheduling. Each job should have a job card which would record the time taken for each activity so that estimates can be compared, and reasons for variances determined and corrected.
3. Examine the layout of the plant to provide wider walkways. Additional space may be needed. JAMPRO can be of assistance in this.
4. Accelerate the implementation of ISO 9000. This will include documentation of operating procedures and records of downtime and idle time which are not now documented.
5. Establish weekly production scheduler through weekly meetings with supervisory staff. Document schedule and post in plant area so that all employees are aware of the work scheduled and completion dates and can monitor progress.
6. Appoint a Quality Control officer. The person should work with the group Quality Control Department and will liaise closely with the toolsetters at Thermoplastics and Plas Pak.
7. Examine the feasibility of a preventive maintenance programme for molds i.e. servicing of the molds after a set number of production hours. This would facilitate production scheduling at Caribbean Tooling as well as Thermoplastics and Plas Pak. It should also minimise defects in quality at the affiliated companies as molds would be removed before being fully worn.

8. Implement CAD/CAM systems. This should improve the design capability and lead to improvements in quality.
9. Examine ways of decreasing machine downtime with the maintenance department. This may include an examination of the feasibility of in-house maintenance personnel in order to reduce machine downtime.

#### **FINANCE AND CONTROL:**

1. Operate the company as a profit centre. This will require complete monthly accounts, which should include charges for centralised services provided to the company. Accounts should be compared to budget and variances analysed. Accounts should be sent to Caribbean Tooling management, and discussed with group senior management team.
2. Management of Caribbean Tooling should be held accountable for results, with some part of their remuneration being performance based. Criteria for performance could include profitability, meeting deadlines for jobs, quality of jobs.
3. Determine and monitor the cost of absenteeism, and develop strategies to reduce it.

## ORGANISATION AND MANAGEMENT

1. Hold regular staff meetings to discuss long and medium term goals, objectives and strategies, as well as short term issues such as production schedules, quality problems, training needs and grievances. This will provide a forum for employees to air their views and opinions, and could result in some very good ideas to address problem situations.
2. Review the performance evaluation system to make it more objective. The new system must be explained in detail to all employees, and those doing the evaluation should be trained in evaluation techniques. The new system should apply to all levels.
3. Send workers to Thermoplastics and Plas Pak to observe production process so that they understand the implications of poor workmanship throughout the organisation.

## **ASSISTANCE FROM JAMPRO:**

JAMPRO can assist Caribbean Tooling in the following ways:

1. Providing information for the market study
2. Determining capacity of the plant and capacity utilisation
3. Time and motion studies as a basis for estimating costs and establishing prices
4. Improvements in plant layout
5. Assistance in implementing ISO 9000
6. Assistance in implementing CAD/CAM
7. Training in tool making, quality control, ISO 9000

JAMPRO may also want to consider areas of collaboration with National Tool and Die - say, maintenance of equipment, production of excess orders, etc.

**PLAS PAK LIMITED**  
**COMPANY AUDIT**

Prepared for: United Nations Industrial Development Organisation (UNIDO)  
&  
Jamaica Promotions Corporation (JAMPRO)

Prepared by: Management Options Limited  
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August 1995

# PLAS PAK LIMITED

## TABLE OF CONTENTS

	Page #
BACKGROUND	1
FINDINGS	
MARKETING	2
OPERATIONS	12
FINANCE AND CONTROL	28
ORGANISATION & MANAGEMENT	31
CONCLUSIONS	37
RECOMMENDATIONS	45

# COMPANY AUDIT OF PLAS-PAK LIMITED

## INTRODUCTION

Plas-Pak Limited is a limited liability company and a subsidiary of the Thermo-Plastics group of companies. It was purchased in 1982 from the Kingston Industrial Works (K.I.W.) Group.

Other companies in the group are Thermo-Plastics (Jamaica) Limited and Caribbean Tooling Limited. The managerial, accounting, purchasing and to some extent marketing functions are centralised for all companies within the group.

Plas-Pak is located in Twickenham Park, Spanish Town, opposite the large industrial complex where the other two companies in the group are situated.

Plas-Pak produces bottles in a variety of shapes and sizes using the blow moulding method. Thermo-Plastics produces the caps and sells them to Plas-Pak.

Within the last five years, Plas-Pak has become a profitable operation and its short-term goal is to remain a profitable entity. Its long-term goal is to increase its local market share substantially.

The company does not have a mission statement, but one is currently being developed for the group.

## FINDINGS:

### MARKETING:

#### SALES:

The sales performance for all range of products for 1993 - 94 and projected sales for 1995 - 97 are outlined below:

**Table M1 - Actual and Projected Sales:**

YEAR	ACTUAL SALES	PROJECTED SALES	COMMENTS
1993	\$36M	-	
1994	\$55M	-	27% increase in prices across the board
1995	-	\$78M	15% increase in prices across the board
1996	-	\$102M	
1997	-	\$145M	

Plas-Pak produces to order mainly for the local market, but is also involved indirectly in the export market, as its products are sold to companies which export such as Shell Company Limited and a number of cosmetic manufacturers.

## PRODUCT MIX

Plas-Pak started by producing only 1-quart bottles. Today, they produce a wide range of plastic bottles of all shapes and sizes to satisfy market needs. Products produced depend on customers product requirements, trends in the marketplace and equipment capabilities

Most items are produced for a particular client based on given specifications. As a result, the company has never really focused on developing a brand name.

New products were last launched in 1994. There is a current demand on the market for products which the company is capable of producing. These include bottles of different sizes, designs and texture. Plans are now underway to start producing "visi-strip" bottles, which will target the oils and lubricants sector. The bottles will be manufactured initially for Shell, but this market has much potential and it is being carefully examined to identify needs and trends. Projections indicate that once on stream, annual sales for the first two years will be in the region of \$36M.

## THE MARKET

Plas-Pak's products are normally sold on the local market, though occasionally, five per cent (5%) or less is exported to CARICOM. The main target market includes -

- Manufacturers of oil lubricants e.g. engine oil, gear oil
- Manufacturers of personal care products e.g. shampoos, body lotions
- Producers of fats and edible oils e.g. cooking oil
- Processors of various kinds fruit juices

Industrial manufacturers are responsible for eighty five (85%) of the local sales. The remaining fifteen per cent (15%) is sold to pharmacies and small companies packaging alcohol, cosmetics, vinegar and oils.

Though Plas-Pak is the local market leader, it is still only responsible for a small percentage of the plastic bottles used in Jamaica - it is estimated that the origin of about 65% of the plastic bottles found in Jamaica is from overseas.

Plas-Pak spends a significant amount on packaging each year as their products are packaged in standard cartons or plastic bags. The boxes are in most instances reused by their clients for their own products.

### DESIGN DEVELOPMENT

Plas-Pak designs its own products. These are for the most part either modifications of original designs or based on client specifications. In designing its products, the company is limited by machine capabilities and available moulds. It is therefore not always possible to modify designs in keeping with market trends. The company is not satisfied with current designs, but due to the age of equipment, they have not been able to produce some of the containers currently in demand. The linkage with Caribbean Tooling is important in new product development and design, as the company effectively has its own in-house mould manufacture and repair capability which it can offer to customers.

