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# "Operation Management"
# In
# Chaudhary Group
# "A Case Study on Wai Wai Noodles"

CG CHAUDHARY GROUP
Touching life everyday

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**-TEAM**

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# INTRODUCTION

# MISSION STATEMENT

"To provide world class quality food products that meet our consumer's needs consistency through upgrading the technology, people, total quality management practice and team effort."

CG CHAUDHARY GROUP

*Touching life everyday*

# PURPOSE

We, the students of BBA 3rd Semester were provided an opportunity to have a field visit program over the Chaudhary Group of Industries and its production system related to our course study. We have collected optimum reliable informations about the company regarding the information, background, production process, quality management, wastes and management activities, TQM, factory location and layout management, transportation arrangement, product diversification and so many other informations about the company. We have figure out the present scenario of the company by taking oral interview with the respective representative of the company. During the interaction, we found that the management was not so open to us so we could not solve all our queries. However we have tried our best to capture as much information as we can. Thus we hope that this report may give more detail information about the company to the needy person whenever requited.

# INTRODUCTION

The Chaudhary Group is leading and one of the most respected business team of Nepal. The group's diverse business includes processed foods and beverages, edible oils, consumer electronics, lubricants, steels, health care, hospitality, tourism, financial services, insurances and infrastructures. The group has started alliance with globally well known companies including RJ Reyholds, Gulf Oil, LG, National Panasonic, Suzuki, Thai preserved foods, Escorts, Ashok Leyland, Maruti and Ansal Builders as well as child food.

Today the picture has expanded to a multifarious landscape a quantum leap from its humble beginning. At the helm of affairs of Nepal's largest corporate business with a going market presence in the South – Asian / South-East Asian region and the trust of partners hold a vision that the world has duly learned to heed.

The Chaudhary Group progress over the last 69 years and has been a trial bazaar on the Nepalese horizon. Today a conglomerate of over 45 businesses, the group has an unmatched investment outlay of over $250 million.

Besides these Chaudhary Food Complex (FUDCO), a massive centralized quality food production unit of CG industry on the western fringe of Lalitpur district. It houses the latest food production technology available in the region and is backed by manpower of 300 people. FUDCO is divided into four main sub-units:

- Thai Foods Pvt. Ltd.
- Quick Foods Pvt. Ltd.
- Gold Beverage Nepal Pvt. Ltd.
- TQM and R&D Center

# BACKGROUND

The founder of CG of Industries was Mr. Buramal Lunkaran Das Chaudhary. He was a very poor person at that time. He was from Gujarat, India. He used to sell saries in the footpath of Newroad, Kathmandu. Not only this, he used to sell saries near the royal palace during his time. Although due to his great effort he extended his business by utilizing his strong ability and tendency of conducting a corporate business.

Today, 45 businesses at $250 million are launching under the supervision of CG. This shows an extraordinary capability of a non-believable businessman. After the death of Buramal Lunkaran Das Chaudhary, his son Binod Lal Chaudhary handles the commandership. His brother Basanta Chaudhary and Arun Chaudhary are the helping hands for the company. Now Mr. Nirvan Chaudhary is the successor of CG of industries. It was established in 1952 with the least amount of capital. But now it has became an appropriate example of huge corporate business in the Asian Trial Bazaar of the economy.

# OPERATION MANAGEMENT

Operation Management is defined as the design, operation, improvement and maintenance of the system that creates and delivers the firm's primary products or services.
It is a transformation process which converts the raw inputs into desirable outputs, outputs being the finished goods or services.

