# STUDY ON PROBLEM AND PROSPECTS OF PLASTIC PRODUCTS AND IT'S INDUSTRIES IN KATHMANDU VALLEY

## A Thesis

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***In partial fulfillment of the requirement for the Degree of Master of Business Studies (MBS)***

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# RECOMMENDATION

This is to certify that the Thesis

*Submitted by*

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**"STUDY ON PROBLEM AND PROSPECTS OF PLASTIC PRODUCTS AND ITS INDUSTRIES IN KATHMANDU VALLEY"**

*has been prepared as approved by this Department in the prescribed format of the Faculty of Management. This thesis is forwarded for examination.*

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| ……...…….....<br>**Prof. Dr. Sushil Bhakta Mathema**<br>**(Head of Research Department &**<br>**Thesis Supervisor)** | …..…..…….……<br>**Jyoti Pandey**<br>**(Campus Chief)** |

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# VIVA-VOCE SHEET

We have conducted the viva – voce of the thesis presented

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*And found the thesis to be the original work of the student and written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirement for*

**Master Degree of Business Studies (MBS)**

**Viva-Voce Committee**

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# DECLARATION

I hereby declare that the work reported in this thesis entitled "**Study on Problem and Prospects of Plastic Products and Its Industries in Kathmandu Valley**" submitted to Office of the Dean, Faculty of Management, Tribhuvan University, is my original work done in the form of partial fulfillment of the requirement for the Master Degree in Business Studies (MBS) under the supervision of **Prof. Dr. Sushil Bhakta Mathema** of Nepal Commerce Campus.

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**Rupa Dahal**

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## ABBREVIATIONS

| | |
|---|---|
| % | : Percentage |
| ADB | : Asian Development Bank |
| BID | : Balaju Industrial District |
| CBS | : Central Bureau of Statistics |
| CSI | : Closure System International |
| FMCG | : Fast Moving Consumer Goods |
| GDP | : Gross Domestic Product |
| Govt. | : Government |
| GPPS | : General Purpose Polystyrene |
| HDPE | :High Density Polyethylene |
| HIPS | : High impact Polystyrene |
| ICIMOD | : International Centre for Integrated Mountain Development |
| LDPE | : Low Density Polyethylene |
| LLDPE | : Liner Low Density Polyethylene |
| MT | : Metric Tones |
| PET | : Polyethylene Terephthalate |
| PIE | : Patan Industrial Estate |
| PP | : Polypropylene |
| PP RCP | : Polypropylene Random Copolymer |
| PPR | : Polypropylene Random |
| PS | : Polystyrene |
| PVC | : Polyvinyl Chloride |
| Pvt Ltd | : Private Limited |
| Rs. | : Rupees |
| UNESCO | : United Nations Educational Scientific and Cultural Organization |
| USD | : United States Dollar |
| VAT | : Value Added Tax |
| VDC | : Village Development Committee |

# CHAPTER I

## INTRODUCTION

### 1.1 Background of the Study

Plastic is any material that can be shaped or molded into any form. Some are naturally occurring, but most are man-made. Plastics are made from. Oil is carbon-rich raw material, and plastics are large carbon-containing compounds. They're large molecules called polymers, which are composed of repeating units of shorter carbon-containing compounds called monomers**.** Chemists combine various types of monomers in many different arrangements to make an almost infinite variety of plastics with different chemical properties. Most plastic is chemically inert and will not react chemically with other substances we can store alcohol, soap, water, acid or gasoline in a plastic container without dissolving the container itself. Plastic can be molded into an almost infinite variety of shapes, so you can find it in toys, cups, bottles, utensils, wiring, cars, even in bubble gum. Plastics have revolutionized the world.

Everywhere we look, we find plastics. We use plastic products to help make our lives cleaner, easier, safer and more enjoyable, you will find plastic in the clothes we wear, the houses we live in and the cars we travel. The toys we play with, the televisions we watch, the computers we use and the CDs we listen to contain plastics. Even the toothbrushes we use every day are made of plastics. Plastic is very useful in the building and construction, electronics, packaging, transportation industries and many more like Pens, cups etc. Plastic is good, light, strong and cheap to produce. It does not decompose but it can instead be recycled. Due to plastics it has been possible to replace traditional materials like wood, stone, metal, glass and paper. In recent years, plastic have enabled numerous technological advancements, new design solutions, performance enhancements and further cost savings.

**Advantages of Plastics:**

a) Light weight, easy to carry, takes less space
b) Plastic Products generate 80% less wastage than paper products, traditional Glass products.
c) Costs of producing plastic products are less than paper other products.
d) Plastic can be easily molded and have excellent finishing.
e) Plastic is a recycling process
f) Plastic products are very cheap to make and durable.
g) Plastic are used to produce another products
h) Plastic products have less environment effect than paper and other traditional products because of its recyclable and durable nature.
i) Its versatility in colur, touch and shapes give tremendous marketing advantages.
j) The Plastic Industry only consumes 4% of worlds Oil production as feedstock. The production of plastic products is not energy intensive compared to metal, glass and paper.

### 1.1.1 Plastics Market in Nepal

Nepal has undergone tremendous Political disturbance since 2 decades. There has been positive growth year by year despite lack of Political stability. Some political stability has been experienced since last 2 years which has lead to confidence of investors. Long awaited Infrastructural developments have been announced and started. Hydro Power and Road development are major ones. They both and tremendous impact on Polymer consumption .Nepal is getting towards self sufficiency of cements with local production – Increasing he local consumption of Woven Bags. Nepal major income is foreign remittance which has increased the band of Middle Class Income people. This has increased the demand of FMCG products and needs of better and quality packaging, increasing the consumption of Plastics. Nepal is set to grow and current growth is at level an economy can experience and it has to keep getting better. With

likely improvement of Power supply in years to come, the growth potential is huge.

The country's plastic industry is reeling under the strain of power cuts and labour problems, which is aggravated by lack of government incentives and the over-whelming negative image of plastic among the general public. According to concerned stakeholders, although the country is self-dependent on plastic products till date, it might soon have to lean on plastic imports in the future unless its problems are scientifically addressed.

Irregular electricity supply has hit the industry hardest, as the plastic manufacturing machines need to be warmed up through uninterrupted power supply prior to regular functioning. Warming up alone takes two to three hours depending on the nature of products. "With power cuts sometimes stretching over 16 hours a day, operating our factories has become a real challenge," says Sharad Sharma, vice president of Nepal Plastic Manufacturers' Association (NPMA).

To combat load shedding, the entrepreneurs are operating their factories through diesel plants, which is obviously expensive. This makes it difficult for them to compete with similar products imported from India, which also enjoy a tax rebate. Besides this, the industry also suffers as it is completely dependent on imported raw materials.

Another hurdle in the industry's success is the labour turmoil. While trained laborers opt for overseas employment, hiring new ones is not easy. "If new employees happen to be affiliated with trade unions, they create problems and affect production. Even if our workers do not want to indulge in such activities, politicized union members from other factories force them to join strikes. Besides this, unchecked smuggling of substandard plastic products from porous Indian borders is a serious challenge facing plastic industries. Manufacturers

claim that cheap smuggled plastic products have captured the markets along the border. Smuggled plastic products and unscrupulous entrepreneurs are also posing serious threats to genuine plastic producers. Manufacturers are disheartened at the inability of government officials to clamp down on this illegal business, besides its lack of initiation to facilitate plastic industries.

The problem lies not with plastic as such but with the lack of management. Haphazard disposal of plastic waste can cause problems, but it is recyclable." In order to boost this sector, concerned entrepreneurs suggest that the government guarantee uninterrupted power supply to plastic industries besides providing adequate incentives with liberal dealings in terms of VAT and tax. They also urge the government to allocate more development funds in the budget and a speedy release of development budget.

Entrepreneurs also suggest setting up regular and stringent monitoring mechanisms for plastic factories and their products. According to them, the government should encourage factories to move to far-flung areas, thereby enabling healthy competition and a robust business opportunity.

The most commonly used input polymers were HDPE, PP and LLDPE, The virgin polymer type and recycled plastic typed are most commonly used by industries. The virgin Plastic used are PP, HDPE, LLDPE, LDPE, ABS and PC. The recycled plastic types most used are HDPE, LDPE, PET and LLDPE.

### 1.1.2 Classifications of Plastics

There are various grades of Plastics in terms of their properties and applications. Basically Plastics are categorized as under.

a) Polypropylene (PP)

b) High Density Polyethylene

c) Low Density Polyethylene

**a) Different Grades of PP and Their Applications in Nepal**

| Grades | Application |
|---|---|
| PP Yarn / Raffia | - Woven Fabric and Bags<br>- Ropes |
| PP Injection – Homo-Polymer | - Furniture<br>- Household Goods<br>- Caps & Closures<br>- Ball point Pen |
| PP Injection – Copolymer | - Furniture<br>- Paint Pails (Rigid Packaging)<br>- Toilet seat covers |
| PP Injection – Random Co-polymers | - House Hold goods<br>- Medical Syringe<br>- Pipes |
| PP Non-woven | - Non Woven Fabric<br>- Lamination |
| PP Film | - Packaging for Garments and other |

**b) Different Grades of HDPE and their Applications in Nepal**

| Grades | Application |
|---|---|
| HDPE Film | - Shopping Bags<br>- Barrier layer for Flexible Packaging<br>- Non-pressure Pipe |
| HDPE Injection | - Crates<br>- Household Goods<br>- Caps & Closures |
| HDPE Blow | - Rigid Packaging (bottles)<br>- Containers<br>- L-Ring 250 Ltrs drums |
| HDPE Yarn | - Tarpaulin<br>- HDPE Woven Bags |
| HDPE Pipe | - Pressure Pipe |

**c) Different Grades of LLDPE and their Applications in Nepal**

| Grades | Application |
|---|---|
| LLDPE Film (C4) | - Flexible, Multilayer Packaging<br>- Carry Bags<br>- Agriculture Pipe |
| LLDPE Injection | - Filler Masterbatches<br>- Color Masterbatches |
| Roto-LLDPE | - Storage Tanks<br>- Dust Bins<br>- Road Dividers |
| mLLDPE | - Flexible, Multilayer Packaging |

## 1.2 Statement of the Problem:

Being so many advantages of plastics and its products, due to lack of knowledge about Plastic Products and negative impression is spread over public regarding plastic products. Millions of rupees goes out from Economy each year on purchase of Plastic raw materials but still the Industries in this segments are suffering different kind of problems. Being major contributor of national economy and given employment to thousands of people, Industries in the segment are not able to get support from Government. Load Shedding, Labor Issues, different duties, tax and excise charged on locally manufactured products and imports of end products from neighboring countries also has become as threat to the Industries. Industries have to import their raw material in USD exposing to price and exchange risk. Cost of production is very high compared to other products; there is lack of skilled manpower. Most of the skilled labours are still being imported from India and Industries have to pay them in Indian currency. Frequent strike, political instability, Labour Issues and load shedding are the major problems faced by the industries for the development and growth of this sector. This study would concentrate around the problems as stated in the following points.

a. Is the plastic products manufactured in the country are sufficient to fulfill domestic demand.
b. Is the prices of Plastic Products are reasonable.
c. Are the consumers aware of advantages of plastic products and degradability?
d. What is the trend of Plastic Products marketing?
e. What are the problems faced by its Industries and Growth Potential.

### 1.3 Objective of the Study

The study will proceed with the following major objectives:

a. To review the situation on Plastic Productions and consumption in Kathmandu Valley
b. To examine the demand for and supply of Plastic Products in Kathmandu Valley
c. To analyze the problems and prospects of Plastic Products and its Industries

### 1.4 Significance of the Study

Nepal is landlocked country and uses Indian ports for imports of raw material from Third country. Iindustries depending on third country imports have to maintain high inventory of 2-3 months, exposing to price risk and high working capital investment. Imports from third country also add to cost in terms of high port clearing charges and unseen container detention charges. Supplies from Indian Manufacturer are not certain.

### 1.5 Limitations of the Study

Every Study has be be conducted taking certain constraints into considerations. The study will have the following limitations.

a. The study will be based on the secondary data as well as Primary Data.

b. The study will be based on the annual Publications of custom departments. Commerce ministry and sales records of Individual Industries.
c. The study mainly focuses on the problem on marketing in theoretical way and the analysis of Plastic Products in statistical method.
d. This study will be completed within the time period of Six months.

**1.6 Organization of the Study.**

i. Introduction: This Chapter includes the focus of the study, statement of the problem, Objective of the Study, Limitations of the study, and limitations of the study and significance of the study.
ii. Review of Literature: It presents the conceptual review and research related studies in Nepal.
iii. Research Methodology: This Chapter Includes design, sources and nature of data, sampling, data collection procedure, statistical tools, end instruments employed for analysis and techniques of data presentation.
iv. Analysis and Presentation of Data: In this chapter data and information collected from respondents are presented, formulated and interpreted with the help of various analytical tools and technique. Major findings are also interpreted here.
v. Summary, Conclusion and Recommendations: In this chapter, summary of the whole study is given. Conclusions are done and recommendations are given as per the Study.