As a special service to customers, Plas-Pak has also developed a system of colour coding products manufactured for specific customers. A particular blend of colours is mixed and is used only for the products of one single customer. This makes it easier for customers to

identify their containers especially if these are being used for deliveries to wholesale or retail outlets.

Plas-Pak's clients use the same packaging for both the local and overseas markets. However, current trends suggest that modifying the design of some of the existing products, such as packaging for cosmetics and related products, would increase sales significantly.

The company sources information on packaging locally or as a result of events in the international community. There is no set policy for reviewing packaging, but this is normally done to match the competition and as trends in the market change.

Design related problems are discovered either when the prototype is being made or as a result of customer complaints following the sale of the product. The company receives feedback from customers about design issues and changes through the Customer Service Department, Sales Department, retail outlets and market surveys.

### PRICING

The policy for local market pricing is both cost-based and market driven. Prices for the export market, though not now a priority, are usually cost-based.

The mark-up used in the local market varies from 10% to 40% depending on the product and market trends. For the overseas market, the mark-up is normally 15%, but this may go as high as 30% if market driven.

There is no set method for getting information on competitors' prices and mark-ups, but the industry is small, employees move from one company to the next and this has created an informal networking system.

Prices have been modified three times in the past three years. They are reviewed annually, when there is an increase in the cost of raw materials or when the main competitor cuts prices. When price changes occur, large companies are informed verbally and provided with a standard price list. Other customers receive customised quotations based on requests.

The company offers discounts and a specific policy has been established.

### DISTRIBUTION

Products are distributed through direct selling by the company's sales force and the retail/wholesale outlet at Twickenham Park. Under this present system, products ordered reach the customer within twenty four (24) hours.

Sales representatives take samples to customers and potential customers. Products ordered are delivered to customers by the company's truck, or collected by customers.

Sales staff are paid a flat salary as the company feels that when demand exceeds supply a commission is no longer necessary. Each Sales Representative covers over forty (40) outlets and they are required to visit customers on the "A" and "B" lists at least once per week.

The company has no approved distributors, but persons who are doing this unofficially mark-up products by 25% to 33%.

Products being sent overseas are shipped in containers directly to the customers who are normally distributors. The disadvantage of this arrangement is that the company gets no feedback on product acceptance from retailers and has no information on product usage

### PROMOTIONS

The company spends approximately \$600,000 annually on local promotions and advertising. Products are promoted through advertising and trade shows. These promotional activities are planned and carried out in-house and through an advertising agency. Because of the visual presentation, television ads are considered the most effective advertising medium.

The company has made no serious attempt to promote a brand name as this is not of major importance for industrial products.

Overseas sales are for the most part indirect and promotions are therefore not necessary.

### THE COMPETITION

Plas-Pak's main competitor is Plastic Containers Limited, which produces attractive plastic containers with great market appeal. In the last few months their products have been cheaper than Plas-Pak's, as they have actually been able to reduce prices. It is difficult to determine the exact reasons for this as the details of their operations and costing procedures are not known. However, the most likely reasons are that Plastic Containers Limited has more modern and efficient equipment capable of producing shapes/using colours which have greater market appeal and more efficient workforce and operating procedures

Other competitors are Omni Industries Limited and Bluemar Limited, as well as manufacturers with in-house blow moulding facilities.

Plas-Pak is the market leader with 55% market share. It is estimated that Plastic Containers has 40% of the market. The company has been able to maintain this position mainly because of contractual arrangements with a large local company. This order will remain until the company modifies its packaging. The mould for this customer's containers was designed by Plas-Pak to run on its equipment. It takes about ten years to amortise a mould. If a customer changes manufacturers or packaging prior to that would mean incurring additional expenditure to design and develop a new mould.

Plas-Pak gathers information on its main competitors in the market on market share, prices, quality and new products. This information is used as a reference in modifying prices, a guideline in establishing the company's position in the marketplace and in establishing trends in the marketplace.

Company Ratings

Using as guidelines its current level of performance and the competition it faces, Plas-Pak rates its business activities as follows:

**Table M2 - COMPANY RATING AGAINST COMPETITION**

Activity	RATING				
	Excellent	Good	Fair	Poor	Unsat.
<b>Marketing</b>					
Market Share		x			
Product Quality	x				
Product Range		x			
Packaging		x			
Pricing			x		
Sales Force			x		

Distribution Network		x			
Warehousing		x			
Deilvery Capability		x			
Customer Service	x				
Promotion, Advertising		x			
Public Relations		x			
<b>Operations:</b>					
Available Capacity		x			
Capacity Utilisation			x		
<b>Activity</b>			<b>RATING</b>		
	Excellent	Good	Fair	Poor	Unsat.
Location			x		
State of Equipment *					
Productivity		x			
Raw Materials			x		
Supplier Relationship *					
Quality Control	x				
Labour Skills *					
Labour Relations	x				
Research & Development			x		
<b>Financial:</b>					
Profitability *					
Cash Flow *					
Cash Reserves *					
Availability of Credit		x			
Ownership *					
<b>Administration:</b>					
Administrative Skills *					
Office Facilities *					
Automation *					
<b>Management:</b>					
Experience		x			
Skills *					
Turnover *					
Board of Directors *					

\* Comments were not made in those instances where the company did not have enough available information about the competition to make a judgement.

The above table shows that Plas-Pak's knowledge about its competitors is fairly limited. It rates itself very well in quality, customer relations and labour relations and does not see any area of great weakness as compared to the competition. In particular, the company highlights the following:

- Plas-Pak's prices, until recently very competitive, are now above market.
- Good promotional support based on activities of the group.
- Reliable distribution through the Thermo-Plastics group which has a well-established network.
- Durable products. Plas-Pak started with good standards which they have been able to maintain.
- The group has a centralised management system and employs capable and experienced managers.

### CUSTOMER SERVICE

A Customer Service Co-ordinator, who handles complaints for all companies within the group, has been in place for just over a year and a half and there has been a significant reduction in the number of complaints received.

In an attempt to offer better service, the group has also recently distributed a brochure to customers giving them the names and telephone numbers of key personnel working in Sales and Marketing, Distribution and Customer Complaints.

Feedback from customers usually comes in from -

- The Sales Representatives who speak with customers during visits to retail outlets and document relevant information in their reports;

- The Vice President - Marketing, Sales Manager and /or the Marketing Analyst as a result of field trips or telephone conversations

Feedback is also solicited from potential customers on new products and services to be launched on the market through surveys, sales force contacts and trade sources.

A customer service report is prepared weekly and circulated within the company. These reports are summarised and circulated monthly, quarterly and annually.

Customer complaints are handled as follows -

- The information is passed on to the Customer Service Co-ordinator, where they are assessed and analysed;
- They are then passed on to the relevant department for action.
- Corrective action is then taken by the head of the relevant department and/or supervisors on production floor

The most common customer complaints have to do with pricing and product faults. Occasionally, there are complaints regarding quality and delivery of incorrect items.