# OM FUNCTIONS

Operation Management carries out various functions which can be better illustrated by the figure below:

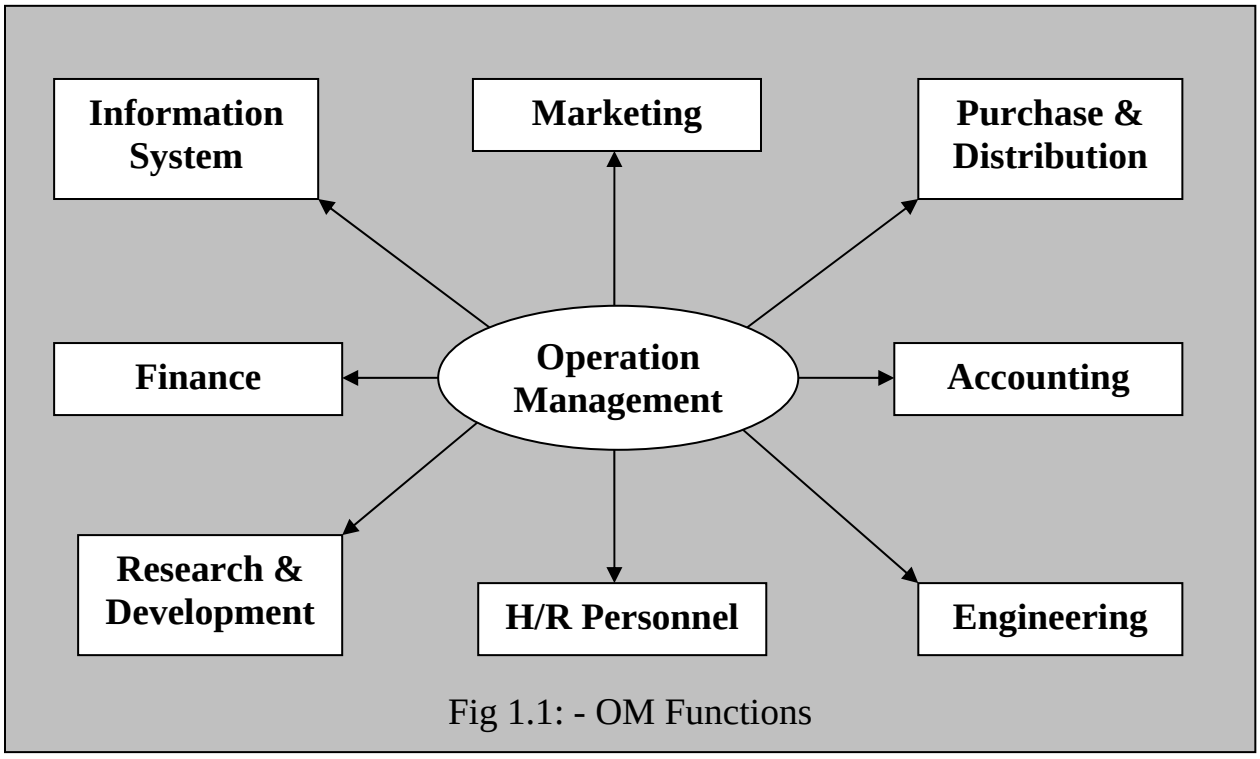


Fig 1.1: - OM Functions

Besides these the other functions are:

- Total Quality Management (TQM)
- Inventory Management

# OM SYSTEM

OM carries out the transformation process in a well organized manner, which we call a system. A system is process in which the work activities are carried out. We can better take a look into the diagram below which illustrates the OM system:

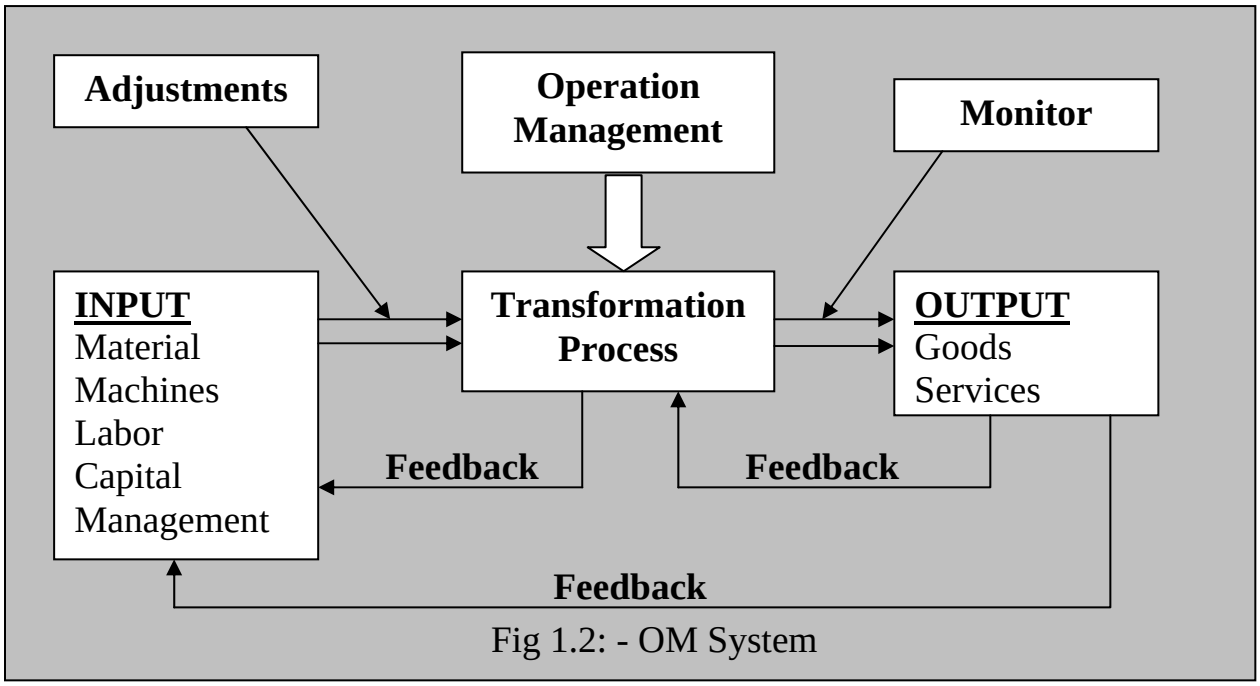


Fig 1.2: - OM System

# PRODUCTIVITY

Productivity is expressed as the output-input ratio, the output being the production of goods and services, where as the input being the land, labor, capital, machine and other factors.
Mathematically,

Productivity= Output / Input

# CAPACITY

Capacity is defined as the rate of productive capability of a facility, expressed as volume of output unit per time period.

# LAYOUT

It is a physical arrangement of plant or facility in selected location. There are various types of layout:

- Process Layout
- Product Layout
- Cellular Layout
- Fixed Position Layout

# PRODUCTION PLANNING AND SCHEDULING

Production Planning and Scheduling system is concerned with the volume of output, timing of the output, utilization of the operation capacity and balancing the output levels for the competitive effectiveness.

# CONTROLLING

Controlling includes the shop-floor control or the short-term capacity control, which monitors the Actual Vs Planned utilization of a work center's capacity.

# PROCESS TECHNOLOGY

The process technology refers to the equipment, people and systems that are used to produce a firms' product or services. Most of the organizations face the problem of selecting an appropriate process technology to manufacture the products.

# PROCESS FLOW STRUCTURE

It refers to the chain or the structure through which production process flows or is carried out. There are various types of process flow structures:

- Job Shop Technology
- Batch Technology

- Assembly Line Technology
- Continuous Flow Technology

### JOB SHOP TECHNOLOGY

Under this technology, small batches of different types of products in different sets or sequences or steps are produced on the basis of customer order, e.g. hair dressing, tailor-shop, etc.

### BATCH TECHNOLOGY

Under this technology, wide varieties of products in wide range of products are produced, either on demand of customers or to maintain stock, e.g. bottling of gin, vodka, etc.

### ASSEMBLY LINE TECHNOLOGY

Under this technology, products are produced for a narrow range of standardized products, e.g. assembling watch, computer, television, etc.

### CONTINUOUS FLOW TECHNOLOGY

Under this technology, products are produced continuously with endless flow and high volume for stock. It uses automation in manufacturing. E.g. distilleries, sugar factories, oil refineries, etc.

## SCHEDULING

It is defined as the assignment and timing of the use of resources, such as equipment, material, personnel and facilities for production or jobs.

- Master Scheduling
- Detailed Scheduling

### MASTER SCHEDULING

Master Scheduling refers to translating the aggregate plan in to production schedule for each family of product and each item. It can simply be called as disaggregating.