# CHAPTER II

## REVIEW OF LITERATURE

### 2.1 Theoretical review

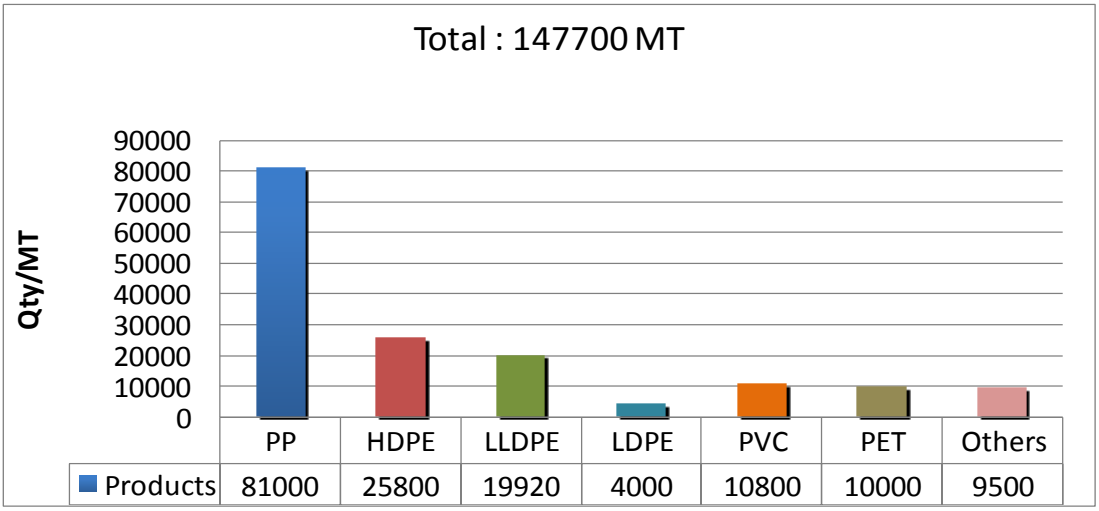
#### 2.1.1 History of Production of Plastic Products in Nepal

Nepal is a import based market for plastic productions having no local producer of raw material. Overall market size of Nepal is approximate 161 KTA, which is 85% of installed capacities. PP Contributes to 50% of total demand with market demand at 81 KTA. Industry here are much suffering due to power shortage, labour issues and limitation of exports to India for non-value added goods. However there is production for local as well as export market, where export is contributing to 32-35% of total production. Percentage of export is reducing with growth in domestic demand. There is also Foreign Investment in the sector from company's like ALCO (CSI), and Dabur India. There is expected annual growth of 5% in consumption of plastic products in Nepal. Major and middle level industries Import raw material directly where as small scale industries fulfill their requirement buying raw material from local traders.

**a) Consumption of different kind of Plastic Products in Nepal**

**Graph: 2.1**

**Showing consumption of different kinds of plastics in Nepal**



Above graph shows the consumption of different kinds of plastics in Nepal annually. There is major consumption of PP followed by HDPE and LLDPE where consumption of PVC and PET is also in good volume. Out of 81000MT of PP, Industries situated in bordering cities do export above 80% of their production to India market.

**b) Growth prospects of Plastic Industries in Nepal**

Nepal had undergone tremendous Political disturbance since 2 decades. There has been positive growth year by year despite lack of Political stability. Some political stability has been experienced since last 2 years which has lead to confidence of investors .Long awaited Infrastructural developments have been announced and started. Hydro Power and Road development are major ones. They both and tremendous impact on Polymer consumption Nepal is getting towards self sufficiency of cements with local production – Increasing he local consumption of Woven Bags. Nepal major income is foreign remittance which has increased the band of Middle Class Income people. This has increased the demand of FMCG products and needs of better and quality packaging, increasing the consumption of Plastics. Nepal is set to grow and current growth is at level an economy can experience and it has to keep getting better. With likely improvement of Power supply in years to come, the growth potential is huge.

### 2.1.2 Brief Introduction about Kathmandu

Kathmandu is the capital of Nepal and forms the core of the nation's most populous urban region. Kathmandu has been important economically, administratively, and politically for hundreds of years. With its ancient monuments scattered around, Kathmandu is an emerging city where several plans and concepts have been implemented for its development. Like many cities of the developing world, the city has been facing rapid population expansion, daunting socio-economic problems and issues of inadequate urban management of expansion, including poor infrastructure and squatter

settlements, with severe environmental consequences including air, water and other forms of pollution. In this profile, Katmandu is defined as comprising the two contiguous and closely interlinked administrative entities, Kathmandu Metropolitan City and Lalitpur Sub-Metropolitan City. The paper analyzes historical urban development process, current plans and programs, land use change and some contemporary socio-economic indicators of Kathmandu city, traces the major urban problems of the city, and considers future direction for its development.

In the ancient period Kathmandu was called Nepal. But after the pashupatinth temple was built, people named this place as Pashupati Nath region. The stone carving of Lichhavi period proves this fact. The name Kathmandu was given by Sanskrit world Kasthamandap because a temple made from wood only is constructed in this place. Kathmandu Valley consists of three districts among the eight districts of central development regions and is the capital.

King Gunakamdev built the city of Kathmandu in 723AD. It is widely believed that Kathmandu was big lake and was made habitable when Manjushree cut the hill open at chovar to drain out the water. Kathmandu is name after 'Kasthamandap' meaning the temple made of wood in Sanskrit and imposing pagoda near Hanuman Dhoka place. Kathmandu is the capital of Nepal. The population of Kathmandu city is 2.5 million according to the cencus of 2068.

Kathmandu by virtue of being the capital city is the nations first political administrative, commercial, tourist, educational and cultural center. The city has rich cultural heritage. In the $17^{th}$ century the valley consisted of the three city states of Kathmandu, Patan and Bhaktapur. During this time the valley was important link on the route between Tibet and Northern India. During the regime of the malla the palace and many of the temples were built n the $16^{th}$ and $17^{th}$ centuries.

When King Prithivi Narayan Shah united Nepal this was the end of the cit-states in the Kathmandu valley. Kathmandu became the capital of Nepal. The Language spoken by the Khas of Western Nepal became official language of Nepal replacing Newari. Because of growing number people and vehicles in the valley, specifically in Kathmandu air and water pollution are becoming a real problem.

Kathmandu is the gateway to tourism in Nepal. It is also the nerve center of the country's economy. It has the most advanced infrastructure of any urban area in Nepal, and its economy is focused on tourism, which accounted for 3.8% of Nepal's GDP in 1995–96. Tourism in Kathmandu declined thereafter during a period of political unrest, but since then has improved. In 2013, Kathmandu was ranked third among the top 10 travel destinations on the rise in the world by Trip Advisor,and ranked first in Asia.

The city has a rich history, spanning nearly 2000 years, as inferred from inscriptions found in the valley. Religious and cultural festivities form a major part of the lives of people residing in Kathmandu. Most of Kathmandu's people follow Hinduism and many others follow Buddhism. There are people of other religious beliefs as well, giving Kathmandu a cosmopolitan culture. Nepali is the most commonly spoken language in the city. English is understood by Kathmandu's educated residents. The city's literacy rate is 98%

Kathmandu's sister cities (Lalitpur Patan) and Bhaktapur are integral to Kathmandu's cultural heritage, tourism industry, and economy; therefore UNESCO's World Heritage Site lists all three cities' monuments and attractions together under one heading, "Kathmandu Valley-UNESCO World Heritage Site

**a. Geographical Setting**

Kathmandu is situated within the geographic coordinates 27°38’32” to 27°45’7” North latitudes and 85°16’5” to 85°22’32” East longitudes. The city

lies at an average altitude of 1,350 meters above sea level. The climate is sub-tropical cool temperate. In general, the annual maximum and minimum temperatures were between 29.7° Celsius in May and 2° Celsius in January respectively. Heavy concentration of precipitation occurs in June to August as a result of southeast monsoon winds. Average humidity in the city is 75%. Kathmandu is located within the valley's Bagmati river system of which eight tributaries drain the city. The system has always been the city's main source of water for drinking and irrigation and it holds religious, cultural and social value (ADB/ICIMOD, 2006). The city has two principal landforms, i.e. alluvial and flood plains along the rivers and slightly more elevated river terraces, locally called ' *tars* '. The city area is generally flat, with slope less than 1 degree, and soils have predominantly loamy and boulder texture. Historically, what is now city land was highly productive agricultural land: major crops cultivated in the city fringes include rice, wheat, maize, potatoes, mustard and a number of other seeds used for oil production. A large variety of vegetables are increasingly grown throughout the year outside the Ring Road providing fresh products to city dwellers.

**b. Population Status.**

Since the people from other districts come to settle, racial and religious diversity is seen here. The main cast setting here is Newar, Gurung and many others. Most of the people are Hindu and Buddhist. The other religious too are found here.

Being capital city, population is growing day by day. Kathmandu valley consists of three districts Kathmandu, Bhaktapur and Lalitpur and has highest population density.As per the census 2068, total population of Kathmandu Valley is 2383000 and population growth rate is 61.23% (www.cbs.gov.np). Most of the people settle in the city area of this district but in the present context, due to scarcity of drinking water, environmental pollution, dust garbage etc, people are migrating towards surrounding VDCs and because of the reason, the cultivable land is changing into housing land.

c. **Climate**

Kathmandu has a pleasant sub-tropical cool climate. Summer (June-August) is warm to hot (March-May and autumn (Sept-Nov) is warm during the day and cool in the night. Winter (Dec-Feb) is cold with minimum temperature of about 0 degree centigrade but mostly sunny during the days. The annual rainfall is about 1.3mm.

The temperature and status of rainfall of any reason symbolize the condition of crop farming and its consciences. Kathmandu district lies in the central mountains regions near the Himalayas. So in the winter season the climate becomes very cold. In the summer season, climate is warm but not too hot.

**Location map of Kathmandu Valley**


**2.1.3 The Pilot Study Area**

Different kind of plastic products manufacturing Industries in Kathmandu Valley are taken as the pilot study area. Almost all the people within the valley use the plastic products as per the needs, however being business hub and movement of people of entire country, consumption of plastic products are higher in city areas like Kathmandu, Patan, Bhaktapur, Kirtipur etc. As the density is higher, consumption of plastic items is also higher.

### 2.1.4 Members in Distribution channel of Plastic Products.

The distribution channel refers to the institutions who are involved in the process of supplying the good from the producers to the consumers. Channels of distribution don't contain only producers and customers but also include others like agent, contractors etc. The channel of distribution in terms of plastic products consists of following members.

1**. Raw Material Supplier**: Raw material to produce plastic products are not available in local market. It needs to be imported directly from foreign raw material manufacturing Industries or locally from traders/stockiest who import raw material in bulk and distribute to the industries locally.

**2. Producer/Industries:** They produce different type of plastic products. As per the nature of their Industry, they convert the raw material to end product as per the market demand. After production, products are sent to market through dealers, wholesalers and retailers.

**3. Wholesaler**: This institution does not have the role in production of fruits but has a great role in the supply of plastic products in the market. They buy products in bulk from manufacturers and sell it to retailers.

**4. Retailers**: Retailers are also the parts of the fruits marketing through which most of the consumers get the plastic products. Retailers buy fruits from wholesaler and sell to market making certain profit margin. Different types of retailers in Kathmandu for plastic products are shopkeepers, stores, supermarket etc.

### 2.1.5 Promotion of Plastic Products Marketing.

Marketing activities definitely make people aware about the product and generate demand. The improvement in marketing is beneficial to the producers , wholesalers and retailers as well. The plastic market in Kathmandu is not well managed. Due to unfair competition among the Industries, qualities of products are getting deteriorated.

## 2.2. Review of previous Literature Studies.

While studying on the plastic products, it is felt necessary to review the research studies conducted in this field. Therefore in this chapter an attempt has been made to review the previous research works on study of Plastic Products and other study on other items.

1. The report on' **Vegetable Marketing in Kathmandu Valley** was published in June 2008 by Ishwori Bhattari. The overall situation of vegetable marketing in Kathmandu Valley is still underdeveloped and inefficient. Moreover there is in adequate information relating to area. Production, prices marketing facilities movement of vegetables within the country. The study is also in limited scale for the adequate supply of vegetables. There will be the proper technology, pricing, supply and research will be needed.

2. A Thesis on '**A Study of Floriculture enterprises in Kathmandu Valley**' is published in 2006, the main finding of this study is less production of florid product. Similarly there is more demand increasing day to day. There is lack of study research and proper systematic marketing of florid product.

3.A study on **'Production and marketing practices in Kathmandu valley'** is the survey study conducted by the food and agriculture service department in 2007.The survey was conducted with the objective of analyzing the problems related to vegetable production, marketing and institutional reforms. To know

the existing cost of production of different types of vegetables in the valley was another objective of the survey.

4. **A study on Vegetable Production and Marketing** (with special reference to the winter vegetable production in Kathmandu Valley) is dissertation paper prepared by Mr. Y.R. Joshi in 2005. The objective of the study was to analyze the existing problems relating to vegetables production and marketing.d According to him, are under vegetable cultivation in the valley is decreasing. As a result, there has been significant rise in the price of vegetables. Cost – benefit analysis reveals that cauliflower cultivation requires higher cost ie Rs. 5270 per hectare followed by onion, radish, spinach, garlic and carrot wile highest revenue comes from onion amounting Rs. 8042 per hectare. The study concludes that the vegetables cultivation is highly profitable. However, it has not yet been popular due to greater care needed and the traditional habit of cultivating wheat and paddy.

5. **The study of vegetable marketing in Bhaktapur District** is conducted in 2005 by Mohan Krishna Shrestha. It conducts to find out the real condition of vegetable market as the demand of vegetable is higher than production but there is lack of storage structure as well as not proper organizational support by municipality and the main problem is towards farmers by untimely fluctuation.

6. The third survey ' **Vegetable marketing in Kathmandu Valley'**. report was published in January 2008. The price levels of three markets, namely Mangal Bazar of Lalitpur district and Ason and Purano Bhanesor (both in Kathmandu district) were compared on the basis of monthly average prices per product per market. The report reveals that Mangalbazar is the dearest market for vegetables.

7. Another Survey on '**Vegetable Market Survey at Kathmandu and Pokhara'** was conducted by Mr Junil Takahashi in 2009. The objective of the

survey was to study the prices of vegetables in Pokhara and two markets of Kathmandu. The report reveals that there is no significant difference between the prices of vegetables in Ason and Ranamktesor market while the prices of almost all vegetables are higher in Pokhara. However the number of vegetable crops and quantity of vegetables found in Pokhara market are far less than in Kathmandu. More than 50 kinds of vegetables are found in Ranamukteswor throughout the year while it is less than 50 in Ason.

# CHAPTER III

## RESEARCH METHODOLOGY

### 3.1 Introduction

Research Methodology is a systematic way to solve the research problems. It describes the methods and process applied in the overall presentation of the study. This research design is based on the scientific method.

This chapter deals with the methods and techniques used to meet the objectives used to meet the objective of the study. The research methodology employed in the present study is described as follows:

### 3.2 Research Design

The primary objective of the study is to study the role and scope of plastic products in Nepalese economy, demand and supply situation of plastic products in Kathmandu valley and evaluate the problems being faced by its industries and prospects compared to substitution /replacement products. The study is primarily based on the consumer level survey. The data and information collected from the survey of the consumers have been analyzed and interpreted according to the need of the study for attaining stated objectives. This study is exploratory in nature and based on the descriptive research design.

This dissertation is concerned in the polymers/Plastic products and its Industries. This research design consists of combination of structured and unstructured interview, schedule for primary data and wide research for secondary sources which held to analyze the relationship between selected variables. The present study is based upon descriptive research design to find out actual condition of fruits marketing and to provide necessary possible suggestions for it.