### **GOVERNMENT REGULATIONS AND MARKET ACCESS**

The company operates under the Factories Incentive Act. Products do not qualify for any preferential market access.

## OPERATIONS:

### PRODUCTION FACILITY

The plant, which is owned by the Thermo-Plastics group, is located at Twickenham Park Industrial Park in Spanish Town on 85,072 square feet of land. The total square footage of the building is 36,604 square feet, broken down as follows:

Production area (including Production Supervisors' and Delivery offices):	16,368 square feet
Warehouse:	11,308 square feet
Administrative and Sales offices:	1,536 square feet

The available space is adequate to meet production needs. There are also adequate storage facilities for raw materials and packaging. The warehousing space for finished goods does not appear to be adequate during peak periods. Excess raw materials are stored in a trailer on the compound when necessary. There are no immediate plans to expand storage facilities, but efforts are being made to manage the inflow of raw materials.

### PLANNING AND SCHEDULING

The Production Superintendent is responsible for scheduling production. Copies of the production schedules are given to supervisors, maintenance personnel who are responsible for preparing/changing equipment and sales personnel. This information is not necessarily passed on to the factory workers.

Production levels are to some extent market driven and are determined by -

- Orders from the Sales department
- Production capacity
- Delivery of raw materials ordered
- Established contracts
- Available stock of finished goods
- Projections received from primary and other customers.

Monthly production schedules change regularly before completion due to changes in customer's needs e.g. they may wish to bring forward the order, machine downtime and power cuts.

The lead time given to customers for meeting deadlines for orders varies from 1 1/2 to 3 weeks depending on product and size of order. Approximately 70% of orders are delivered on time.

### PRODUCTION LINE

#### Layout

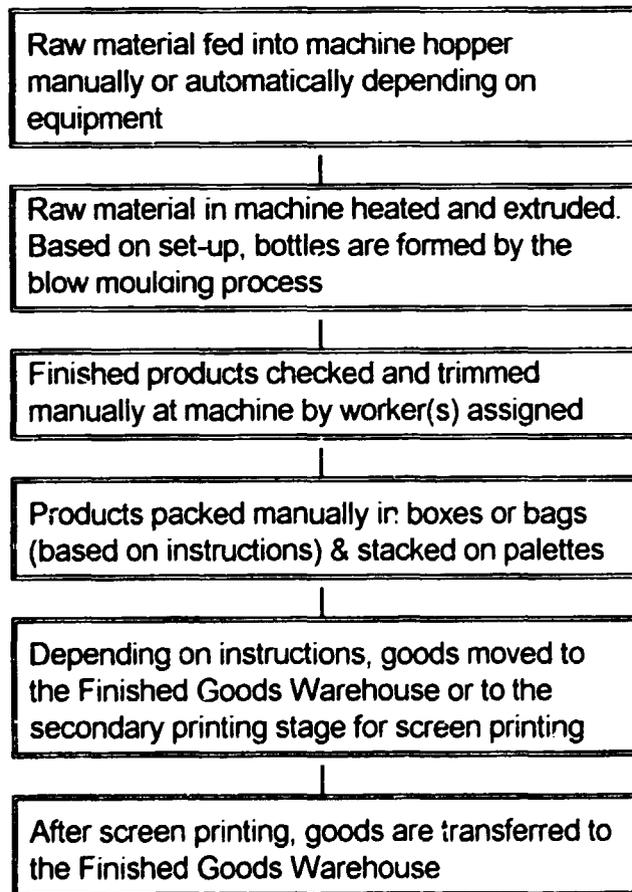
The production line is for the most part machine driven. The layout is fairly efficient and is set up to facilitate the automatic feeding system. The obvious disadvantage is that in most instances, raw material is fed manually into the hoppers.

The twenty (20) blow moulder machines are laid out spaciouly on the factory floor, each capable of operating as a separate entity producing different products. The finished products are cleaned up/trimmed at the individual machines by production workers before being packed into plastic bags or carton boxes. The screen printing section is set up towards the front of the production floor.

The company plans to upgrade equipment and increase automation in the near future. However, there are no immediate plans to upgrade the standby generator which has a limited capacity. The company's decision will depend on the Jamaica Public Service's expansion plans. Water is used in the production process and water supply in the Twickenham Park area is very poor. The company has water tanks, but these are not adequate to service the plant over a one-week period, which is sometimes necessary. In these instances, water is trucked into the area.

Production Process:

The production process outlined below is similar for the over sixty five products manufactured:



Rejects/Scrap:

Rejects and scrap material are recycled and a specific room in the plant has been designated for this activity. Rejects/scrap are taken from the machines to the granulator or grinder, where they are cut into small pieces and then returned to the hopper for reprocessing. As a result, absolute waste is minimal.

The grinder now runs for twenty four (24) hours per day five (5) days a week. An effort is being made to reduce the number of rejects produced and this would reduce usage of the grinder.

**PRODUCTION CAPACITY**

Daily Capacity

Capacity is measured in pounds processed and capacity utilisation is therefore dependent on the weight of the products being produced. Capacity is estimated as follows:

Annual capacity	3.5 million lbs.
Daily capacity	10,000 lbs. (based on 350 work days)
Current capacity utilisation	40% or 1.4 million lbs.

Normally, capacity utilisation runs in the region of 50% to 60%.

Machine cycle time depends on the product being produced and the specifications.

The plant has twenty (20) blow moulder machines, but two are considered "dead" and the remaining eighteen (18) are not all in good working condition.

Problems which affect timely delivery are power outages, water lock-offs and machine breakdown.

Line Balancing:

Though the production process is mainly automated, balancing is still necessary and the demand for it is product dependent. The following measures are used to balance the production line:

- Spare equipment added to line
- Speedy machine repairs by maintenance personnel
- Close monitoring of production by maintenance personnel

Additional equipment, namely water chillers, are needed to balance the production line.

Supervisory personnel are trained to balance the production line through their experience as operators, on-the-job training at the supervisory level and by attending training courses and seminars.

The plant lacks trained personnel to maintain and repair equipment. Skilled electricians and persons with expertise in industrial electronics are needed. Skilled maintenance personnel are in great demand in Jamaican industry and it is difficult to attract and keep them even in instances where the company has been responsible for their training.

Production workers are capable of operating on more than one line, but they are normally assigned to just one line. The company arranges training for multi-skilled employees through special on-the-job training conducted in-house for new employees and by sponsoring selected employees on special courses especially in maintenance and tool making.

## Equipment

The plant's current equipment is antiquated. Of the twenty (20) blow moulder machines, half are about six years old and in the plastics industry, this is considered old. The others are about fifteen (15) years old.

It is not possible to give the exact age of most pieces of equipment as some were purchased as reconditioned machines. Table O1 shows the condition and age of the blow moulders.