### DETAILED SCHEDULING

Detailed Scheduling refers to the preparation of detailed schedule, expressing the starting time and finishing time of the job. Gantt Scheduling Chart is often used in this case.

# LOADING

It is the cumulative amount of work currently assigned to the work center for future processing. Loading can be:-

- Infinite Loading
- Finite Loading

# SEQUENCING

It is the process of determining the job to be processed at first, then next and so on, and assigning those waiting jobs in a given working center according to their priority.

# INVENTORY SYSTEM

Inventory simply means stock of "GOODS" that is held for future use, e.g. raw materials, work-in-progress, finished goods, etc.
There are two types of inventory system:

- Continuous Inventory System
- Periodical Inventory System

## CONTINUOUS INVENTORY SYSTEM

In this system, continuous record of the inventory level for each item is maintained. Whenever the inventory on hand dwindle to a predetermined level (the ROP), a new order is placed to fulfill the stock of inventory. The continuous inventory system can be illustrated with the figure below:

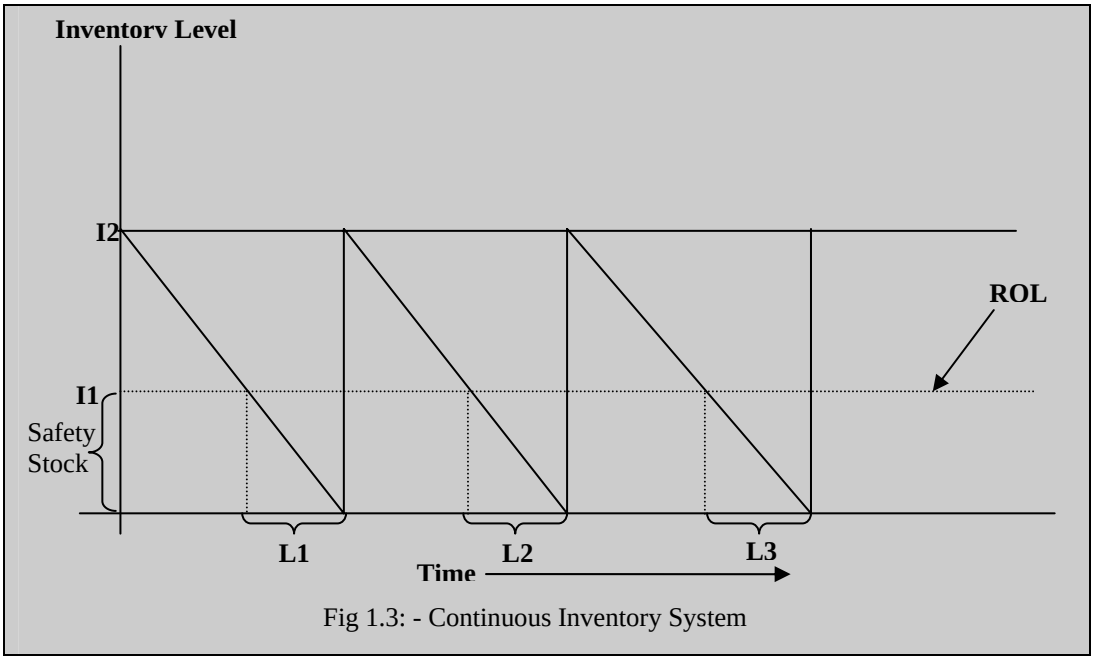

Fig 1.3: - Continuous Inventory System

In the figure above, I1 and I2 are the inventory levels, and L1, L2, L3 are the lead times. Since in this system, continuous record of inventory level for each item is maintained, whenever the stock level dwindles around ROL, a new order is placed.

## PERIODIC INVENTORY SYSTEM

In this system, counting takes place only in fixed time interval and placed order. There may be chance of over stock or under stock.

