

CHAPTER I

INTRODUCTION

1.1 Background of the study

In the developing country like Nepal, industry plays vital role to boost the economics activities. Pharma market might contribute significant room for the Nepal and play a dominant role in the country for the development of economy. Economy of the Nepal is dependent on and dominated by import from abroad. It is therefore realized that the economy should tend to industrialization using indigenous resources. Industrialization provides enormous opportunity in transforming over employed population from agriculture sector to industry as well as correcting unfavorable balance of payment by establishing import substitution industry (ISI). Industrialization is the key to rapid economic growth without which it would be a mere dream for the development of the country. Therefore industrialization of economy is of great significant in the both developed and developing countries Nepal is suffering from adverse trade and balance of payment. Since 1960s, imports equally have always exceeded exports. The overall adverse trade balance increased form Rs. 15840 million in 1990/1991 to Rs. 60,031 million in 2000/2001. This adverse trade balance with India from Rs. 5770 million in 1990/91 to Rs. 19,180 million in 2000/2001 and with other countries from Rs. 10,068 million to Rs. 40,852 million.

Import substitution industries are essential for reducing Nepal's adverse trade balance. They are also needed to accelerate economic growth, generate employment, build foreign exchange reserves, build domestic capacity, and utilize local resources.

All manufacturing industries can help towards import substitution. Till 1985, Nepal had approached self sufficiency in the production of: -

- (i) Food manufacturing: - noodles, biscuits, vegetable ghee, sugar
- (ii) Beverage: - soft drinks, beer, liquor
- (iii) Tobacco manufacturing: - cigarette, bididi, chewing tobacco
- (iv) Chemical: - soap, matches, paints
- (v) Rubber: - Slipper, jackets
- (vi) Iron and Steel: - Iron-sheets, rod, angles

In 2000, Nepal has approached self-sufficiency in the following additional products

- (i) Bricks and Tiles
- (ii) Paper, wires and cables

As per the latest economy survey (the economy survey, 2008) import has been in a negative growth due to the decrease in import of industrial raw material and domestic economic trading activities. The production index of import substituting industries shows that increase in the domestic products which has facilitated import substitution at a faster rate. Pharmaceuticals industry fulfills 35% of the total demand from domestic products. Likely electronic industries are in growing stage.

Import substitution industry has great contribution in the economy of the Nepal and has attracted foreign direct investment. Their contribution to employment generation in the manufacturing sector is significant. They have saved precious foreign exchange by reducing the need of imports.

They have significant contribution in the manufacturing sector GDP. Import substitution industries are important for Nepalese economy; they range from small

to large enterprises. They are growing but the rate is mixed, depending on the nature of industry. They make significant contribution to the employment generation, GDP and foreign exchange savings.

There are obviously problems in the import substitution industries which has been confronting these industries which are: - low capacity utilization, mounting labor problems, resource constraints and competition from smuggling, marketing difficulties and policy uncertainties. Nepal should develop import-substitution industries with due consideration to comparative advantages.

Pharma market has been an important segment for a particular country now days. Thus, Nepal can't also be apart from this segment of market. There are many brands of medicines available in the market. The medicine market has become measurable market segment in the Nepal at this moment. It is considered that Nepal is a very good market for pharma industry. In Nepal, pharmaceuticals came into picture, with the establishment of Bir Hospital. With the emergence of modern technology several hospitals, clinics and Nursing homes started mushrooming all over the country.

The pharmaceutical industry is gradually taking height with the change of time and government policies, with the invasion of democracy in the 1990, Liberalization concept, introduction of new policies started coming out. Many entrepreneurs stepped towards manufacturing pharmaceutical products with the aim of taking care of public health. This emergence of pharma companies had broken import of drugs in the local markets from foreign countries.

From the chemi-drug pharmaceuticals, closely followed the setting up of another semi-government company like Royal Drug Ltd. in 1972 which was succession of Royal drug research laboratories (RDRL). In order to demonstrate the

pharmaceutical techniques for the production drugs and to encourage private parties for the establishment for the pharmaceutical industries, the establishment of modern pharmaceuticals production unit was initiated under RDRL. This unit with a few pilot scale plants for the production of various medicines in the form of tablets, syrup and ointments came into existence in 1968. Later, WHO published its guidelines on GMP. On 1992, new GMP published for the pharmaceutical industries, Nepalese pharmaceuticals are adopting WHO guided GMP for formulation of drugs.

Royal Drugs was established as public sector company as an undertaking of government. The company had its beginning in plans which formulated a programme for the production and marketing of some medicines by Royal Drugs Research Laboratories within the department of Medicinal plants, Ministry of forest. Later a separate production unit under the same laboratory was created with the help of technical assistance of the British Government in the form of expertise and equipment. After a successful trial, period of four years in the manufacturing and marketing of pharmaceuticals, the production unit was converted into a company in accordance with company act.

At present, there are around 67 local drug industries registered with the department of drug administration (DDA) which are set up in the areas of Kathmandu, Bhaktapur, Morang, Rupandehi, Dharan, Bara, and Birgunj keeping hygiene and clean atmosphere into consideration. Another half dozen companies will probably come into existence in the coming year.