**Table O1: Condition of Blow Moulders:**

MACHINE #	YEAR OF MANUFACTURE	COMMENTS
B1	1987	Fairly good condition
B2	1986	Fairly good condition
B3		Fairly good condition
B4		Fairly good condition
B5		Fairly good condition
B6	1989	Fairly good condition
B7		Malfunctioning, now being repaired
B8		Malfunctioning, now being repaired
B9		Fairly good condition
B10		Fairly good condition
B11		Considered "dead"
B12		Fairly good condition
B13		Fairly good condition
B14		Considered "dead"
B15		Fairly good condition
B16	1974/75	Fairly good condition
B17	1974	Awaiting parts
B18		Almost "dead"; has not run in 7 months
B19		Not cost effective type of machine
B20		Recently retooled, after being down for 1 year

Of the 20 machines:

- 3 are considered "dead"
- 2 are under repair
- 1 is not cost effective
- 1 is awaiting parts

Only 13 machines are therefore available for production and each machine is not set up to run all products. This leads inevitably to problems in scheduling if there is a high demand for a particular product, despite the fact that some of the machines may be idle.

There are also two (2) screen printers which handle the printing side of the operation. They print one colour and work best on cylindrical bottles. Their age and capacity is not known, but they are able to satisfy current printing requirements. However, they are sometimes required to run all day depending on orders

#### Production Time

The plant operates on three (3) 8-hour shifts each day. Each shift is supervised by a Production Superintendent and the plant's eighty production workers service the three shifts. Despite 3 shifts, overtime is a regular feature. This is now being addressed as the cost is prohibitive and cannot be recovered from the sale of products.

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## PRODUCTION TECHNOLOGY

The company has documented standard operating procedures and these are now being revised.

Employees have the authority to interrupt a process when non-conformities or other problems occur and to bring them immediately to the attention of the Quality Control Inspector or the Supervisor.

With regard to equipment, the company keeps records of idle time and downtime and reasons. This information is analysed and used to improve the production process.

The following technologies are currently being used by the company:

- Programmable Controllers
- Production Planning and Inventory Control System
- Blow Moulding

Computer Numerical Control is soon to be introduced.

Prior to implementing engineering or process changes -

- All affected departments discuss and agree upon changes
- The cost impact is estimated and recorded prior to change approval
- The latest changes are recorded and dated

## PURCHASING

A centralised purchasing system exists for the entire group. As it currently operates, this system may not be ideal, as requests from Plas-Pak do not always get priority treatment and this leads to a range of production related problems.

Raw materials are purchased in the same quantities each month. Spare parts and other supplies are purchased as needed.

Purchasing policies and procedures have been documented, but these are neither current nor readily available to users. Purchases have been made recently outside of the prescribed purchasing routine due to emergencies or perceived emergencies. This may be linked to the fact that the company experiences raw material and component shortages regularly. This is due to problems with cash flow or logistics. Specific steps to correct this problem have not been taken..

Plas-Pak monitors the stock levels of goods in storage through

- A computerised inventory control system
- Random stock checks
- An inventory control system recorded manually
- Regular stock checks

The inventory control system has the following features:

- Raw material inventory status readily available
- Lead time for orders
- Safety stock levels
- Reorder points for raw materials

The last two features mentioned are not being used.

An effort is made to keep the Purchasing Department informed of all engineering and material changes to prevent overbuying and to minimise obsolescence of inventory.

The company has a clear definition of scrap and a scrap inventory is maintained. There is no need to inspect scrap before it is discarded as most of the waste generated by the production process is recycled.

The company has an approved list of suppliers. There are at least 3 regular raw material suppliers and 3 for spare parts. The Purchasing Department's quality control practices include -

- Taking into account supplier lead time when placing orders
- Providing suppliers with a clear definition of expected quality levels
- Following up with suppliers to ensure that orders are delivered on schedule
- Evaluating quality of raw material purchased in conjunction with the Production Department
- Documenting supplier quality

An attempt is also made to monitor delivery capabilities of suppliers before placing orders and assess supplier performance periodically. This is based on subjective analyses.

Following are the most common problems which the company faces with suppliers -

- Terms of payment
- Delivery time
- Communication sometimes difficult due to time difference between Jamaica/Europe
- Lead time in some instances with European suppliers

## AVAILABILITY OF INPUTS

Listed below are the main raw materials and packaging used and the source:

**Table O2 - Raw Materials and Packaging:**

ITEM	SOURCE	LEAD TIME
<b>RAW MATERIALS:</b>		
Plastic Resin	Overseas	1 month
Plastic Resin	Overseas	1 month
Colour pigments	Overseas	2 months
<b>PACKAGING:</b>		
Cartons	Local manufacturers	2 weeks to 2 months

The company is satisfied with the quality of raw materials and packaging although cartons from overseas sometimes seem tougher than the local ones. Problems become more evident in the rainy season. All materials used are available all year round. Shortages are only experienced when specific suppliers have problems with production. This is sometimes due to economic problems in the country where the material is sourced. Efforts are therefore being made to establish contracts with suppliers in a variety of countries.

## COSTING

The Accounting Department maintains up-to-date files with -

- Standard costs
- Materials and equipment cost data
- Standard overhead rates
- Past project costs
- Current labour costs

Periodic checks are made to evaluate actual operating costs and trends versus budget projections. The exchange rate is carefully monitored especially during periods of fluctuation as all raw materials are imported. Full costings are prepared once per month.

Records are also kept to facilitate the modification of work standards and product specifications prepared by customers and which they may later wish to adjust. The objectives of establishing standards are cost reduction, inventory control, work simplification and to increase efficiency.

Cost are distributed as follows -

Raw materials	50%
Packaging	5%
Labour	20%
Plant overheads	15%
Marketing, Finance, Administrative Overheads	10%

### QUALITY CONTROL

Quality control is the responsibility of the operators, Production Supervisors and technicians and supervisors in the Quality Control Department. The quality system relies heavily on problem detection and correction. The operators and the Production Supervisors are the first line inspectors and are required to check the quality of each operation they complete. The ratio of Quality Control Technicians to Production Workers is 1:20.

The quality of raw material purchased is checked by the Laboratory Technician and this is done for each batch. Less than 1% of incoming raw materials is defective. If a high

percentage of raw material is found to be defective contact will be made with the suppliers and they will come in to inspect and replace raw material. Such cases are however rare.

Quality is checked on the line by:

- Spot checks conducted at any operation
- Finished goods checked at the end of the line
- Some items checked every hour along with operators

Some items are likely to cause more quality problems than others. The 1-gallon round container is responsible for about 70% of the defects. This product has to be manufactured with great care as the customers insist on having the exact specifications adhered to.

Manuals are in place for all products. These were completed in 1993 and are therefore now in need of upgrading as this exercise should be done every two years. These manuals are developed and upgraded by the Quality Control Manager and external consultants.

Employees are made aware of the company's quality standards by reading the manuals, attending in-house quality training programmes and monthly meetings where new information is discussed and reading handouts with new information. 12 members of the department have participated in Quality Control Training programmes over the past two years.

The department generates a weekly quality report and members of the department are familiar with and understand the statistical quality control techniques used in the report. The company also has measurable quality objectives of which all employees are aware.

Records indicate that less than 4% of the work in process is rejected daily due to quality problems. Approximately 1% of finished goods is returned due to quality problems. Returns are due mainly to spoilage and damage in shipping.