### 3.3 Types and Sources of Data

The data used in this study are mainly primary. In supplement to the primary data, secondary data sources have also been used. The primary data are collected from the consumers of the products and Industry owners from different locations of Kathmandu valley. Similarly for secondary data various magazines, newspapers, websites and thesis are utilized.

Both types of primary and secondary data have been used for the present study. The Primary data and information were collected through field survey. Primary data is collected from different sources such as different samples respondents of producer, dealer and consumers were collected from the study area. Main focus is given to primary data. Both qualitative and quantitative data have been used.

#### 3.3.1 Primary Data

Primary data are collected through survey of plastic industries situated in Kathmandu valley with the interview with the consumers, retailers, distributors and industrialists of different age group and with the different social status.

**Questionnaire**

Structured and unstructured questionnaire were prepared for the collection of data. Different sets of questionnaire were specially prepared for manufacturer, dealer and consumers.

**Observation**

While collecting data and studying the polymers market, observation was done specially such kind of observation was in the different industry, dealers and consumers of Kathmandu valley during which the behavior of the manufacturer, dealer and consumer were also noticed.

**Interview**

At the market place consumers were interviewed. Selection of the consumers was random. Similarly the Industry owners were interviewed in their own office/plant while dealers were interviewed in their own shop

### 3.3.2 Secondary Data

Secondary data are collected from the different sources. The sources includes different types of magazine, different bulletin, Custom and commerce department's reports, Nepal Rastra Bank's report, Annual Reports and Publications from Nepal Plastic Manufacturers Association and PET Product and Closure Manufacturers Association Nepal.

## 3.4 Population and Sample

The population of the study includes all people of Kathmandu valley who consume plastic products and all industries that produce plastic products. Respondents have been selected through the judgmental sampling. The logic behind using judgmental sampling in this study is that the sample is very small in comparison to the population.

For the detail study of the plastic products and its industries, Selected Industries in Kathmandu valley were taken as sample, all together 25 Industries are chosen for the study, similarly 13 questionnaires for dealers/Distributers and 45 questionnaire are distributed to consumer for their opinion.

## 3.5 Methods for Data Collection

This study is conducted on the basis of the information collected from questionnaire, text books, magazines, newspaper, websites etc. the structured questionnaires are designed to collect the required information (see Annex for the sample questionnaire).In the process of collecting information, 115 questionnaires were distributed to the target respondents out of which 15 questionnaires have been discarded due to lack of full and adequate response.

This study both structured and unstructured questionnaires as well as interview methods were used for quantitative and qualitative data. Structured questionnaires and interview were used to collect the basic information about the production and marketing of plastic products. Both types of data were collected with help of the methods like direct observation methods, interview, schedule were used to study.

### 3.6 **Methods of Data Analysis and Presentation**

The data has collected from different castes and society using various instruments and found sources has been analyzed. Each part of information classified, analyzed and described mathematically and statistically classifying with tabulating them in different categories into sub headings. The data have been analyzed using various statistical tools and techniques such as percentage, graph, bar diagram, pie chart, maps and different charts have been used to classify the quantitative as well as qualitative data.

### 3.7 Data Collection Methods

The stated objectives of this study have been achieved by collecting data and information primarily from the secondary sources. The data has been collected from published as well as unpublished reports, research studies and other publications. The data which is not available in the reports and publications were gathered by the personal contacts with the respective authorities. In addition information has been collected from the primary sources through the use of informal interview, observation and questionnaire methods. The following secondary sources have been tapped for the collection of the required data and information.

I. Department of Commerce
II. Department of Custom
III. Department of Industry
IV. Federation of Nepal Chamber of Commerce and Industries
V. Nepal Plastics Manufacturers Association
VI. PET Products and closures manufacturers Association
VII. Plast Nepal Foundation

# CHAPTER IV

## DATA PRESENTATION AND ANALYSIS

This chapter presents the analysis and interpretation of the collected data. The data in this chapter are presented, analyzed and interpreted to obtain he stated objective of the study. Analyses of the responses are descriptive as well as empirical. Tables, graphs, bar diagrams, pie charts etc are used analysis.

### 4.1 Presentation and Analysis of Secondary Data

Main sources of the secondary data are Department of Industry, Department of Commerce and Custom department.

#### 4.1.1 Production and Consumption of Plastics in Kathmandu Valley.

**Table 4.1**

**Showing productions and consumption of Plastics in Kathmandu Valley.**

**Qty in 'MT'**

| SN | Sector | Production | Consumption | Supply from other Districts | Supply to other districts |
|---|---|---|---|---|---|
| 1. | HDPE & PP Shopping Bags | 326 | 250 | 75 | |
| 2. | Household Appliances | 100 | 150 | 80 | 30 |
| 3. | Pet Bottles and Jars | 330 | 250 | 30 | 110 |
| 4. | Water Storage Tanks | 230 | 200 | 30 | 60 |
| 5. | PPR Pipes & Fittings | 120 | 80 | 10 | 50 |
| 6. | Disposable Cups & Plates | 65 | 50 | - | 15 |
| 7. | HDPE Pressure Pipes | 80 | 100 | 50 | 30 |
| 8. | PVC Pipes and Fittings | 245 | 150 | - | 95 |
| 9. | Medical Syringe Barrel & Plunger | 30 | 20 | 10 | |
| 10. | Paint Pails | 30 | 20 | 10 | |
| 11. | Chair and Furniture | | 50 | | 50 |
| | **Total** | **1556.00** | **1330.00** | | |

*Source: Nepal Plastic Manufacturers Association*

As per the data gathered, consumption and production of HDPE shopping bags, PET bottles, water storage tanks followed by PVC pipes are higher in Kathmandu valley. Being capital city and population density there is high volume consumption of plastic products. Though the major market is Kathmandu, products produced in Kathmandu are also supplied to other districts as well as per the market demand. Similarly productions of other districts are also brought and used in Kathmandu valley. There is no chair and table manufacturing unit in Kathmandu and those products are supplied from other districts.

### 4.1.2 List of Plastic Manufacturers (sector wise) in Kathmandu Valley

**Table 4.2**

**HDPE/PP Shopping Bags Industries in Kathmandu Valley**

| Raw Material Used | Name Of Industry | Location | Prod. per Month (MT) |
|---|---|---|---|
| HDPE Film, LLDPE Film PP Film Filler Masterbatch | 1.Bhimeshwor Plastic Ind | Koteshwor | 30.00 |
| | 2.Durga Polythene Udyog | Koteshwor | 50.00 |
| | 3.Prasanna Plastic Udyog | BID | 40.00 |
| | 4.Purnimal Plastic Udyog | BID | 10.00 |
| | 5.Shiv Polymers | BID | 10.00 |
| | 6'Shree Polythene & Plastic | BID | 40.00 |
| | 7.Shree Sundevi Traders | Dhapasi | 50.00 |
| | 8.Sunkoshi Plastic Udyog | Kalanki | 15.00 |
| | 9.Tahachal Plastic Udyog | Kalimati | 7.00 |
| | 10.Three Star Plastics | Swoyabhu | 7.00 |
| | 11.Balkumari Plastic Udyog | Balkhu | 7.00 |
| | 12.Biju Plastic Industries | PIE | 7.00 |
| | 13.Dakshinkali Plastics | BID | 5.00 |
| | 14.Radhakrishna Plastic | PIE | 30.00 |
| | 15.Super Quality Plastic Ind | PIE | 10.00 |
| | 16.Best Plastic Industries | BID | 10.00 |
| | 17.Nawa Durga Plastic Ind | Jagati | 10.00 |
| | 18.Others | | 8.00 |
| | **Total** | | **326.00** |

*Source: Nepal Plastic Manufacturers Association*

There are 17 registered Industries and few are being run informally, approximate production from the Industries is 326MT. Basic raw material requirement for this segment are HDPE Film, PP Film, LLDPE Film, Fillers and Masterbatch. Reprocess granules are also mixed up by certain percentage during the production process.

**Table 4.3**

**Household Products Industry in Kathmandu**

| Raw Material Used | Name of Industry | Location | Production/Month (MT) |
|---|---|---|---|
| HDPE Inj<br>PP Inj<br>PP RCP<br>Masterbatch | Gem Plasticrafts Pvt Ltd | BID | 100.00 |

*Source: Nepal Plastic Manufacturers Association*

There is only one manufacturer of Household Products named Gem Plasticrafts Pvt Ltd with production of approx.100MT/month. Plastic raw material required for this segment are HDPE Injection, PP Injection, PP RCP and different colours of Masterbatch which manufacturer imports directly from India, Thailand, Saudi Arabia, Qatar, Singapore etc.

**Table 4.4**

**List of PET Bottle &Jar Manufacturers in Kathmandu**

| Raw Material Used | Name of Industry | Location | Prod./Month (MT) |
|---|---|---|---|
| PET Resin<br>PET Recycle Material | 1.Himalayan Multiplast Ind. | BID | 90.00 |
| | 2.National Plastic Industries | BID | 30.00 |
| | 3.Tirumala Plastic Industries | Satungal | 50.00 |
| | 4.Esh Pet Pvt Ltd | Satungal | 15.00 |
| | 5.TSN Plast Care Industries | PIE | 50.00 |
| | 6.Shiv Shakti Bottle Ind | PIE | 50.00 |
| | 7.Yechula Plastic Udyog | PIE | 15.00 |
| | 8.Ganapati Pet Udyog | PIE | 10.00 |
| | 9.KB Pet Industry | PIE | 15.00 |
| | 10.Medipack Pvt Ltd | Thali | 5.00 |
| | **Total** | | **330.00** |

*Source: PET Products and Closure Manufacturer Association Nepal*

There are 10 Industries who produce PET Bottles, Jars, Candy Jars, Edible Oil bottle, Pharmaceutical Bottles Liquor bottles etc consuming raw material/production around 330MT/Month. This segment is becoming as one of the fastest growing applications segment of Plastic. Raw material required for above applications is PET which the industries imports from India, Taiwan, Saudi Arabia, Thailand and Malaysia.

**Table 4.5**

**List of Water Storage Tanks manufacturers in Kathmandu**

| Raw Material Used | Name of Industry | Location | Production/Month(MT) |
|---|---|---|---|
| LLDPE Roto Masterbatch | 1.Hilltake Industries | BID | 75.00 |
| | 2.Rooftop Industries | PIE | 10.00 |
| | 3.Aakash Plastic Industries | PIE | 5.00 |
| | 4.Birhaspati Moulding Ind. | Satungal | 50.00 |
| | 5.Shree Sarvottam Roto | Thankot | 15.00 |
| | 6.Valley Polymers Pvt Ltd | Bhaktapur | 15.00 |
| | 7.Jagdamba Polytank Ind. | Lubhoo | 10.00 |
| | 8.Rijalco Polytank Ind | Siddipur | 30.00 |
| | 9.Eco Polypack Industries | PIE | 20.00 |
| | Total | | 230.00 |

*Source: Nepal Plastic Manufacturers Association*

As shown in above table, there nine Industries who manufacturer water storage Tanks, Road dividers, dust bins. Raw material require for above application is LLDPE Roto, Black and Colour Masterbatchs.

**Table 4.6**

**List of PPR Pipes manufacturers in Kathmandu**

| Raw Material Used | Name of Industry | Location | Prod./Month(MT) |
|---|---|---|---|
| PPR Masterbatch | Nepal Hilltop Industries | Manamaiju | 100.00 |
| | Hilltake Pipes and fittings | BID | 20.00 |
| | **Total** | | **120.00** |

*Source: Nepal Plastic Manufacturers Association*

As shown in above table, there are two convertors who produce PPR Pipes and fittings. This is new segment and growing fast as well compared other Industries. Raw material required for this segment mainly imported from South Korea.

**Table 4.7**

**List of Disposable Cups and Plates in Kathmandu**

| Raw material Used | Name of Industry | Locaion | Prod./Month(MT) |
|---|---|---|---|
| HIPS | Himalayan Polymers | BID | 30 |
| GPPS | Medipack Pvt Ltd | Thali | 10 |
| PP Thermofoaming | Anand Plastics | PIE | 20 |
| | Gauchan Plastics | Satungal | 5 |
| | **Total** | | **65.00** |

*Source: Nepal Plastic Manufacturers Association*

As mentioned in above table, there are four processors who manufacture disposable cups, Plates & Glass. Total production of this segment is 65MT per month. The raw materials required for this segment are HIPS, GPPS and PP Thermofoaming which are mainly imported from Singapore and India.

**Table 4.8**

**List of PVC Pipes and Fittings in Kathmandu**

| Raw Material Used | Name of Industry | Location | Prod./Month(MT) |
|---|---|---|---|
| PVC Resin | 1.Annapurna Jutta Chapal | Maharaj | 40.00 |
| Calcium Carbonate | 2.Nepal Wire & Cable | Ringroad | 30.00 |
| Additives | 3.Delta Cable & Pipe Ind. | Satungal | 30.00 |
| | 4.Vishal Plastocab Ind. | Satungal | 20.00 |
| | 5. Karyabinayak Industries | Manamaiju | 25.00 |
| | **Total** | | **145.00** |

*Source: Nepal Plastics Manufacturers Association*

As shown in the table, there are five Industries in Kathmandu valley with production capacity of 145MT per month who manufacture PVC Pipes,

Fittings, Garden Pipes. Raw material requirement of this segment are being imported from Thailand, Malaysia, Korea and Saudi Arabia.

Similarly, there is one Industry named Everest Med Pvt Ltd who manufacturers Medical Syringe and barrels with monthly production capacity of 30MT.

others, 1 manufacturing medical syringe and 2 manufacturing units of paint pails whose production capacity is 30MT per month.

### 4.2 Presentation and Analysis of Primary Data:

Before entering to the survey field, ie Kathmandu valley, three types of questionnaire were prepared for primary data collection from the respondents. During the period of distribution of the questionnaire were randomly distributed to the respondents ie to consumer, to Industry owners as well as to the sellers who were different in age, sex and education as well as the social status and differ in religious aspects who were the representative sample of different kind of population of the area. Some of the questionnaire were distributed and collected by personal contact and some were visited with wholesaler and distributer of major business hub like Patan and New Road.

### 4.3 Industry Owner's Response

Among the distributed 25 questionnaire, 24 were returned back from the manufacturer so the respondents were 96% they are presented in the below table.