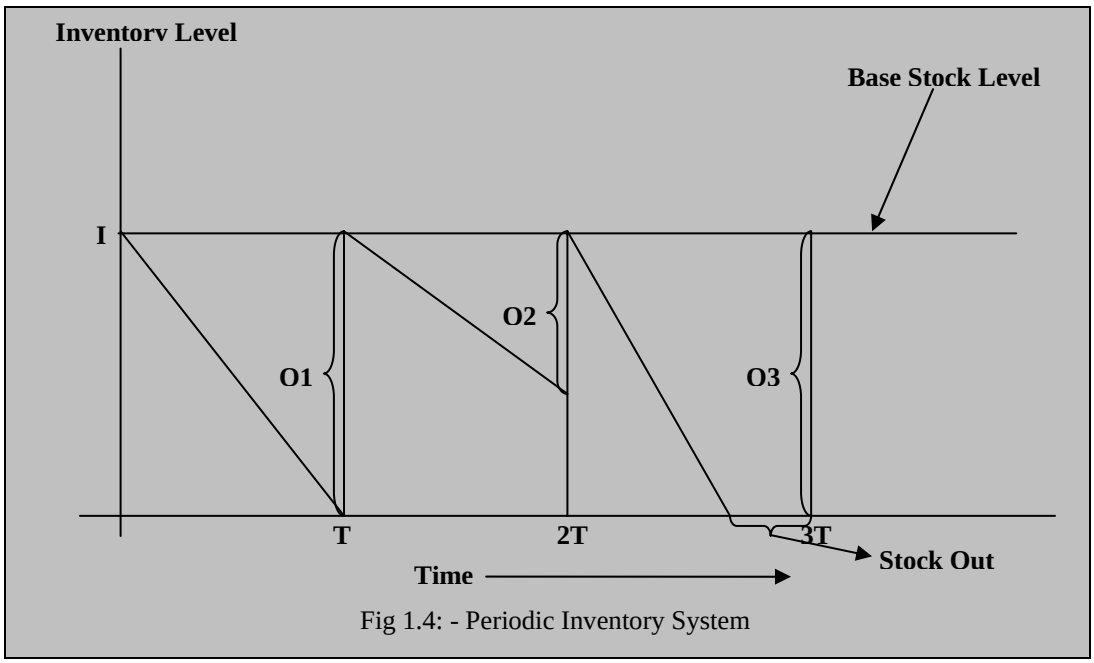

Fig 1.4: - Periodic Inventory System

In the figure above, counting takes place only at certain time period T and placed Q1 order, then another counting takes place at time 2T where usage rate

does not fully utilize so placed Q2 order. And finally at third time 3T the inventory gets over before the counting time so may cause stock out condition.

# MAINTENANCE SYSTEM

There are various maintenance systems which can be followed to carry out the maintenance activities on Plant and Machineries. Some are:

- Preventive Maintenance System
- Breakdown Maintenance System

## PREVENTIVE MAINTENANCE SYSTEM

It is a maintenance system in which schedule and planned activities are performed which tries to minimize the problems of breakdown maintenance.

## BREAKDOWN MAINTENANCE

It is an occasional maintenance in which maintenance is carried out only when any parts and equipments breakdowns so that it affects the production activities as well as productivity.

# QUALITY MANAGEMENT

It is defined as managing the entire organization so that it excels on all dimensions of products and services that are important to the customers.

***End of PART-I***

# PART-II
# ANALYSIS

## OPERATION FUNCTIONS

The basic operation functions carried out by the Operation Management in "Chaudhary Group" can be interpreted in the diagram below:

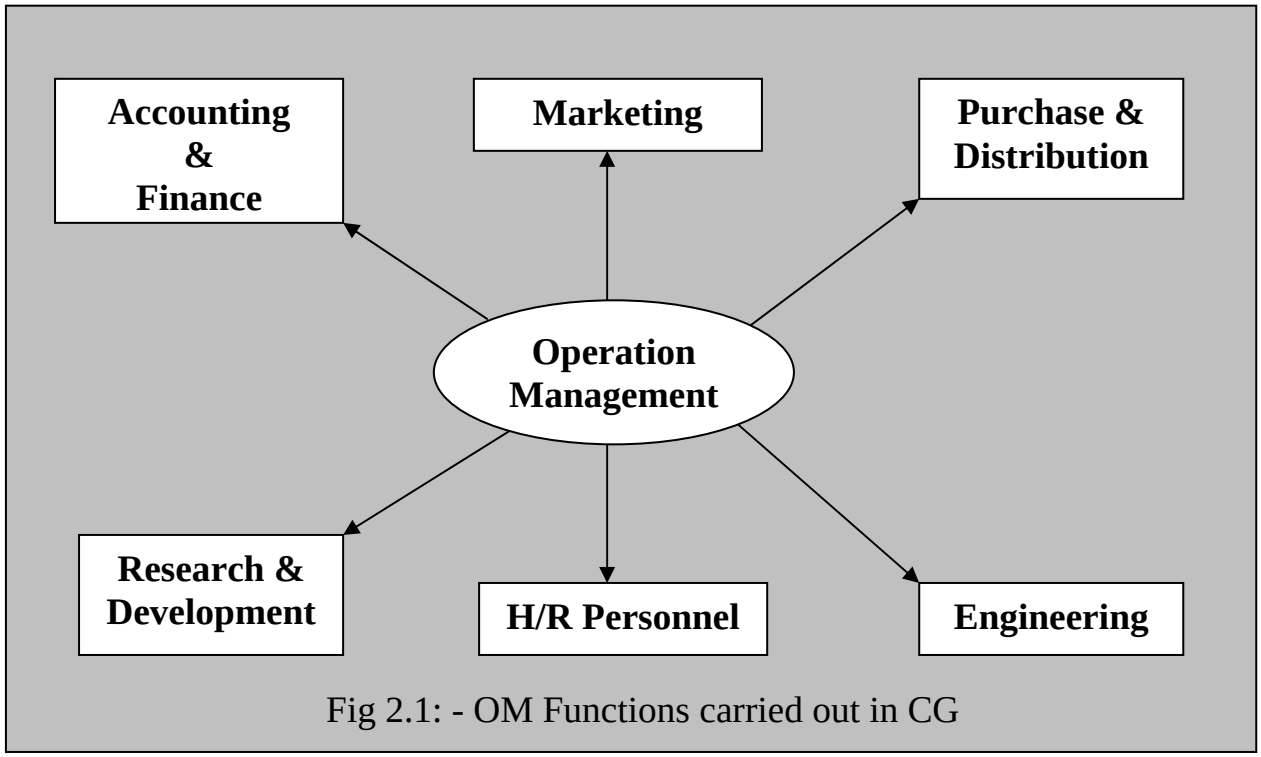


Fig 2.1: - OM Functions carried out in CG

## ACCOUNTING & FINANCE

Accounting and Finance Department collects records and processes informations, which management needs to direct and control the enterprise. Whenever possible, this information is passed on together with Analysis and submits various formatted reports to the Top Management for decision-making, business plan preparation and its monitoring.

## MARKETING

The marketing team basically works on 5P principles i.e. Price, Placement, Promotion and People to lead the market regardless of tough competitions. It uses advertising efforts like- interviewing, promotion, visual fans, programs over the radio or sponsored shows on TV, advertisement in Daily Newspapers or favorite magazine. Innumerable exciting themes, stories, strategies, language medium, etc, are convinced, laid out and coordinated.

## PURCHASE & DISTRIBUTION

The purchase department is driving with cost efficiency in various purchasing activities and its processes with buying all the materials of the company.
The distribution or sales department focuses on channel strategy networking, network management, promotional activities and customer satisfaction. The

department focuses on maximization of profit and market shares. The CG has also implemented the RCM (Retail Chain Management) to strengthen company's retailing network.

## RESEARCH & DEVELOPMENT

Research & Development carries out improvement of existing products, processes and productivity. It also develops, introduces new products to cater to the emerging needs of the customer and markets.

## H/R PERSONNEL

The Human Resource department or the Personnel Maintenance department is responsible for handling the human beings or the personnel currently employed in the CG. It ensures right no. of employees at right time for the given job or the work activity.

## ENGINEERING

It ensures keeping the machines running and maintaining the plants in good condition. There are product engineer as well as design engineer employed who are responsible for designing the productuction system and the product characteristics.