Over the past 6 months, quality problems have been decreasing because more persons have been employed to monitor quality and training in-house and penalties have been instituted for allowing poor quality to slip through.

The company is aware of the ISO 9000 training standards and plans to implement them by 1997. Preliminary work has already started.

### SECURITY

The following security arrangements are in place -

- 2 or 3 security guards are on duty each day
- Guards check on goods sold and leaving premises
- Fire extinguishers are located in key areas
- A fire alarm pull station and manual pull stations are in place
- No smoking is allowed on the compound as this is a plastics operation

Access to the premises is controlled by guards at the gate. Other sensitive areas are controlled as follows:

Plant area:	Security measures to be implemented - access to be cut off by ropes; ground to be painted to prevent customers from entering
Warehouse:	Access is restricted to warehouse personnel only.
Spare Parts/Main Stores:	Doors kept closed
Other sensitive areas:	Signs are placed on doors

The company has found that theft is negligible.

No really hazardous product is used in the production process. However, printing materials are stored separately as they are flammable.

### HOUSEKEEPING AND MAINTENANCE

Due to the type of operation and the number of shifts, cleaning in the production area is ongoing. The following maintenance/cleaning programmes are in place -

- Maintenance of building
- Periodic cleaning of ceiling, windows, fans
- Weekly maintenance of equipment
- Maintenance of plumbing fixtures
- Maintenance of electrical installations

The programmes seem fairly effective as the production area appears clean. Storage areas are not. Maintenance is carried out -

- When equipment breaks down
- When production is slow
- On a regular schedule
- Outside of normal production hours if part of the routine maintenance programme

Less than 1% of available production hours is used for scheduled equipment maintenance. Total production hours lost to machine breakdown is difficult to estimate, as downtime could be due to time taken to make the required adjustments on a machine when switching from one product to the next.

The following preventive measures are in place to ensure the safety of workers, equipment and building and promote healthy production practices:

- Nurse on staff for workers in group
- Special staff trained in first-aid application
- Adequately stocked first-aid kits available
- Machine use restricted to trained personnel
- Fire extinguishers in place and checked regularly
- No smoking allowed on compound
- Signs in place in areas where caution should be exercised
- Floors cleaned regularly to prevent slipping
- Protective clothes and shoes worn where needed (casual workers not normally provided with protective gear, but they sometimes purchase same)
- The company has a Safety Committee and they are looking into introducing other measures such as periodic fire drills

The plant has no emissions, but despite the four recently installed exhaust fans, it is still hot.

### **ENVIRONMENTAL IMPACT**

There are no products harmful to general health or the environment used or produced in the production process. Ninety nine per cent (99%) of the waste produced is reused in the process through the internal recycling system.

An Environmental Impact Assessment has not been done and there are no immediate plans to do so.

The company's operations are not yet affected by any environmental regulations.

## FINANCE AND CONTROL

Financial statements are prepared monthly and the last set of audited accounts were prepared in 1993. The company is financed by supplier credit, short-term and long-term loans and cash generated from sales. The exact breakdown on a percentage basis is not available.

Detailed financial data was not accessible from the company

The company's gross margin is in the region of 40%. However, data is not available to compare the company's performance with others in the sector.

## INFORMATION AND CONTROL SYSTEMS

Accounting manuals exist for a few aspects of the company's operations. However, these manuals are not up-to-date and are being revised. The others are being developed.

The existing accounting system is fully computer-based and the group has an Internal Auditor who reports to the President. There are no specific plans in place to rotate employees assigned to sensitive areas. Accounting books are in arrears, but the new computer system is now on line and books should be current by the end of June 1995.

Below are the main features of the information and control systems:

- Insurance coverage reviewed annually
- Journal vouchers approved by Financial Controller
- Cash flow monitored and controlled by Vice President - Finance

- Weekly Accounts Receivable Report prepared and monitored by Collections Department. As a result, ageing debts are controlled and bad debts minimal
- Inventory monitored by Purchasing Department, Operations Manager and Inventory Manager who review daily, weekly and monthly stocks
- Purchasing monitored and controlled by Purchasing Manager through centralised purchasing system for group
- Payments approved by Accounts Payable Supervisor and Vice President - Finance
- Employee records (employment, overtime, absenteeism, leave) monitored and controlled by the Personnel Department
- Internal Auditor monitors controls to protect against misuse of company funds

A budget is prepared annually. The manager of each department is responsible for the preparation of his/her departmental budget. Using this information, the Financial Controller develops the budget for the group. Budgeted expenditure is monitored through monthly reviews and corrective action taken. There is no long term strategic plan.

Credit terms are 30 days and the company has experienced no real problems in collecting receivables. A credit application form is used and a credit consultant validates the viability of the applicant. Credit is approved by either the Vice President Finance, the Vice President Sales & Marketing or the Credit & Collections Manager. Bank references are checked, but as this process is slow, initial approval may have to be given beforehand in order not to lose business to competitors. Accounts are monitored to prevent customers exceeding approved limits by checking history and limits on the computer. The Credit & Collections Department follows up on customers who fail to meet terms of payment by collection letters, personal visits and telephone calls. If these are not effective, then the case is handed over to a collections agency.

Information and control systems are reviewed periodically and improved as necessary. Upcoming improvements include the introduction of a time clock to assist the payroll department in improving accuracy and the development of a system to measure the performance of each department against the budget.

### AUTOMATION

The company is part of the group IBM AS 400 network system which uses MAPICS software. An assessment of the company's automation needs is currently being conducted and so far, the recommendations have been to expand the IBM AS 400 system. The company has adequate staff to support the automation efforts. Staff have been trained in automation through in-house courses and courses conducted by IBM. The company is not linked to an external database or networking system and has no immediate plans to do so.

## ORGANISATION AND MANAGEMENT

### HUMAN RESOURCE MANAGEMENT

Plas-Pak's day-to-day operations are monitored by the company's three senior employees, the Assistant Manager and the Production and Maintenance Superintendents. The company has a total of one hundred and eight (108) employees as categorised below:

Employee Categories - Table H1

DEPARTMENT	PERMANENT		CASUALS		HEART		TOTAL
	Male	Female	Male	Female	Male	Female	
Production	26	26	5	23	-	-	80
Maintenance	6	-	9	-	-	-	15
Sales & Marketing	1	2			1		4
Warehouse	8					1	9
TOTAL	41	28	14	23	1	1	108

A Quality Control Supervisor and three (3) technicians are assigned to the quality control laboratory at Plas-Pak. The QC Supervisor reports directly to the Quality Assurance Superintendent at Thermo-Plastics.

Plas-Pak is dependent on the services offered by the group in the areas of Personnel Management, Accounts, Purchasing/Warehousing and Quality Control. Permanent employees to the group in these areas are outlined below:

**Permanent Employee Categories - Table H2**

DEPARTMENT	MANAGERS	SUPERVISORS	OTHER	TOTAL
Personnel	3 (Including Nurse)	1 (Nurses' aid)	2 Systems Operators 2 Clerks	8
Accounts	1	3	2 Accountants 8 Clerks	14
Purchasing/ Warehousing	1	-	7	8
Quality Control	1	-	4	5
TOTAL	6	4	25	35

Written job descriptions are in place for all employees.