### 4.3.1 Plastic Product Manufacturers response on satisfaction

**Table 4.9**

**Showing the satisfactions being plastic product manufacturer**

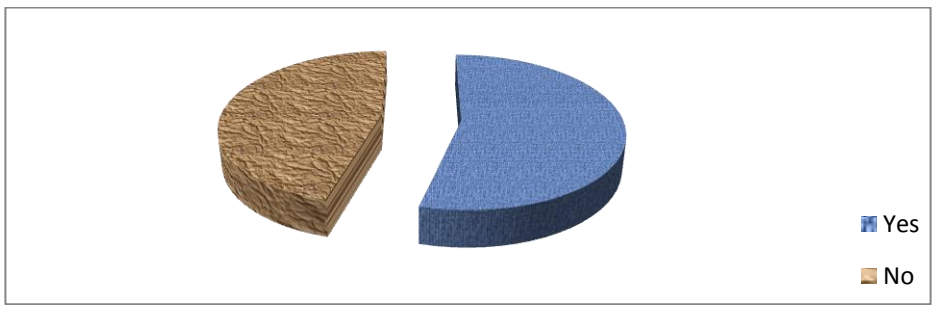
| Particulars | Respondents | Percentage |
|---|---|---|
| Yes | 13 | 54.17 |
| No | 11 | 45.83 |
| **Total** | **24** | **100** |

*Source: Questionnaire Survey*

By the above table it is clear that 13 respondents or 54.17% manufacturer said that they were satisfied of being plastic products manufacturer and 11 respondents or 45.83 % manufacturer said that they were not satisfied being plastic product manufacturer. From this we can draw the conclusion that higher % of manufacturers are satisfied with their Industry.

The above table can be represented by the following pie chart.

**Graph 4.1**
**Satisfaction being plastic Manufacturer**



### 4.3.2 Period of Time being engaged in Plastic Industry

**Table 4.10**
**Showing period of time engaged in Plastic Industry.**

| Particulars | Respondents | Percentage |
|---|---|---|
| Less than 5 years | 8 | 33.33 |
| 5 to 10 Years | 7 | 29.17 |
| 11 - 15Years | 5 | 20.83 |
| Above 15 years | 4 | 16.67 |
| **Total** | **24** | **100.00** |

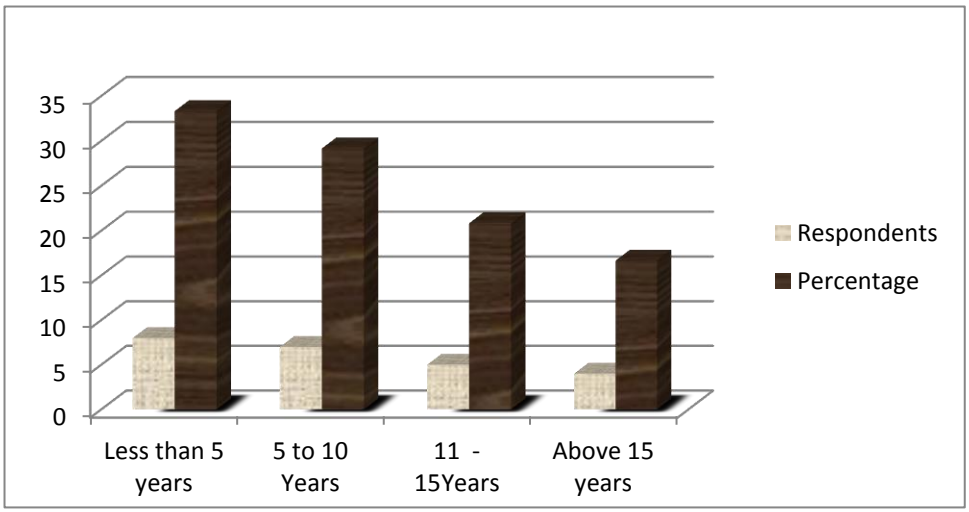
*Source: Questionnaire Survey*

According to the above table, among 24 respondents 8 or 33.33 % had started their industry from less than five years. 7 or 29.17 % of respondents started their industry before 5 to 10 years. 5 i.e. 20.83% respondent started their industry before 11 to 15 years and 4 or 16.67 % of respondents started their industry before 15 years. Highest level of manufacturer had started their industry recently ie less than 5 years.

The above data can be represented on following graph.

**Graph 4.2**

**Period of time engaged in Plastic Industries**



### 4.3.3 Type of raw material used for productions

**Table 4.11**

**Type of raw material used for productions**

| Particulars | Respondents | Percentage |
|---|---|---|
| Imported Virgin Material | 7 | 29.17 |
| Recycled Material | 3 | 12.50 |
| Both | 14 | 58.33 |
| **Total** | **24** | **100.00** |

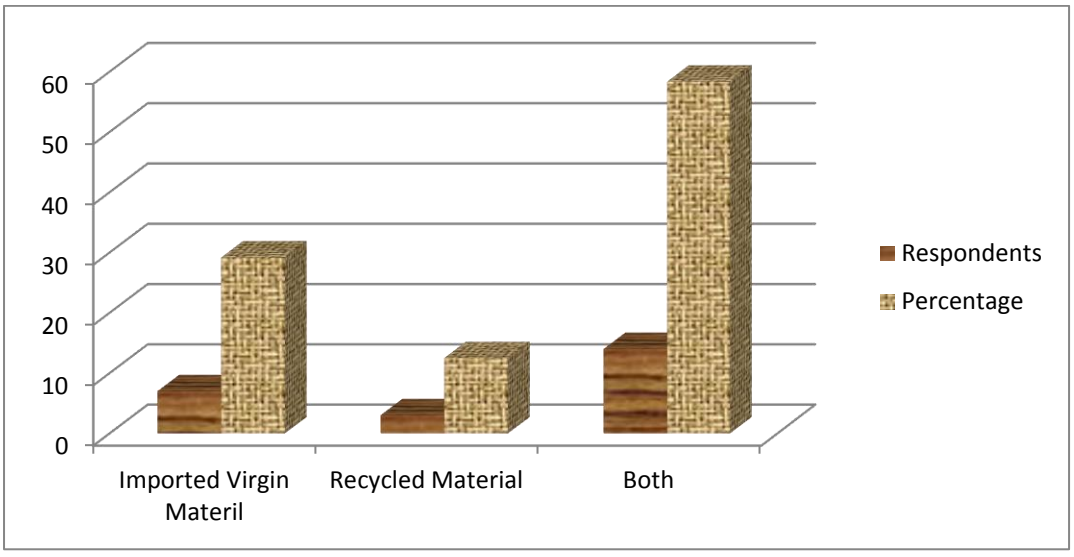
*Source: Questionnaire Survey*

By the above table, among24 respondents 7 or 29.17 % of manufacturer used imported virgin raw material for production. 3 or 12.50% of respondents use recycled/reprocessed raw material. and 14 ie 58.33% respondent used both virgin and recycled raw material for production. Highest level of manufacturer use virgin imported and reprocessed granules as their raw material.

The above data is presented in following graph.

**Graph 4.3**

**Uses of raw material by Plastic Industries**



### 4.3.4 Problem being faced by Plastic Manufacturers

**Table 4.12**

**Showing Problem being faced by Plastic Manufacturers.**

| Particulars | Respondents | Percentage |
|---|---|---|
| Load Shedding | 6 | 25.00 |
| Labour Issue/Manpower shortage | 3 | 12.50 |
| Short of Raw material | 3 | 12.50 |
| All of above | 12 | 50.00 |
| **Total** | **24** | **100.00** |

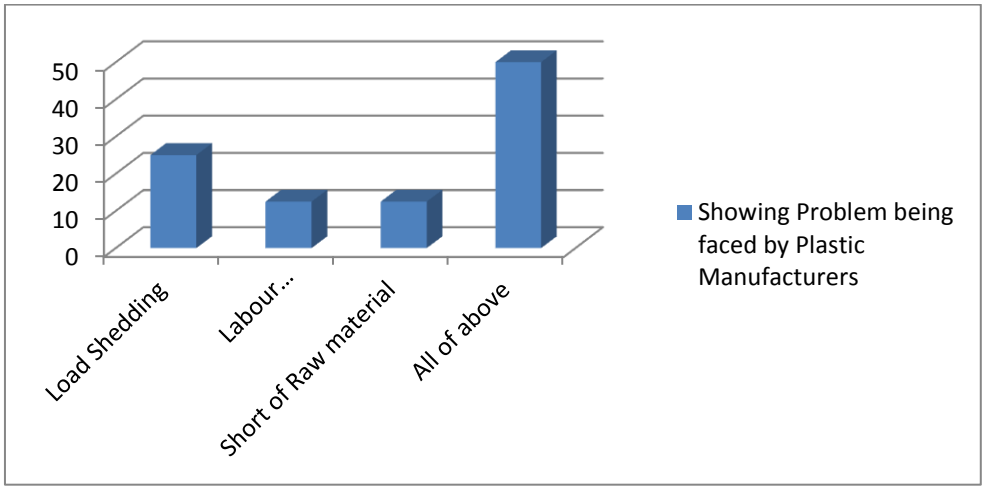
*Source: Questionnaire Survey*

By the above table, among24 respondents 6 or 25 % of manufacturer said that load shedding is the main problem to run the industry . 3 or12.50% of respondents said labour issue/manpower shortage and shortage of raw material is their main problem and 12 or 50% respondent said that load shedding, labor issue/manpower shortage and shortage of raw material are the problems they have been facing.

Above data is presented in following graph.

**Graph 4.4**

**Showing problem being faced by Plastic Manufacturers**



### 4.3.5 Main Threats to Plastic Industries

**Table 4.13**

**Showing Threats to Plastic Industries**

| Particulars | Respondents | Percentage |
|---|---|---|
| Inferior products imported without duty | 3 | 12.50 |
| Higher Duty imposed | 5 | 20.83 |
| Government Policy | 4 | 16.67 |
| All of above | 12 | 50.00 |
| **Total** | **24** | **100.00** |

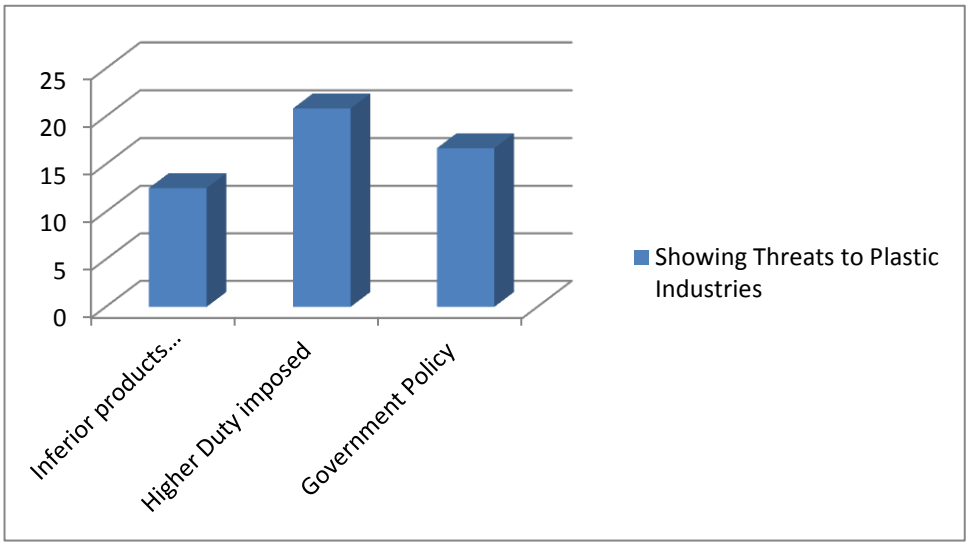
*Source: Questionnaire Survey*

By the above table, it is clear that among24 respondents 12.5 % of manufacturer said that inferior products imported without duty is the main threat to the Industry. 20.83% of respondents said higher duty imposed in raw material is the main threat for industry. 16.67% manufacturer claimed that Govt. policy is threat to the industry and 50% of respondent said that inferior products imported without duty, higher duty imposed on imported raw material and government policy are threats for plastic industries

Above data is presented in following graph.

**Graph 4.5**

**Showing Threats to Plastic Industries**



### 4.3.6 Market demand for Plastic Products

**Table 4.14**

**Showing Market demand of Plastic Products**

| Particulars | Respondents | Percentage |
|---|---|---|
| Growing | 10 | 41.67 |
| Stable | 6 | 25.00 |
| Can increase but need Govt support | 8 | 33.33 |
| **Total** | **24** | **100.00** |

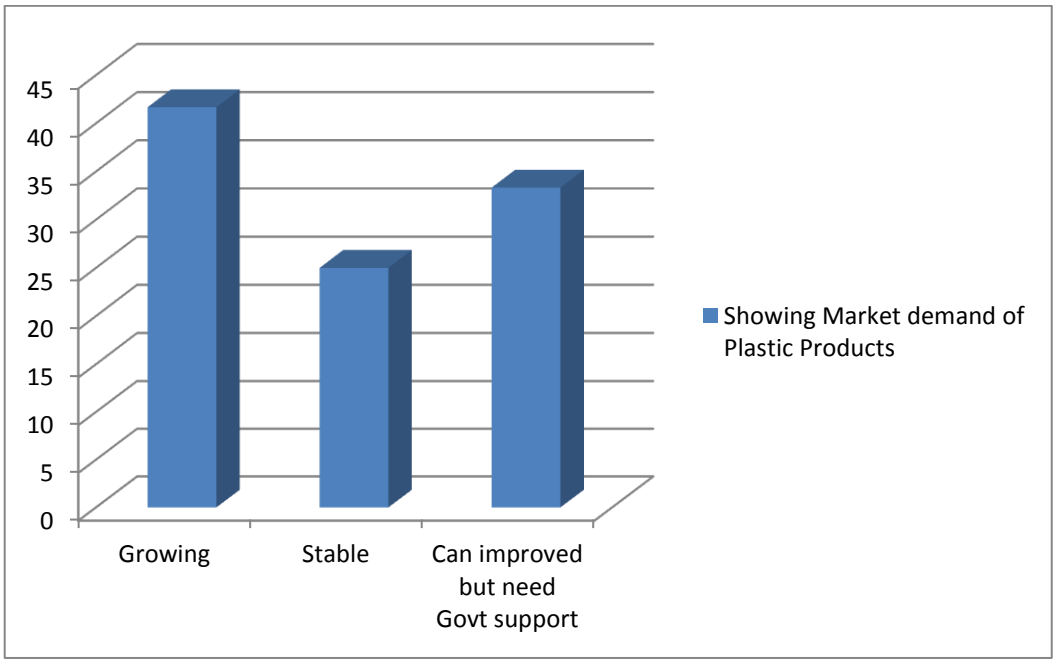
*Source: Questionnaire Survey*

From the above table, it can be noticed that among24 respondents 41.67 %, 25% and 33.33% of manufacturer said that the market demand of plastic products are growing, stable and cam be improved but need Govt support respectively.