# CAPACITY MANAGEMENT

The CG Wai Wai Noodles plant has effective production capacity of 100-115 packets of noodles per minute. But the actual capacity of the plant is 90-100 packets per minute. At present, it is producing 300 cartoons of noodles per day. The management seeks no compromise for quality as well as quantity. We have found that, in the noodles production case:

Actual Capacity < Effective Capacity

Thus, we can say that the production is running below its capacity. "The production activities can be increased to meet the demand if necessary." Manger replied to us.

# FACILITY LAYOUT

The CG Wai Wai production plant is using the Product Layout System. It is also known as Flow-Shop and Line Layout, the layout in which equipment or work processes are arranged according to the progressive steps by which the product is made. The Process Layout used in Wai Wai production plant can be shown in a diagram below:

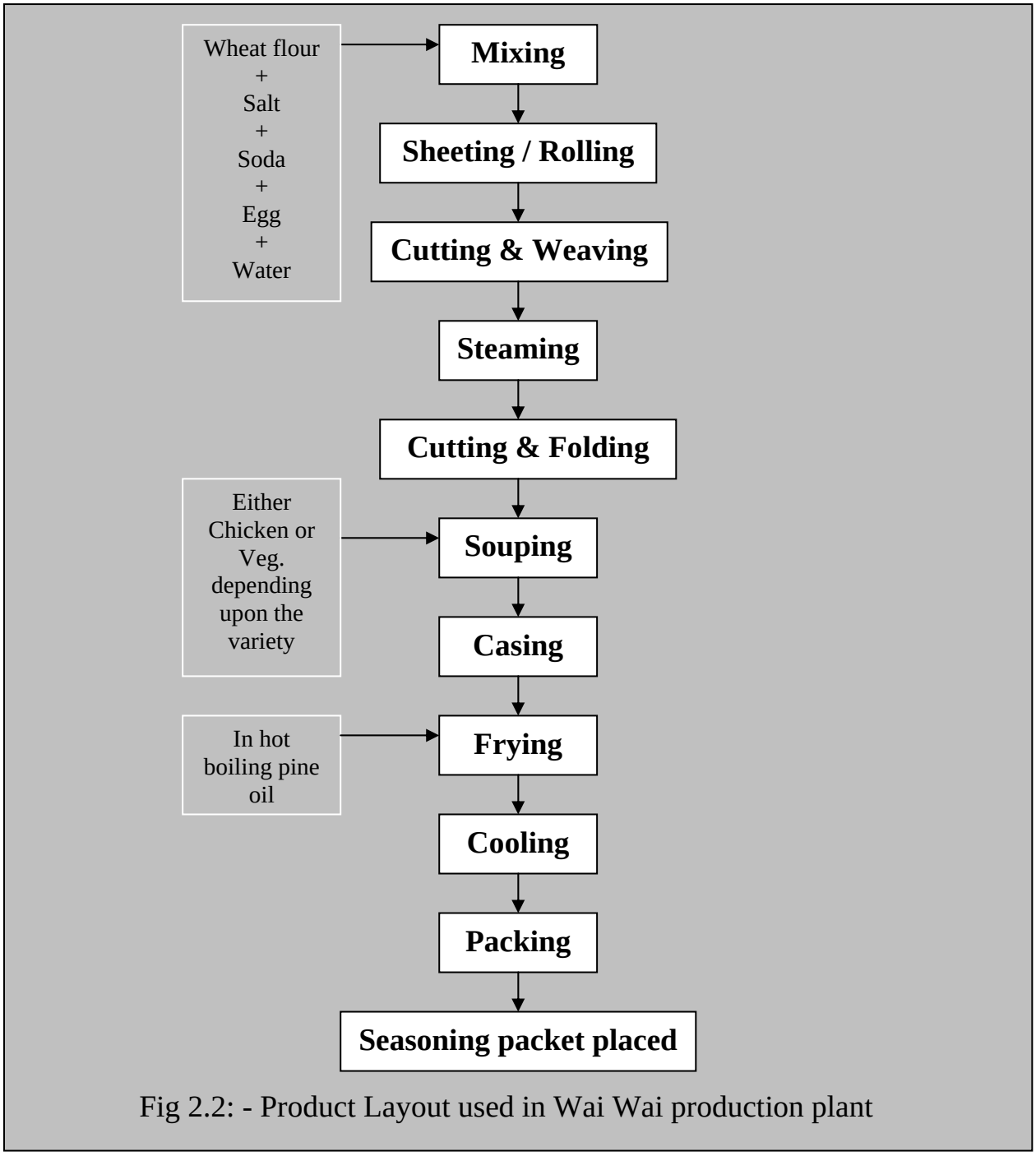


Fig 2.2: - Product Layout used in Wai Wai production plant

# LOCATION DECISION / FACTORS

The plant is located in Bhaisi Pati, Lalitpur with a production friendly environment without any social and governmental disturbances. There is abundance of labor and amenities. The mainly used mode of transportation is roadway, by which it is linked. In the same way the market is not so far from the plant location. The services like gas, electricity, water, drain, communication

are sufficiently available. Also the main advantage of that location is that there is no bar to the expansion of the factory/plant.

# MAINTENANCE

Maintenance activities are carried out on the machineries or the tools and equipments used in the production process, so that it will reduces the chance of serious accidents that may be caused by breakdown of machineries or to overcome the loss caused by breakdowns. Basically three types of maintenance system are carried out:

- Preventive Maintenance
- Spot Maintenance
- Breakdown Maintenance

## PREVENTIVE MAINTENACE / PERIODIC MAINTENANCE

The machineries and other productive tools are observed daily by employed technician for smooth functioning of machine. The used machine is daily maintained, oiled, greased or cleaned in off-hour of about 5 hrs. Also the machines are maintained weekly.

## SPOT MAINTENANCE

If any serious error is seen in the machine then it is repaired on spot. It will take a time of several minutes to several hours, but help to minimize the breakdown cost as well.

## BREAKDOWN MAINTENANCE

In case of serious maintenance or plant reinstallation, a period vacation/holiday is chosen to carry out the maintenance activity.