Employee benefits offered by the company include -

- Uniforms
- Health insurance
- Life insurance
- Company sponsored training courses
- Meal allowance during overtime
- Travel allowance for travelling officers
- Company vehicle for designated managers
- Laundry allowance
- Scholarships for employees who have been with the company for over 5 years
- Staff purchases at discounted rates
- Lunch subsidised by 70%
- Seniority allowance after eight (8) years of employment
- Emergency leave (5 days)
- Departmental leave (5 days)

The company's salary scale and fringe benefits compare favourably to other companies in the manufacturing sector. However, as a general rule, the company does not link pay and benefits to performance and there are no incentives for achievement of excellence.

Most employees have been with the company for 5 to 10 years and the annual turnover is very low. This stability could be due to the fact that most employees live in St. Catherine and the salaries paid by Plas-Pak are more competitive than those paid by many other companies in the parish.

Procedures/facilities are in place for employees to air their grouses, request transfers and make suggestions. Employees are aware of these procedures/facilities. The Personnel Manager has an open door policy and exit interviews are conducted.

Plas-Pak has two (2) unions, one for monthly paid workers and the other for hourly paid workers. Prior to 1992, Plas-Pak had several strikes. Since 1992, the company has had no strikes. It has stabilised, been restructured and the staff complement has been reduced. The result is that the working atmosphere and company culture are now more positive.

Absenteeism is a problem. The company keeps records, but there are no related penalties or rewards. Losses from absenteeism have not been computed.

Future manpower needs are not forecast on an ongoing basis and this usually leads to emergency recruiting.

The company has a formal performance appraisal programme. Evaluations are conducted once per year and performance is measured using mainly opinions regarding the worth of individual effort. Top executives are not evaluated. The average employee views the evaluation as a perceived threat, while the managers usually consider it more paperwork.

The company uses the performance evaluation to counsel staff, open channels for management/staff communications, determine employee training needs and suitability for position held and become aware of employees' inclinations and job goals.

Personnel policies are not frequently reviewed and evaluated.

Company policy does not place great emphasis on the development of human resources. The group spends approximately \$250,000 on training annually and very few Plas-Pak employees benefit from this training. The company tends to hire trained people and cut the training budget when faced with financial problems. Training is conducted through -

- In-house courses and seminars
- On-the-job instruction
- The apprentice training programme
- Private courses and seminars
- Training with overseas suppliers, but this is rare

The approach to training considered most suitable for the company is in-house seminars and courses for persons in clerical positions and apprentice training programme for technical workers.

### ORGANISATION

The Thermo-Plastics Group is a family owned business. A clearly defined organisational chart does not exist as the company is in transition and undecided about its present structure. Reporting relationships are reviewed as and when needed and explained at the departmental level to new employees.

Though a limited liability company, Plas-Pak operates like a department with the head of Plas-Pak reporting to a Vice President in the group. The sales personnel report to the Sales and Marketing Department, while the person responsible for production reports to the Vice President - Operations.

### MANAGEMENT/EMPLOYEE COMMUNICATIONS

Key management decisions are made following discussions with the senior management team. The company's strategic goals are modified as conditions change. However, there is no written strategic plan in place.

Employees are not aware of the company's objectives for the current month, quarter or year, current orders and projects, financial goals. Department Heads receive no feedback on the performance of their department. The Vice Presidents hold meetings with their managers, but departmental operations are not discussed. Management is receptive to suggestions coming from employees, but general staff meetings are only held when problems occur.

### SECTORAL CO-OPERATION AND NETWORKING

The Thermo-Plastics group is a member of -

- The Jamaica Manufacturers' Association (J.M.A.)
- The Jamaica Exporters' Association (J.E.A.)
- The Jamaica Chamber of Commerce (J.C.C.)
- The Jamaica Employers' Federation (J.E.F.)
- The Jamaica Institute of Management (J.I.M.)

The group participates actively in the J.M.A. and the J.E.F. The Vice President - Operations is the Chairman of the Plastic Manufacturers' Committee, while the Sales Manager is a member of the J.E.A.

### RELATIONSHIP WITH JAMPRO

The company is aware of the services offered by JAMPRO. Company representatives have been sent on training courses and the managers of the various department have sought assistance in their field as required.

The training courses themselves are of fairly high standards but the following problems have been experienced with regard to their general administration:

- Registration seems very tentative since courses are often cancelled or postponed due to low enrolment
- Brochures with training programmes are usually received too late in St. Catherine

The company plans to continue supporting the training programmes and in view of the age of equipment, it is likely that Plas-Pak will seek to benefit from the Modernisation of Industry programme.

## CONCLUSIONS:

### MARKETING:

#### Product:

The company provides two basic types of products - standard containers sold from stock and customised containers manufactured to customers specifications using customer-owned moulds. The development of proprietary moulds for customers ensures that switching costs are high i.e. once a customer purchases the mould which can only be used on Plas-Pak equipment, changing over to another manufacturer would involve the purchase of a new mould. This is to Plas-Pak's advantage.

#### Market Share and Market Segments:

The company estimates that it has about 55% of the market, a position which it has maintained over the years. The company sells 85% of its output to industrial manufacturers, who do not easily switch suppliers due to the limitations of their own equipment and requirements of their market. These manufacturers purchase standard bottles or their own designs.

The company does not seem to have an active and aggressive export programme, although it does contribute to the export industry by supplying bottles to manufacturers who export.

#### New Product Development:

New products are designed in-house, and the association with Caribbean Tooling is a major advantage, as it offers customers the ability to make and repair proprietary moulds. New product development is limited by the existing equipment and the high cost of new

moulds. Most new product development has therefore been limited to bottles of different sizes and to proprietary designs. This makes sense, as it minimises risk (no outlay for the mould) and guarantees sales.

Management feels that there is a demand for bottles with different sizes, designs and textures, but this will require investment in new equipment and moulds.

#### Pricing:

The company's pricing practices appear adequate. Prices are reviewed regularly and are responsive to market conditions. However, Plas-Pak's prices are now above market, as a result of its own price increases, and the main competitor reducing their prices in the past 6 months. As a result, the company is likely to experience a decline in sales.

#### Distribution:

The company's distribution network appears well organised as customers are being serviced regularly and goods, once manufactured, are delivered on a timely basis. However, the existence on non-official distributors suggests that the Sales Representatives are not reaching the entire market. This is not surprising considering that they are paid on flat salary, and there is therefore no incentive to target new customers.

#### Promotions:

Promotions are appropriate to the market which, because it is an industrial market, is best reached by personal contact.

#### Competition:

The local plastic bottles industry is dominated by two manufacturers who together have about 95% of the market. Plas-Pak is the market leader with 55%, which has remained steady for the past few years. The company has some knowledge of the operations of its

main competitor, Plastic Containers, and uses this information in the formation of its own strategies. The management rates itself very favourably against the competition, but this cannot be confirmed in the absence of more information about the competition.

The real threat comes from manufacturers who have their own blow moulding equipment - they provide their own bottles, and may, in the future, provide containers to other manufacturers.