Above data is presented in following graph.

**Graph 4.6**

**Showing Market Demand of Plastic Products**



### 4.3.7 Employment generated by Plastic Industries

**Table 4.15**

**Employment generated by Plastic Industries**

| Particulars | Respondents | Percentage |
|---|---|---|
| Below 20 | 6 | 25.00 |
| Upto 50 | 13 | 54.17 |
| Above50 | 5 | 20.83 |
| **Total** | **24** | **100.00** |

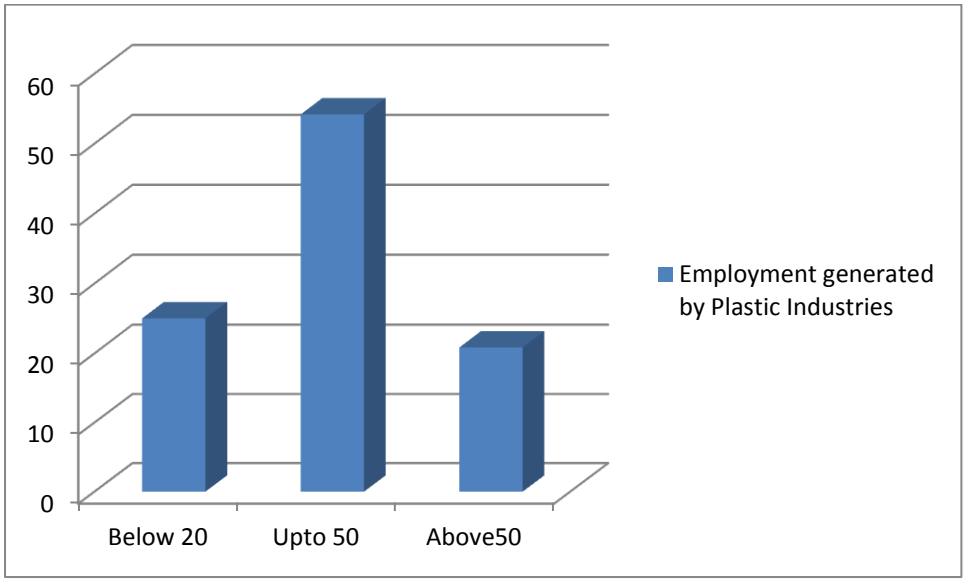
*Source: Questionnaire Survey*

From the above table, it is clear that among24 respondents, 25% of Industries provided employment to less than 20 people, 54.17% Industries provide employment up to 50 people and 20.83% Industries provide employment to more than 50 people.

Above data is presented in following graph.

**Graph 4.7**

**Showing Employment generated by Plastic Industries**



### 4.3.8 Support desired by Plastic Industries

**Table 4.16**

**Showing Support desired by Plastic Industries**

| Particulars | Respondents | Percentage |
|---|---|---|
| Import duty to be reduced | 3 | 12.50 |
| Regular Power Supply | 5 | 20.83 |
| Ban of Import of inferior Products | 4 | 16.67 |
| All of above | 12 | 50.00 |
| **Total** | **24** | **100.00** |

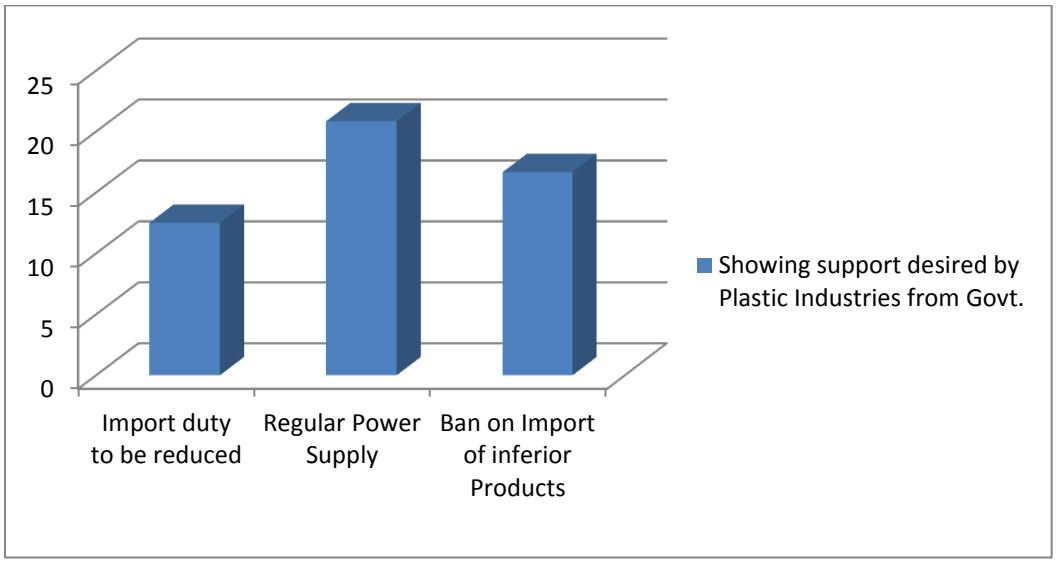
*Source: Questionnaire Survey*

From the above table, it is clear that 12.5% of respondent said that import duty of plastic raw material should be reduced, 20.83 % of manufacturers said that load shedding should be addressed, 16.67 % of manufacturers said that inferior product import should be ban 50% of manufacturer said that import duty should be reduced, regularity in power supply and ban on import of inferior product should be managed.

Above data is presented in following graph.

**Graph 4.8**

**Showing Support desired by Plastic Industries from Govt.**



### 4.4 Dealer's Responses'

Among the questionnaire distributed to 13 dealers, 10 of them responded to questionnaire. The data of that questionnaire is presented below.

#### 4.4.1. Confidence of dealer on sales of Plastic Product

**Table 4.17**

**Showing Confidence of dealer on sales of Plastic Product**

| Particulars | Respondents | Percentage |
|---|---|---|
| Confident | 6 | 60 |
| Somewhat confident | 2 | 20 |
| Not Sure | 1 | 10 |
| Doubtful | 1 | 10 |
| **Total** | **10** | **100.00** |

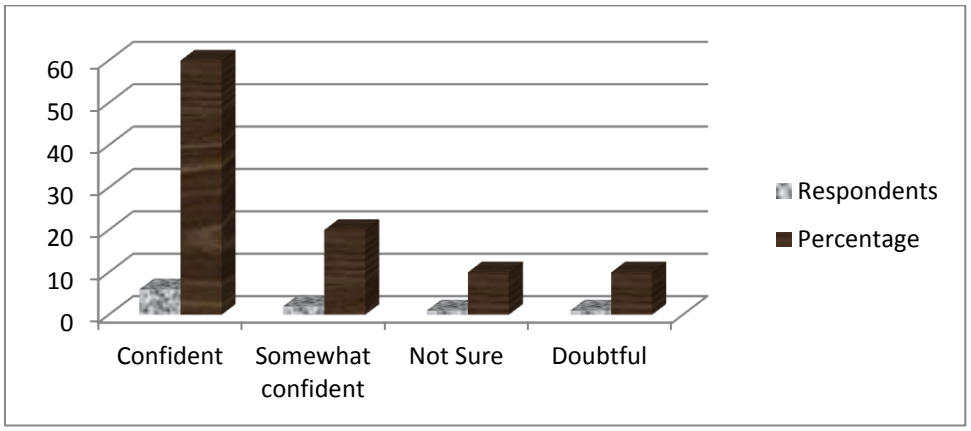
*Source: Questionnaire Survey*

From the above table, it can be said that 60% of the dealers are confident on gaining additional market share for plastic products in coming years where as 20% of them are somewhat confident, 10% are not sure and remaining 10% are doubtful.

The above table can be shown in following graph.

**Graph 4.9**

**Confidence of dealer on sales of Plastic Products**



### 4.4.2 Dealers sales volume of Plastic Product

**Table 4.18**

**Showing dealers sales volume of Plastic Product**

| Particulars | Respondents | Percentage |
|---|---|---|
| Upto Rs.2000000 | 3 | 30 |
| Rs. 2100000-3000000 | 3 | 30 |
| Above 3000000 | 4 | 40 |
| **Total** | **10** | **100.00** |

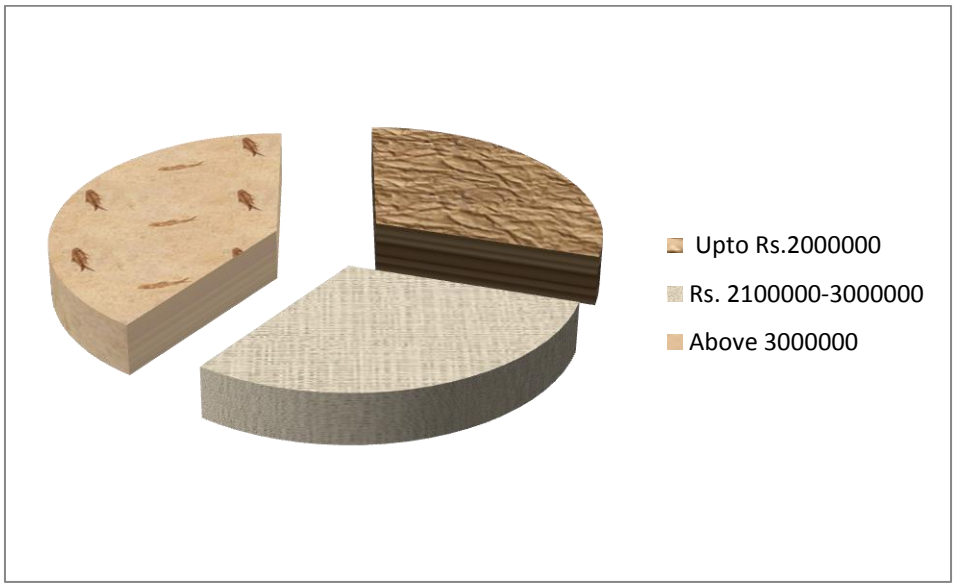
*Source: Questionnaire Survey*

From the above table, it can be said that 30% of the dealers are making sales of Rs. up to 2000000 annually, 30% of dealers are making sales of Rs. 2100000-3000000 annually and 40% of dealers are making sales of above Rs. 3000000 annually.

The above table data is shown in pie chart

**Graph 4.10**

**Showing dealers sales volume of Plastic Product**



### 4.4.3 Period of Dealership on Plastic Products

**Table 4.19**

**Showing period of dealership on Plastic Products**

| Particulars | Respondents | Percentage |
|---|---|---|
| 1-5 Years | 5 | 50 |
| 6-10 Years | 3 | 30 |
| 11 Years and above | 2 | 20 |
| **Total** | **10** | **100.00** |

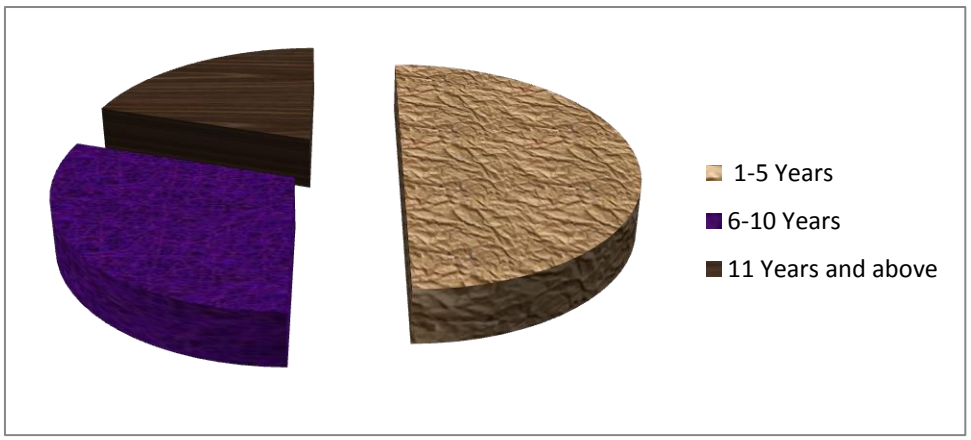
*Source: Questionnaire Survey*

By the analysis of above table, it is understood that 50% of dealers were working for 1-5 years period, 30% were working for 6-10 years and 20% were working for more than 11 years period.

The data presented in above table is sown in pie chart below.

**Graph 4.11**

**Showing period of dealership on Plastic Products**



### 4.4.4 Share of Plastic Products on total sales of Dealer

**Table 4.20**

**Showing share of plastic products on total sales of dealer.**

| Particulars | Respondents | Percentage |
|---|---|---|
| 24% or less | 2 | 20 |
| 25-49% | 4 | 40 |
| 50-74% | 2 | 20 |
| 75% or more | 2 | 20 |
| **Total** | **10** | **100.00** |

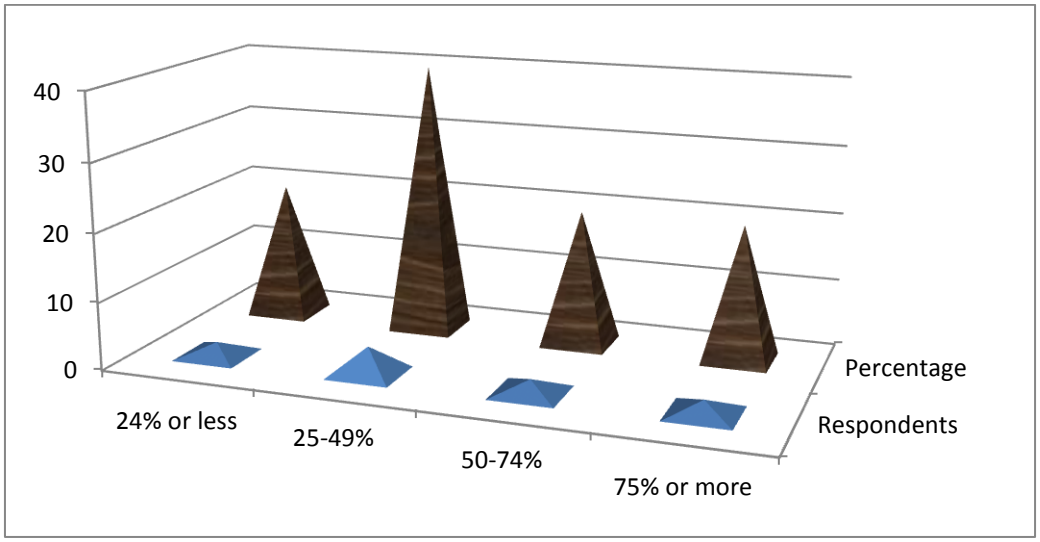
*Source: Questionnaire Survey*

From the above table, out of total respondent, 20% of dealer generate 24% or less sales from plastic product, 40 % of dealer generate 25% to 49% of sales from plastic product, 20% of dealer generate 50 to 74% of sales from plastic product and 20% of dealer generate 75% or more revenue from plastic product.