# QUALITY CONTROL

The CG Wai Wai production plant has their own TQM department which is responsible for maintaining overall quality of the product. They too have formulated a quality circle who voluntarily meets on a regular basis to identify, investigate, analyze and solve the work-related problems. They too use Statistical Quality Control like: sampling method (random sampling of Wai Wai regarding its weight, color, taste, etc. during production), use of control charts, etc which help to detect their quality level and desired quality level and correct if any deviations occur.

# CONCLUSION & RECOMMENDATIONS

The CG has an effective production system (Capital Intensive) that helps to minimize the cost of production, which consequently supplements in the maximization of profit to run the business effectively and efficiently.

- It has a well organized production system, which minimizes the scrap during production process.
- The location is best suited.
- It has come to be a market leader in noodles industry.
- Though inefficient, it too uses schemes for it's customers to drive towards its products.
- The strategy like RCM seems to be beneficial.

After analyzing the Wai Wai production plant and the production system used in the manufacturing process, we have found certain specific deviations and would like to recommend it so that the CG will have a look into the matter and try to correct the deviation.

- There seems to be lack of the hygienic environment in the production site. The production area should be kept neat and clean.
- The company should reduce the number of workers employed in the company, which are excessive in number than required.
- The sound reliever equipment should be placed in order to reduce the sound pollution.
- Proper sanitation and wastage management should be adopted.
- Lastly the company should focus on TQM for facing the global competition.

***End of part-II***

# GLOSSARY / ABBREVIATIONS

| | |
|---|---|
| Automation | use of automatic machineries in manufacturing and data processing, so that entire procedures can be automatically controlled with minimal or no human intervention |
| CG | Chaudhary Group |
| Gantt Scheduling Chart | a schedule chart expressing the starting time and finishing time of the job |
| Heed | take notice of something |
| OM | Operation Management |
| RCM | Retail Chain Management |
| ROL | Re-order Level |
| ROP | Re-order Period |
| TQM | Total Quality Management |
| Statistical Quality Control | a technique which uses various statistical tools to control quality |