#### Customer Service:

The group has made commendable efforts to improve customer service in a structured way, and these are receiving positive results.

### OPERATIONS:

#### Production Facility:

There is adequate space to satisfy current production needs and projected increases over the next two years. However, even though the plant is mostly producing to order, warehousing space for finished goods is limited, and as production grows, will become more of a problem.

#### Planning and Scheduling:

Basic planning and scheduling systems are in place, but seem to be inadequate, as evidenced by the high level of orders not delivered on time. The main reasons for changes in schedules are power cuts, machine downtime and changes in customer schedules. There are a number of remedies to these problems, but a simple solution may be to increase the lead time given to customers or to hold larger stocks of finished

goods (although this may be difficult given limited storage space and high carrying costs).

Communication of the production schedule is poor as it is not communicated to factory workers. This could lead to misinformation e.g. the wrong bottles or quantities being produced, and could very well be one of the reasons for not meeting the schedule.

#### Production Line:

The production process is simple and usually runs smoothly. However, it seems that a high percentage of production is recycled as the grinder runs around the clock. Even though rejects are recycled and the raw material is therefore not "wasted", it must be recognised that they have a cost (labour, electricity, water) each time they are produced and must therefore be minimised.

Facilities which support the production process, such as a standby generator and water tanks, are inadequate, and contribute to stoppages in production and late delivery of orders.

#### Production Capacity

Capacity is measured in pounds processed and this makes monitoring simple by bringing production down to a common denominator. However, it is not clear whether capacity calculations are based on the rated capacity of the equipment, or whether it takes into account the equipment that is non-functional. The capacity of the screen printing equipment is unknown, but is adequate for current production needs. Management estimates that overall capacity utilisation is 50% to 60%.

The main determinant of capacity are the 20 blow moulding machines, of which 4 are permanently out of service, and 3 temporarily for repairs. This creates a problem in

production scheduling, as the machines are not interchangeable i.e. every product cannot be run on every machine.

The plant operates on 3 8-hour shifts per day, 5 days per week. Despite this, overtime is a significant factor and cost, and of great concern to management. There should be no need for overtime if the plant is on a shift system.

Purchasing:

Purchasing procedures exist and are managed at the group level. For various reasons they are not being adhered to, and are not effective in ensuring on time deliveries of materials needed by Plas-Pak. The manual of policies and procedures are not current, and not circulated to relevant personnel.

A computerised inventory control system is in place, but all the features are not fully utilised.

Availability of Inputs:

Inputs seem to be readily available. The company, very wisely, has established multiple sources for its main raw materials and packaging items. Cartons sourced locally are inadequate for handling particularly in rainy weather.

Costing:

A costing system is in place, and costings are reviewed very regularly.

Quality Control:

The Quality Control department seems well organised and the procedures are implemented and monitored effectively. Manuals are in place, but are not current.

However, the level of defects and rejects seems high, particularly when one takes into account that the grinder for recycling operates at full capacity, and therefore the emphasis needs to be more on problem prevention rather than correction.

The company plans to implement the ISO 9000 standards, and has set a time frame for doing so (1997).

#### Maintenance:

Maintenance is a major problem with 8 of the 20 blow moulders being out of operation at any given time. Although there is a regular maintenance programme, equipment breakdown was given as one of the main reasons for the high level of late deliveries to customers (30% of orders are delivered late). Management is not aware of the cost of downtime due to machine breakdowns, despite keeping records.

One reason for poor maintenance is the difficulty in attracting and keeping trained maintenance personnel. These technicians are in short supply in Jamaica.

### FINANCE AND CONTROL:

#### Accounts:

No accounts were made available to the interviewers, although we understand that they are fairly current. Thus, it is impossible to comment on the financial condition of the company.

#### Information and Control Systems:

The required information and control systems seem to be in place and the arrangements for monitoring them seem to be working effectively. However, manuals are not current.

The accounting system is computerised, and this should allow ready access to detailed information for analysis and use by management in making informed decisions.

A group budget is prepared annually with the input of departmental heads. Without a long term strategic plan to develop and guide the implementation of strategies, the budgeting exercise has a very short term focus which does not take into account issues that will arise beyond the year of the budget.

### **ORGANISATION AND MANAGEMENT:**

#### **Human Resource Management:**

The work environment at Plas-Pak appears good - there is no industrial unrest, turnover is low, pay and fringe benefits are good and the management practices an open door policy to employee communication. The company receives support in the management of its human resources from the Thermoplastics Group. However:

- The performance appraisal system is subjective and not viewed in a positive light by most employees. Interestingly, senior management are not appraised.
- Absenteeism is a big problem which the company has yet to address. Although records are kept, no analysis of the cost of absenteeism has been done.
- Pay is not linked to performance, so there is no incentive for increased production and productivity. Even sales representatives are paid a flat salary.
- Training is deemed inadequate, particularly in the area of quality and ISO 9000.
- There is no formal organisation chart, as the entire group is currently being restructured.

Management/Employee Communications:

Management/employee communications are poor - key management decisions are made at the very senior level, and very little is communicated to workers. No regular staff meetings are held, which would give employees an opportunity to ask questions, give feedback, make suggestions, and in general, feel more involved with the company

Networking:

The company, through the Thermoplastics Group, is a member of a number of industry associations. However, none of the management of Plas-Pak represents the group at meetings. Active membership in these associations is usually advantageous, as it provides contact with the customer base (manufacturers and exporters) and competitors.

Relationship with JAMPRO:

Plas-Pak has sent employees to various training courses at JAMPRO.

## RECOMMENDATIONS:

The following recommendations are made to address areas of weaknesses identified in the Findings and Conclusions above.

### MARKETING

In order to meet its goals of maintaining its position as market leader and increasing its market share, **Plas-Pak** should:

#### NEW PRODUCTS:

Investigate the feasibility of new products, sizes and designs. This will include information on demand, customer profile and usage, equipment requirement and costs, and financial projections and analysis. No new products should be introduced without this type of analysis. If possible, the company should encourage customers to invest in their own moulds, as this minimises the risk and guarantees sales.

#### PRICING

The company's prices are now uncompetitive, and this is likely to lead to a decline in sales. The company must therefore examine its costings carefully to determine areas of reduction in order to remain competitive prices.

#### DISTRIBUTION:

The existence of non-official distributors suggests that the Sales Representatives are not reaching the entire market. Their pay should be restructured, with a significant part being

performance-based i.e. commission. Special targets should also be set for new customers. This will motivate them to increase sales to existing and new customers.

#### THE COMPETITION:

Plas-Pak should conduct research to find out more about their competitors' operations and strategies, their strengths and weaknesses and analyse their own operations comparing strengths and weaknesses with those of their competitors. In particular, this research should identify and analyse manufacturers with their own blow moulding facilities, as they represent a source of increased competition.

Though there are few companies in the sector, operational data is not easily available and not shared. JAMPRO could assist in this area by conducting annual surveys within the sector, summarising the analyses and making them available to participants in the sector.