The above table is presented in graph below.

**Graph 4.12**

**Share of plastic product on total sales.**



### 4.4.5 Profit derived from Plastic Products:

**Table 4.21**

**Showing share of profit from Plastic Product**

| Particulars | Respondents | Percentage |
|---|---|---|
| 24% or less | 2 | 20 |
| 25-49% | 4 | 40 |
| 50-74% | 2 | 20 |
| 75% or more | 2 | 20 |
| **Total** | **10** | **100.00** |

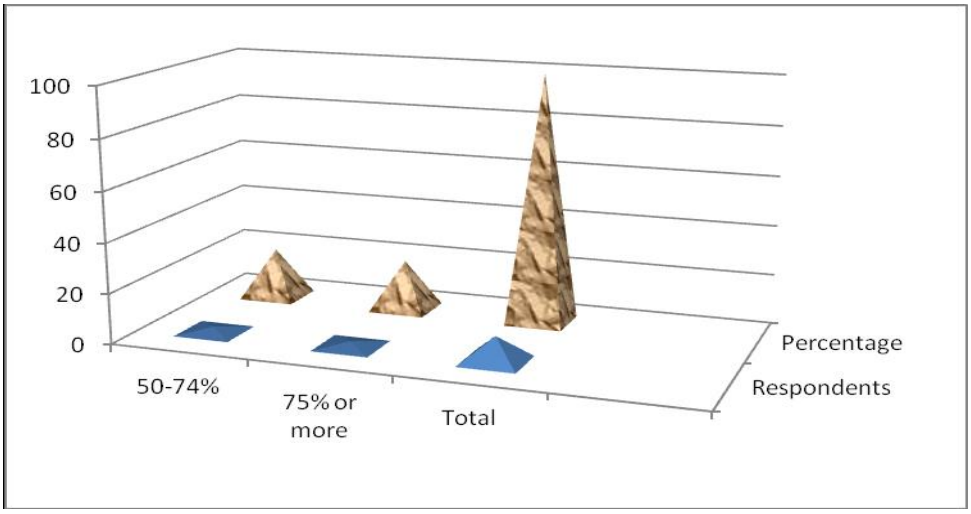
*Source: Questionnaire Survey*

From the above table, out of total respondent, 20% of dealer generate 24% or less profit from plastic product, 40 % of dealer generate 25% to 49% of profit from plastic product, 20% of dealer generate 50 to 74% of profit from plastic product and 20% of dealer generate 75% or more profit from plastic product.

The above data are presented in graph below.

**Graph 4.13**

**Share of profit from Plastic Product**



### 4.4.6 Company's Marketing Activities and its Impact on Sales.

**Table 4.22**

**Showing Impact of company's Marketing Activity on Sales.**

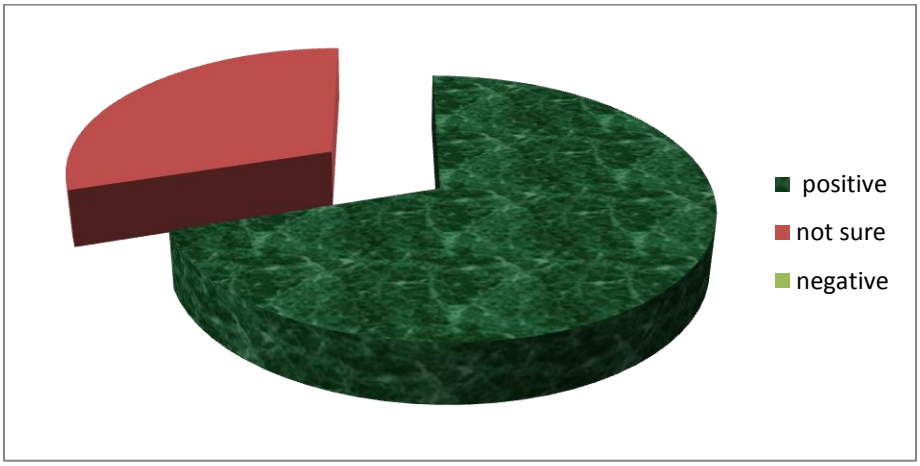
| Particulars | Respondents | Percentage |
|---|---|---|
| positive | 7 | 70 |
| not sure | 3 | 30 |
| negative | 0 | 0 |
| **Total** | **10** | **100.00** |

*Source: Questionnaire Survey*

By the analysis of above table, it is understood that 70% of dealers believe that efforts of senior sales and marketing management has positive impact on sales, 30% of dealers believe that efforts of senior sales and marketing management not sure of impact on sales and none of dealers believe that efforts of senior sales and marketing management has negative impact on sales of plastic product. The above data is presented in pie chart below.

**Graph 4.14**

**Showing Impact of Company's Marketing Activities on Sales**



### 4.5 Consumers Response

Among the questionnaire distributed to 45 consumers, 40 of them responded to questionnaire. The data of that questionnaire is presented below.

### 4.5.1 Product Preference by Consumer in terms of Cost, Weight, Space consuming.

**Table 4.23**

**Showing Product preference by consumers**

| Particulars | Respondents | Percentage |
|---|---|---|
| Plastics | 20 | 50 |
| Iron/ Steel/Aluminum | 5 | 12.50 |
| Wood | 8 | 20 |
| Paper/Cartoon | 7 | 17.5 |
| **Total** | **40** | **100** |

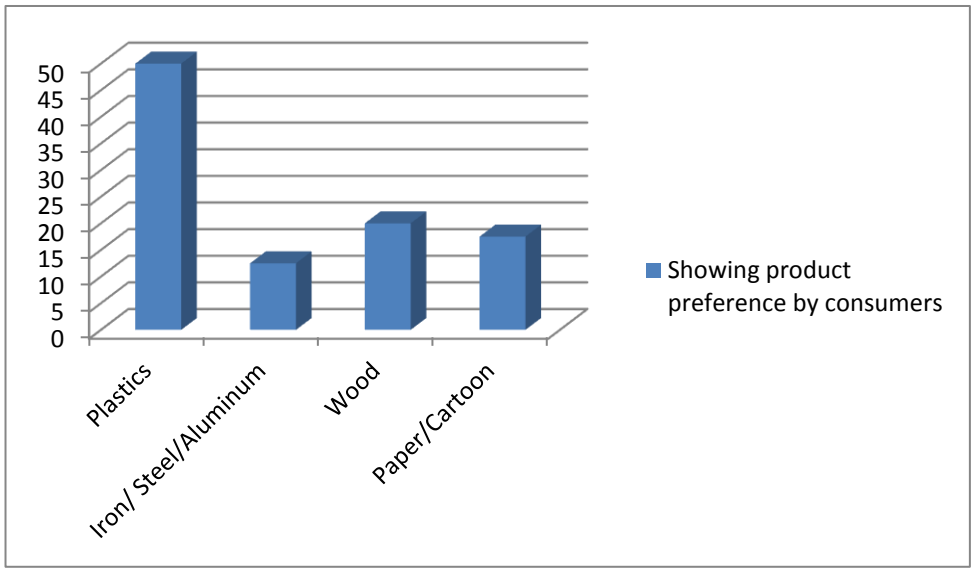
*Source: Questionnaire Survey*

From the above table, it is clear that 50% of consumers prefer plastic products, 12.5 % of consumer prefer Iron/Steel/Almunium Product, 20% of consumer prefer wood and 17.5% of consumer prefer paper in their daily life.

Above data has been presented in Graph as follows;

**Graph 4.15**

**Showing Product preference by consumers.**



### 4.5.2 Consumer awareness on product before buying.

**Table 4.24**

**Showing consumer knowledge on product before buying decision**

| Particulars | Respondents | Percentage |
|---|---|---|
| Yes | 30 | 75 |
| No | 10 | 25 |
| **Total** | **40** | **100** |

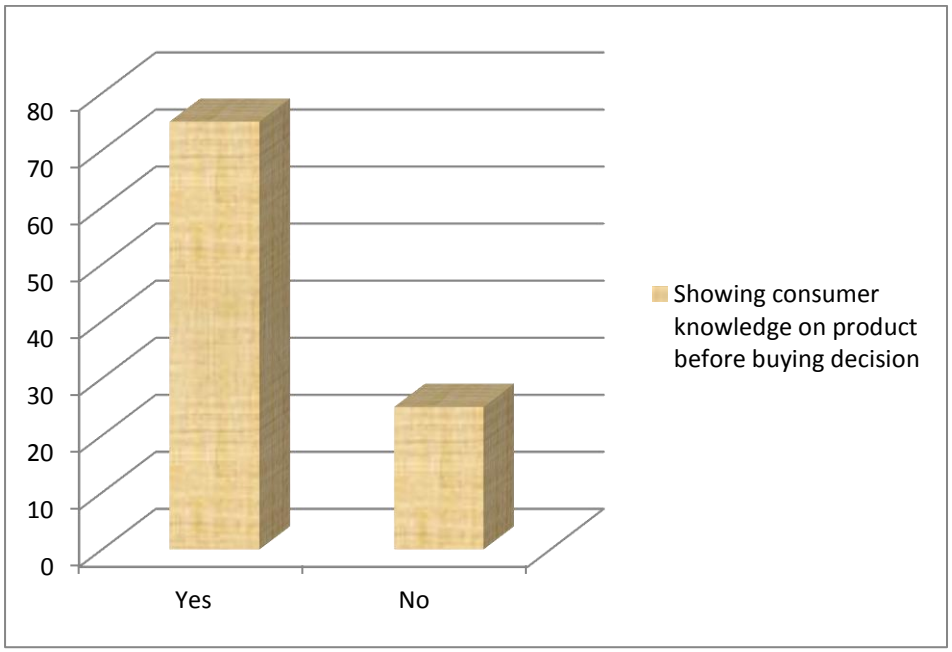
*Source: Questionnaire Survey*

According to the above table 75% of consumers have knowledge on products before decide on buying and 25% of consumers lack proper knowledge on buying decision.

Above data has been presented in Graph as follows;

**Graph 4.16**

**Showing Consumer knowledge on product before buying**



### 4 5.3 Consumers' willingness to pay for Plastic Products.

**Table 4.25**

**Showing Consumers expenses on Plastic Products**

| Particulars | Respondents | Percentage |
|---|---|---|
| Below 5% | 18 | 45 |
| 5-10% | 12 | 30 |
| Above 10% | 10 | 25 |
| **Total** | **40** | **100** |

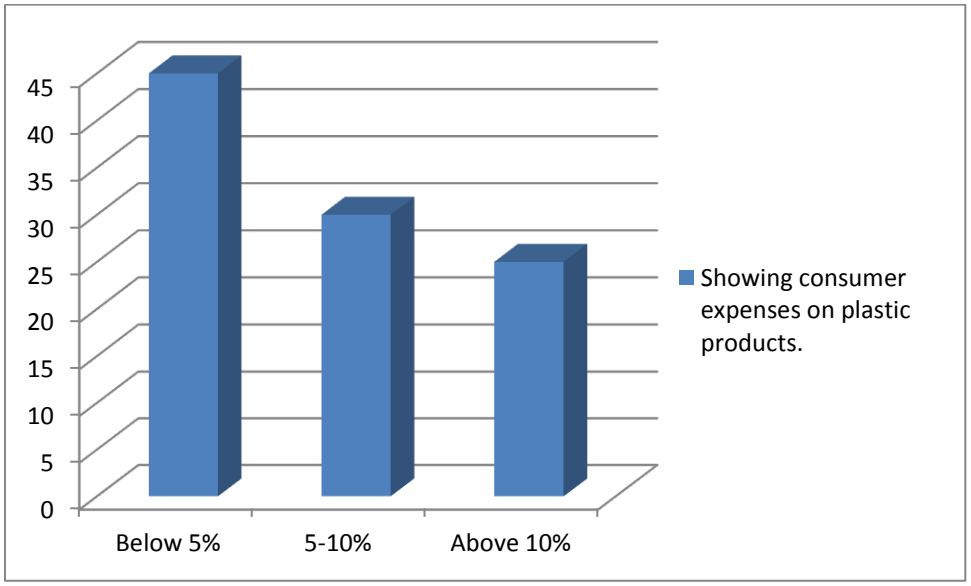
*Source: Questionnaire Survey*

According to the above table 45% of consumers spend below 5% of their income on plastic products, 30% of consumers spend 5-10% of their income on plastic product and 25% of consumers spend above 10% of their income on plastic products.

Above data has been presented in Graph as follows;

**Graph 4.17**

**Showing Consumer Expenses on Plastic Products**



### 4.5.4 Consumer's Interest on Plastic Products.

**Table 4.26**

**Showing Consumer interest on buying Plastic Product.**

| Particulars | Respondents | Percentage |
|---|---|---|
| Yes | 35 | 87.5 |
| No | 5 | 12.5 |
| Total | 40 | 100 |

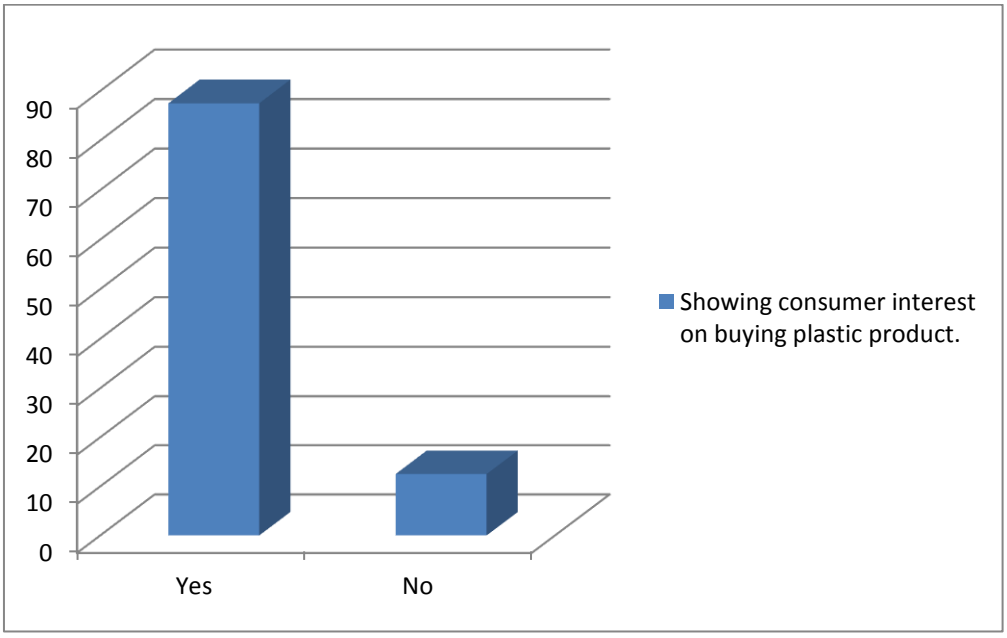
*Source: Questionnaire Survey*

From the above table, it is clear that 87.5% of consumers enjoy on buying plastic products and 12.5% of consumers are not interested on buying plastic product .

Above data has been presented in Graph as follows;

**Graph 4.18**

**Showing Consumer interest towards Plastic Products.**



### 4.5.5 Consumer feeling on importance of Plastic Product

**Table 4.27**

**Showing Importance of Plastic Product to consumer**

| Particulars | Respondents | Percentage |
|---|---|---|
| Agree | 35 | 87.5 |
| Disagree | 5 | 12.5 |
| **Total** | **40** | **100** |

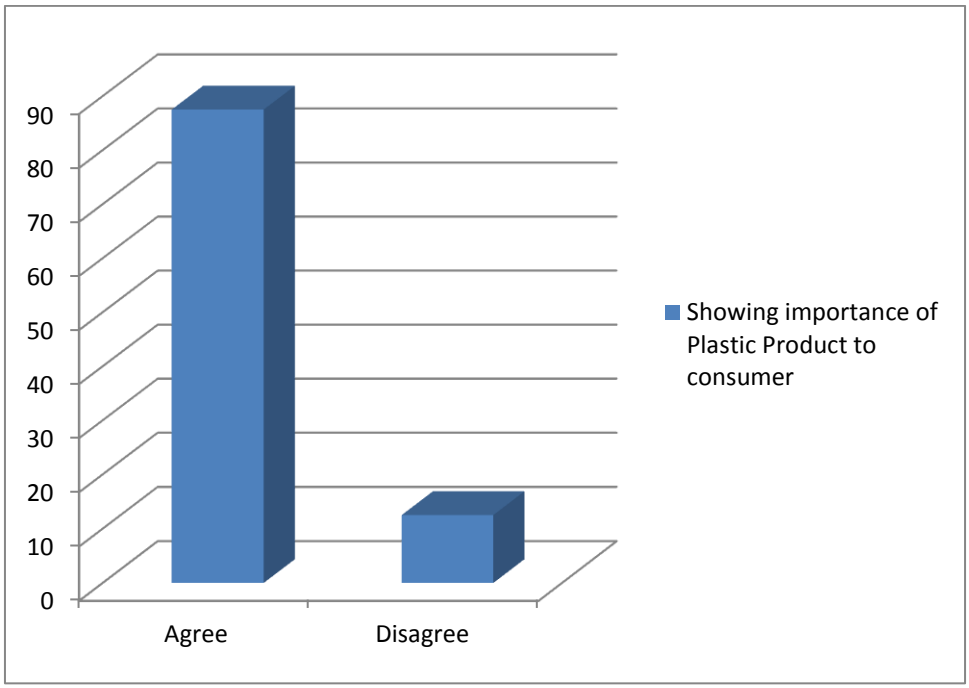
*Source: Questionnaire Survey*

By analysis of above table, it is understood that 87.5% of consumers agree on importance of plastic products in their life and 12.5% of consumers are not finding importance of plastic products in their life.

Above data has been presented in Graph as follows;

**Graph 4.19**

**Showing importance of Plastic Products to Consumer**



### 4.5.6 Brand Preference of Consumer on Plastic Products.

**Table 4.28**

**Showing Brand Preference of consumer**

| Particulars | Respondents | Percentage |
|---|---|---|
| Agree | 15 | 37.50 |
| Disagree | 10 | 25 |
| Can't say | 15 | 37.5 |
| **Total** | **40** | **100** |

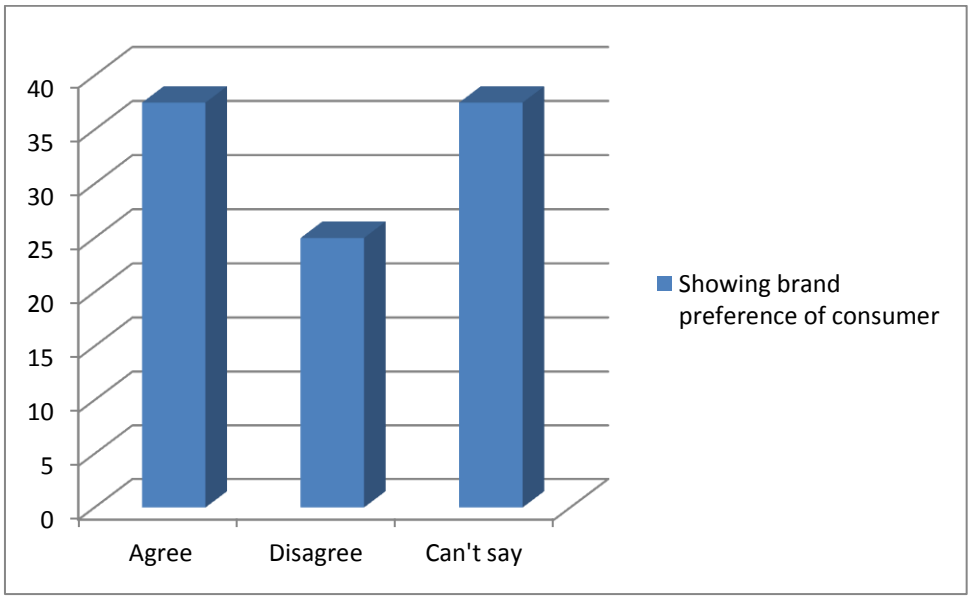
*Source: Questionnaire Survey*

It is clear from above table that 37.5% of consumers brand conscious on selecting plastic products, 25% are not brand conscious and 37.5% do not prefer brand for product selection.

Above data has been presented in Graph as follows;

**Graph 4.20**

**Showing Brand preference of Consumer**



### 4.5.7 General view of consumer on word ‘Plastics’

**Table 4.29**

**Showing the general view of consumer about the word 'Plastic'**

| Particulars | Respondents | Percentage |
|---|---|---|
| Pet Bottles | 5 | 12.5 |
| Shopping Bag | 20 | 50.00 |
| Households and furnitures | 10 | 25 |
| others | 5 | 12.5 |
| **Total** | **40** | **100** |

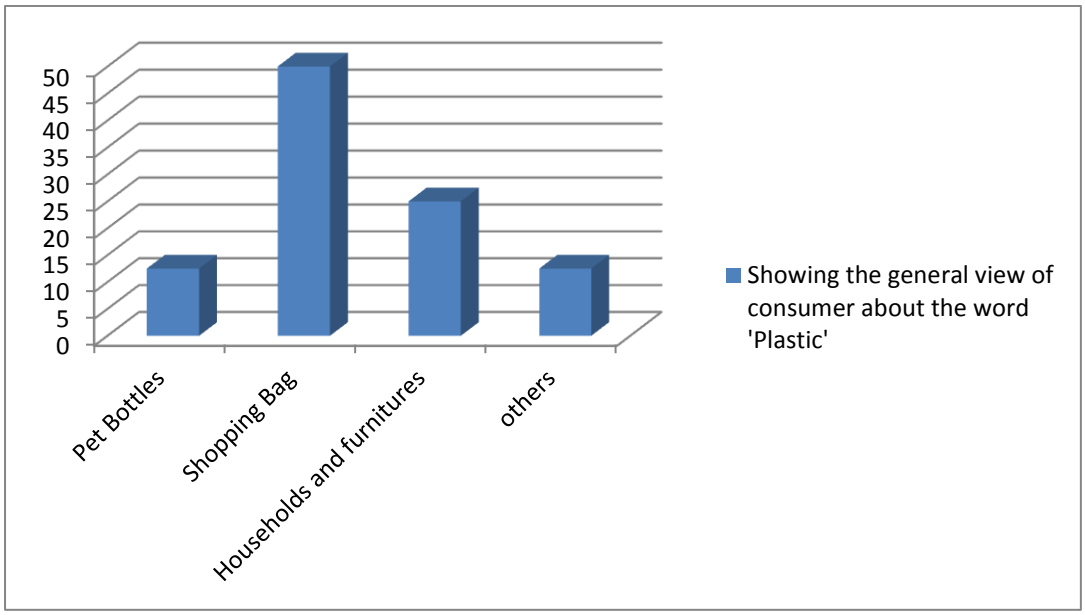
*Source: Questionnaire Survey*

From the above table, it is clear that 12.5% of consumers understood Pet bottle as Plastic product, 50% of consumer understood shopping bags as plastic product, 25% of consumers understood household/furniture as plastic products and 12.5% of consumers understood others plastic product as plastic.

Above data has been presented in Graph as follows;

**Graph 4.21**

**Showing General View of consumer about the word ‘Plastic’**



### 4.5.7 Consumer's Impression on 'Plastics'.

**Table 4.30**

**Showing consumer impression on Plastic Products**

| Particulars | Respondents | Percentage |
|---|---|---|
| Positive | 20 | 50 |
| Negative | 7 | 17.5 |
| Neutral | 13 | 32.5 |
| **Total** | **40** | **100** |

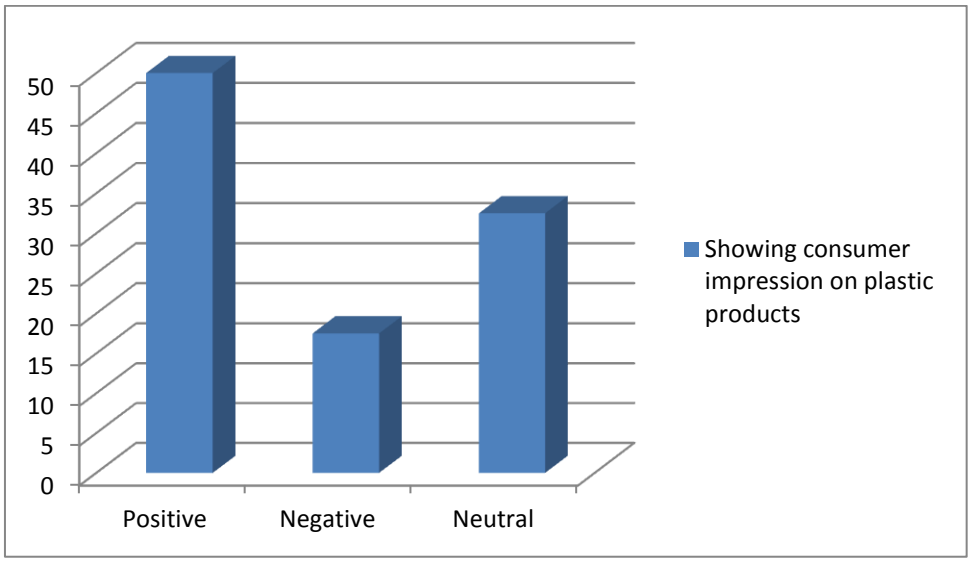
*Source: Questionnaire Survey*

According to above table, it is clear that 50% of consumers have positive impression on Plastic product, 17.5% of consumers have negative impression and 32.5% of consumers have no view over plastic products.

Above data has been presented in Graph as follows;

**Graph 4.22**

**Showing consumer impression on Plastic Products**



### 4.5.8 Usefulness of Plastic in Consumer's daily life

**Table 4.31**

**Showing consumer's view over usefulness of Plastic Products**

| Particulars | Respondents | Percentage |
|---|---|---|
| Yes | 30 | 75 |
| No | 3 | 7.5 |
| Can't say | 7 | 17.5 |
| **Total** | **40** | **100** |

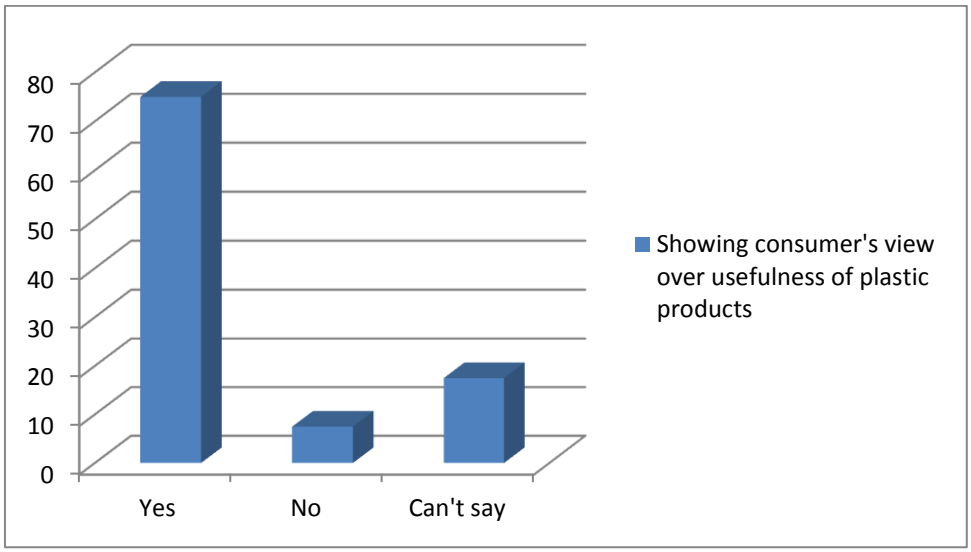
*Source: Questionnaire Survey*

Above table shows that75% of consumers find Plastic products as useful, 7.5% of consumers said that plastic products are not useful and 17.5% of consumers have no clear view over the usefulness of plastic.