#### LONG-TERM GOALS

Plas-Pak should explore opportunities which exist on the export market. This information will assist the company in making long-term decisions with regard to capacity and machine requirements when upgrading equipment.

### OPERATIONS

#### FINISHED GOODS WAREHOUSE

The finished goods storage area appears inadequate for peak periods. The company should examine the layout to ensure maximum usage. It could also consider offering special incentives to customers for early delivery.

## PLANNING AND SCHEDULING

A proper system of weekly production scheduling needs to be put in place. This system must take into account equipment, raw materials and labour availability, finished goods stock and customer requirements. The sales personnel must have some input into scheduling and must keep very close to customers in order to advise on their projected requirements and communicate delivery times and any delays in production to them. The schedule should be written, posted in a prominent place in the plant and communicated to all workers, as should any changes to the schedule. This will ensure that all employees are aware of the company's commitments to its customers.

### EQUIPMENT:

Conduct an audit of existing equipment to determine the best course of action. In particular, if 4 of the blow moulders are "dead" and cannot be repaired, they should be removed from the production floor and sold or used for spare parts.

Investigate the feasibility of improved standby facilities such as generator, water chillers and water tanks. This analysis should be based on the incidence and cost of downtime due to absence of these facilities. It will therefore be necessary to analyse the equipment downtime log.

### MAINTENANCE:

Develop and implement a preventive maintenance programme and schedule in order to reduce unplanned maintenance.

### REJECTS:

Calculate the costs of rejects (water, electricity, labour, overheads) and set goals for its reduction.

### PRODUCTION CAPACITY:

Calculate the capacity of all equipment and of the plant as a whole. This will assist in improved production scheduling, commitments for large orders and will guide management in purchasing new equipment. It will also indicate exactly where bottlenecks and limitations to capacity occur.

### EQUIPMENT DOWNTIME/IDLE TIME

An analysis should be done of the records kept for equipment down-time/idle time and reasons over the past year. Records of machine downtime need to be more specific. Data collected should differentiate between machine set-up time and downtime due to repairs. This examination of losses incurred in terms of production time should be used to work out a plan for upgrading or replacing equipment.

### OVERTIME

Review and analyse the incidence and reasons for overtime. In particular, examine the need to continue operating three shifts during periods of low capacity utilisation and seek to eliminate overtime when the three shifts are in operation.

### PURCHASING

The purchasing manual with policies and procedures should be updated and copies sent to users.

Plas-Pak should start using all the features in the inventory control system, namely the safety stock levels and the reorder points for raw materials. The most commonly used spare parts should also be kept in stock. These measures should help to reduce the incidence of emergency orders.

The company should proceed with plans to source goods from a variety of countries and increase the number of existing suppliers.

### COSTING

A wide variety of cost related data is kept by the plant. These should be easily available to production personnel for analysis in order to facilitate the implementation of plans to improve efficiency and reduce costs. These strategies are now even more important as the company's main competitor has been able to reduce prices within the last six months.

### QUALITY CONTROL

Deadlines should be set for the revision of the quality control manuals. This will be an important initial step in preparing for the implementation of the ISO 9000 standards.

A detailed implementation plan should be developed for the ISO 9000 standards.

### RECYCLING:

With the high level of plastic being imported into the island, Plas-Pak should also look at the possibility of establishing a recycling plant. Such an operation would prepare the company for the 21st century with the introduction of an environmentally friendly plant, improve the company's public relations profile, reduce raw material import costs and ease the raw material shortage experienced from time to time.

## FINANCE AND CONTROL

### INFORMATION AND CONTROL SYSTEMS

Revise and/or develop manuals. The availability of the manuals will assist with -

- Maintaining standards
- Training new employees
- Preparing for the implementation of the ISO 9000 standards.

### LONG TERM PLANNING:

Develop a 5 year strategic business plan for Plas-Pak. This should include the long term goals and objectives, strategies to attain these and a detailed implementation plan which includes deadlines and assignment of responsibilities. The planning process should involve all key management personnel in its development, and must be communicated to all employees as it is being developed.

## ORGANISATION AND MANAGEMENT

### TRAINING:

The company needs to increase the training budget and place greater emphasis on human resource development in order to increase productivity consciousness among staff and prepare them for meeting the requirements of the ISO 9000 standards.

To address the problem of skilled maintenance technicians, develop a training programme with JAMPRO which should include participation from as many employees as possible. For example, there may be some maintenance functions that operators can perform: these should be identified and training programme developed.

### PERFORMANCE APPRAISAL:

Redesign the performance appraisal system and process to ensure that it is objective. Managers must be trained in interviewing techniques, and the system should be explained in detail to all employees. All employees must be appraised.

### ABSENTEEISM:

Absenteeism must be reduced. One approach is to develop the solutions in conjunction with the employees, who can identify the reasons for this problem, and will probably make suggestions for its solution. Special incentives for attendance should be introduced. The time clock being introduced will make it easier to compute and monitor absenteeism records.

### ORGANISATION

The structure of the organisation needs to be clearly defined and an organisational chart should be prepared and posted in an area where it is easily accessible to all employees. This will assist in streamlining the communication process.

### MANAGEMENT/EMPLOYEE COMMUNICATIONS

There is a need to improve communications at all levels. General staff meetings need to be held on a regular basis and employees briefed as necessary on the company's goals, objectives and current projects. Each Department Head should receive regular feedback on the performance of their department and this information should filter down to supervisors and production workers.

### NETWORKING:

The management of Plas-Pak should become active in the JMA and the JEA, as these organisations provide contact with the customer base and competitors.

## RECOMMENDATIONS TO JAMPRO

The packaging industry is a very important linkage in the industrial development of Jamaica. JAMPRO must ensure that it understands the sector - its structure, players, needs - so that it can develop/recommend appropriate policies and programmes for its development. Assistance to this sector will help not only the sector itself, but also the manufacturers who use packaging.

### TRAINING:

JAMPRO should place some emphasis on the development of courses for maintenance technicians with expertise in electronics as persons with these skills are in very short supply.

In order to improve the quality of the training services it offers, JAMPRO should -

- Mail training brochures earlier
- Promote courses more extensively and even offer some kind of incentive in order to minimise cancellations and postponements
- Develop in-plant training programmes customised to the needs of the company

### DESIGN CENTRE:

Plas-Pak will benefit from contact with the Design Centre as it is looking at producing more sophisticated containers with greater market appeal. This link will make it easier for them to access information and assistance from design consultants. It can also be an effective marketing tool for Plas-Pak by making their capabilities known to packaging designers and other manufacturers.

### INDUSTRIAL ENGINEERING:

Plas-Pak may require the assistance of JAMPRO in industrial engineering to:

1. Calculate plant and equipment capacity
2. Development of a production planning and scheduling system
3. Development of a preventive maintenance programme

### ISO 9000:

Plas-Pak has set a target date of 1997 for implementation of ISO 9000. JAMPRO can be of assistance to the company in developing an implementation schedule and in training.

### MARKET INFORMATION:

Plas-Pak requires information on the local and export market. JAMPRO may be of assistance in both cases by providing market research and information on overseas markets, and an annual analysis of the local industry.