Above data has been presented in Graph as follows;

**Graph 4.23**

**Showing consumer's view over usefulness of Plastic Products**



### 4.5.9 Consumer's view on replacement of Plastic Product by other Products

**Table 4.32**

**Showing consumer's view on replacement of Plastic Products**

| Particulars | Respondents | Percentage |
|---|---|---|
| Yes | 5 | 12.5 |
| No | 30 | 75 |
| Can't say | 5 | 12.5 |
| **Total** | **40** | **100** |

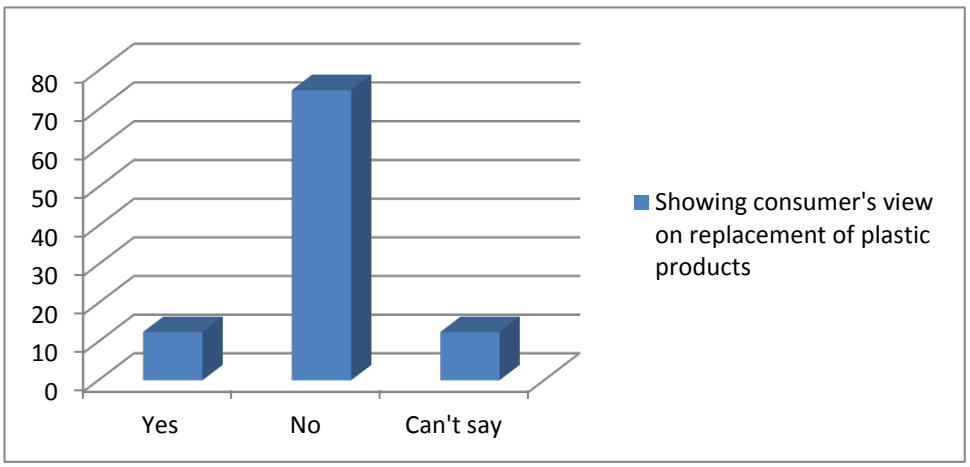
*Source: Questionnaire Survey*

As per the above table, 12.5% of consumers said that plastic products can be replaced by others products, 75% consumers said that it cannot be replaced and 12.5% of consumers are unknown whether it can be replaced or not.

Above data has been presented in Graph as follows;

**Graph 4.24**

**Showing consumer's view on replacement of Plastic Products**



### 4.5 Major Findings of the Study:

The study has found following major findings from the collected questionnaire.

- There are total 60 Plastic Processing Industries in Kathmandu Valley with production capacity 1576MT per month where as consumption of plastic products in Kathmandu Valley is around 1330MT per month.
- There is gradual growth in no of Plastic Industries in Kathmandu Valley and most of the industries are established in last 10 years, showing growth in demand in plastic products as per the increase in population.
- Raw materials for Plastic Products are need to be imported from foreign countries, however reprocess materials also can be used to some extent. Plastic products are recyclable.
- Most of the respondents are highlighting to the Load Shedding, Labour issues and availability of raw material as the major problems being faced by the industries.
- Inferior products brought from neighboring countries without payment of custom duty, high percentage of duty imposed by Government and Government Policy made without homework are the taken as the major threats to the industries.
- Most of the Plastic products manufacturer are finding the demand for plastic products is growing where as there are some industries who find it as stable.
- 25 percent of Plastic Industries have provided employment to less than 20 people, 54.17 percent of Industries generated employment upto 50 people and 20 percent Industries provide employment to more than 50 people.
- More than 50 Percent of Plastic Industries seek support on import duty reduction, regular power supply and ban on imports of inferior plastic products from Government.
- 60 percent of dealers are confident on selling and generating revenue by making o sales of plastic products followed by 20 percent.

- Higher percent (40%) of the dealers are making sales of above Rs. 3000000 annually followed by 30% making sales of Rs. 2100000 to 3000000.and most of the dealers have been entered to this sector in last 5 years.
- Most of the dealer beliefs that company's marketing activities have positive impact on sales of the product.
- Higher percent of consumers prefer plastic products than other alternatives due to its lower cost.
- Most of the consumers are knowledgeable about plastic products and have positive interest towards plastic products.
- Many consumers (above 37%) are brand conscious in plastic products where as same percent are not aware of brand.
- Major proportion of consumers says shopping bags as plastic where as some percent can specifically say the other grades also as plastic.
- Majority of the consumers find plastic products are useful in their daily life and they have positive view towards plastic.
- Higher percentage of consumers/public said that plastic products can not be replaced by other products completely.

# CHAPTER V

## SUMMARY, CONCLUSION AND RECOMMENDATIONS

### 5.1 Summary

Plastic is one of the important product in our daily life. Plastics are used for different purpose such as packaging, Household appliances, Medical sector, automobiles and many more. So there is more and more prospect and need of plastic in our daily life.

This research has been conducted on a topic 'Problem and prospects of Plastic Products in Kathmandu valley. In course of research, different manufacturer, dealer and consumer were visited for asking question to different parts of Kathmandu valley. 25 Manufacturer were asked questions, Out of which 24 response on it which is 96%. Similarly 13 dealers were asked questions, out of them, 10 answered which is 76.92% and 45 consumers were asked questions out of which 40 responded which is 88.89%

The main objective of the study is to find out the problems and prospects of plastic products in Kathmandu valley and to provide useful suggestions.

The main outcome of the study is as follows:

- Higher percentages of manufacturer were satisfied of being Plastic Product manufacturer.
- More no of plastic industries were established in last 5 years
- Most of the Plastic Industries used both virgin imported and reprocessed raw material.
- Most of the Industries are being suffered from problems of load shedding, labour issue/Manpower shortage and shortage of raw material.

- Large no of industries are enjoying the growth of market, More Industries provide employment up to 50 people
- Most of the Plastic Industries want regular power supply as support from Govt.
- Majority of the dealers are confident for sales of plastic products in terms of sales volume and profit earned.
- More dealers are working with Plastic Products for recent 5 years period indicating that plastic products demand is growing in recent years.
- Marketing activities conducted by plastic industries have positive impact on dealers market.
- Consumers find plastic product economic, easy and less space consuming to utilize compared to its alternatives.
- Consumers are knowledgeable and interested on buying plastic product and brand aware too.
- Consumers are willing to pay for plastic product, however its proportion in terms of income is minimum.
- Most of the consumers are well known of plastic in form of different product and they assume it as useful and important element of their daily life.
- Majority of consumer believe that replacement of plastic is impossible.

## 5.2 **Conclusion**

From the above study we can conclude that plastic manufacturers are satisfied on their profession. It can also be verified by the growing proportion of plastic manufacture and increasing tendency of demand for plastic products in the recent years. Moreover newly introduced products like PPR Pipe in replacement of traditional GI Pipe, production of Medical syringe and barrel in inside Kathmandu Valley, PS cups and plates in replacement of traditional glass and still have also enhanced the plastic market.

The study shows that the raw material required for production of plastic products are not produced in Nepal. It needs to be imported from neighboring and third counties. only the reprocessed raw material can be obtained in local market. Most of the industries used both virgin imported material and reprocessed material. Because of lack of stable government, political instability and problems in custom departments, the availability of raw material is difficult.

Plastic Industries are facing the problem of load shedding most along with that they are also suffered from frequent labour disturbances and shortage of skilled manpower in local market and need to depend on foreign employees. This condition has raised the cost of production.

Similarly, Plastic Industries situated in Kathmandu valley are facing the problem of open flow of inferior plastic products from neighboring country without duty paid. On the same way, local industries are being suffered from high duty imposed by Government on plastic raw materials and lack of proper Government policy towards plastic industries. Plastic Industries are looking for support in terms of regular power supply, control on import unorganized plastic products, formulation of proper labour policy and deduction on duty imposed for plastic raw materials.

More than 70 Plastic Industries situated in Kathmandu Valley have generated employment opportunity for about 2000 people directly and indirect beneficiaries are also in huge number.

From the presentation and analysis of the collected data it is found that dealers of plastic products are confident on sales of plastic items. It can be reflected from the growing proportion of plastic products dealers and regular growth in their sales volume and profit. As per the feedback from dealers, marketing

activities of their principal companies have also contributed in increment of sales.

In the context of consumers of Kathmandu Valley, consumers are more attracted towards plastics products because of its low cost, less weight, easy to handle, durability and less space consuming. Consumers of Plastic products are knowledgeable on buying decision before buying the product. They pay for importance of product.

Consumers of plastic product are brand aware and choose their brand on the basis of their prior experience. Knowing its importance, consumers are willing to pay for plastic products but the proportion of their expenses in terms of their income in plastic product is minimum.

Most of the consumer's impression on Plastic Product is positive and they feel that plastic products are useful elements of their daily life. Consumers give high priority to plastic product and they feel that its replacement by other product is not possible.

### 5.3 Recommendations

The following recommendations are made on the basis of this study.

- The Government should have clear policy over Plastic and its products.
- Government should manage regular power supply for Industries, formulate suitable labour policy and should address the issues relating to trade and biz.
- The flow of inferior plastic products from neighboring countries without duty should be controlled and duty imposed on plastic raw material should be reduced.
- Industries owner should give priority in quality to grab the market opportunity.
- Cost of production should be reduced to increase market competability.

- Industries should lunch welfare program for their consumer.
- Government should develop action plan to produce skilled manpower for plastic industries, it increase employment in local level and reduces the burden of industries in hiring foreign employees.
- Awareness program and advertising campaign should be lunched to increase sales.
- Training and seminar should be conducted for dealer to increase their knowledge on plastic and plastic product.
- Dealer's commitment towards company's product should be raised.
- People should be made aware of recycling value of plastic product.
- New technology and product diversification should be adopted by plastic industries.
- Consumers are brand aware so strong branding should be done.
- Consumers are more attracted towards plastic product so their demand should be addressed to increase market.

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# APPENDIX –I

## Questionnaire to Industry Owners/Manufacturers

This questionnaire is prepared to obtain the information regarding ' Problem and Prospectus of Plastic Products and its Industries in Kathmandu Valley'. This research is conducted to fulfill the requirement of the Degree of Master of Business Studies (MBS). Please provide the information to the best of your knowledge. The information will be kept strictly confidential.

Name :

Age :

Industry Name : Type of Industry:

Address :

1. Are you satisfied being Plastic Products Manufacturer
   a. Yes
   b. No
2. How long have you been engaged to this sector
   a. Less than 5 years
   b. 5 to 10 years
   c. 11- 15 years
   d. 15 years above
3. What kind of raw material do you use for productions?
   a. Virgin Material
   b. Recycle Material
   c. Both
4. Have you been facing any of the problems?
   a. Load Shedding
   b. Labor Issue /Manpower Shortage
   c. Shortage of Raw Material
   d. All of Above

5. What is/are the main threats to the industries.
    a. Inferior products imported without duty
    b. High duty imposed on raw material
    c. Government policy
    d. All of the above
6. How is the market growth for your Product
    a. Growing
    b. Stable
    c. Can improve but need Govt Support.
7. How many employees do you have in your Industry?
    a. Below 20
    b. Upto 50
    c. Above 50
8. What kind of support would you expect from Government?
    a. Import duty to be reduced.
    b. Regular power supply on Industry segments
    c. Ban on import of inferior products
    d. All of above

Thank you for taking the time to complete this survey.

# APPENDIX -II

## Questionnaire to Plastic Products Dealers/Distributers

This questionnaire is prepared to obtain the information regarding ' Problem and Prospectus of Plastic Products and its Industries in Kathmandu Valley'. This research is conducted to fulfill the requirement of the Degree of Master of Business Studies (MBS). Please provide the information to the best of your knowledge. The information will be kept strictly confidential.

Name :

Age :

Company Name : Type of Industry:

Address :

1. How confident are you that company will gain additional market share in the (product) industry in the coming years?
   a. confident
   b. somewhat confident
   c. not sure
   d. doubtful
2. What is the range of your dealership's sales volume of (company) products last year?
   a. Rs. upto 2000000
   b. Rs. 2100000-3000000
   c. Above3000000
3. How long have you been plastic dealer?
   a. 1-5 years
   b. 6-10 years
   c. 11 Years and Above

4. How much of your business volume is accounted for Plastic products?
    a. 24% or less
    b. 25-49%
    c. 50-74%
    d. 75% or more
5. How much your profit is derived from plastic products ?
    a. 24% or less
    b. 25-49%
    c. 50-74%
    d. 75% or more
6. Have marketing activities carried out by company had an impact on your business/sales.
    a. Positive impact
    b. not sure
    c. negative impact

Thank you for taking the time to complete this survey.

## APPENDIX -III

## Questionnaire to Consumers/End users

This questionnaire is prepared to obtain the information regarding ' Problem and Prospectus of Plastic Products and its Industries in Kathmandu Valley'. This research is conducted to fulfill the requirement of the Degree of Master of Business Studies (MBS). Please provide the information to the best of your knowledge. The information will be kept strictly confidential.

Name :

Age :

Address :

1. Which one is better in your daily life in terms of cost, weight, space consuming etc.
   a) Plastics
   b) Iron/steels/Aluminum
   d) Wood
   e) Paper/Carton
2. Are you knowledgeable about this product category before going shopping?
   a)Yes
   b) No
3. What is the proportion of your expenditure on Plastic Product out of your income?
   a) Below 5%
   b) 5 to 10%
   c) Above 10%
4. Would you enjoy shopping plastic products?
   a) Yes
   b) No

5. Plastic Product you are buying is important to you.
   a) Agree
   b) Disagree
6. Most of the consumers have brand preference while shopping for Plastic Products.
   a) Agree
   b) Disagree
   c) Can't say
7. What do you associate with when you hear the word ‘Plastics’
   a)Pet bottles
   b) Shopping bags
   c) Households and furniture
   d) Others
8. What kind of impression about ‘Plastics’ do you have?
   a) Positive
   b) Negative
   c) Neutral
9. Is a plastic useful in our daily life?
   a) Yes
   b) No
   c) Can't say
10. Can plastic products be completely replaced by other products?
    a) Yes
    b) No
    c) Can't say

Thank you for taking the time to complete this survey.