Nepalese pharmaceutical industries can be divided into three groups: -

- a) The pharmaceutical industries, which have all requirements, but need inspection, auditing and improvement for compliance.

- b) The Pharmaceutical industries, which do not have all facilities, but can be installed or developed to comply with the requirements.
- c) The pharmaceutical industries, which cannot be upgraded to fulfill the requirement, but new premises and facilities, have to be developed. These categories of pharmaceuticals industries must be closed if WTO guided GMP is to be implemented

Pharmaceutical industry is going through one of its critical phases now. There are stiff competitions from the imported drugs industries but situation is helpless to the Nepalese pharmaceuticals industries due to inconsiderate behavior of the government towards them. The imported drugs have floated the market this is because of the misinterpretation of concept of free economy. The government is continuing the registration of imported drugs even though they are not contributing to the Nepalese economy; they are surviving in the fact of – no taxes, no employment, and no infrastructures development. If government can provide facilities to the production of inject-able drugs more market share will be captured in the industries.

Nepal has very potential market for pharma industries, the existing market is estimated at Rs. 10600 million out of which Nepalese companies' shares Rs. 3442 million only rest being imported by foreign countries, mostly from India, other are from Bangladesh, Pakistan, Switzerland , Germany. Now there are more than 3006 brands available in the market which are formulated by Nepalese companies and 5488 brands registered by Foreign companies, according to Department of Drug Administration (DDA) record. This potentially favorable ratio implying a promising gap in the market yet to be substituted by local brands is the reason why there has been such an increase in the number of payers. It is obvious that drugs manufactured in the country have gained wide acceptance from the primary customer, doctors and chemists, as well as from the end users, that is the patients. Certainly, the recently

awarded certificate will further enhance consumer confidence and naturally, increase turnover.

1.2 Statement of the problem

Socio-economy well being is the most important for the prosperity of the Nepal. For which industrialization has been necessary for the Nepal. Although the industrialization took place on 1936 by establishment of Biratnagar jute mill, the industrial development in Nepal however started getting regular attention of the government under the development plans after the down of democracy in 1951. The process continued of establishment of manufacturing industries in the public sector, particularly in the areas like leather, sugar, paper, cigarette, bricks and tiles, agriculture tools and textiles. Also, the government on its own investment set up factories in the sectors like cement and sugar. The industrial development strategy of the government, however, changed after mid-1980s. The government then shifted its development strategy from state-led development to market-led open economy. As a result, many of the public sector industrial units were privatized in the early 1990s.

In Nepal now pharmaceuticals industries are operating through private sectors. The medicines and drugs are directly related with the life of the people of the country, the industry is facing the so many problems.

- (i) **Unfavorable policy of the government towards the local companies and the foreign companies:** - The local companies have to pay duty and taxes on the supplementary ingredients although the main raw materials are allowed to be imported duty free. The finished products of the abroad are allowed to be imported virtually on duty free and also there are less control over the quality of these products.

- (ii) **Existence of more numbers of brands:** - There are more than 8500 brands in total which are registered in the DDA, with respect to the size of the country this is the huge in the number. This has made difficulty for the customer in making decision for choosing the best quality products.
- (iii) **Low registration charge for the foreign companies:** - The registration charges for the foreign companies are low as compare to rest of the world. This has made easy to come the low quality products in the Nepal. Moreover there is lack of quality control on the imported drugs.
- (iv) **Dishonor of the prescription:** - The trends of substitution have been the common phenomenon of the chemists in the country. Lack of proper regulatory measure, chemist has been putting life in endanger for the sake of getting profit by selling high margin products.
- (v) **Less capacity utilization:** - There is less capacity utilization in industries, it is estimated that only 30 to 60 percent capacity has been utilized in the industries, which is very low in the international standard.
- (vi) **Common drugs production by the Nepalese pharma industry:** - The production of the similar type of the brands has been creating the problems in the pharma industry to take the benefits of the operation.
- (vii) **Less use of the high technology:** - Lack of the use of the hi-tech machines has created problem for compete in the international level.
- (viii) **Still problem in the export:** - Nepalese products has been facing problem for the export, the Nepalese pharma products in aboard. One Nepalese pharma had started export in India but lack of infrastructure and policy of government it was stopped.

Nepal is the member of the WTO, with the membership of these pharmaceutical industries definitely faces challenges in the years to come like in the implementation of TRIPS (Trade related intellectual property rights), for the implementation of the patent.

1.3 Objective of Study

The study aims to analyze situation of the Nepalese pharmaceutical industry in the Nepal. The objective of the study is as follows: -

- (i) To assess the growth pattern of the Nepalese pharma industry.
- (ii) To assess the import substitution of pharma products.
- (iii) To analyze the consumption pattern of drugs.
- (iv) To analyze the government policy towards the pharma industry.
- (v) To evaluate the views and opinion of the potentiality of Nepalese drugs.

1.4 Focus of the study

The focus of the study is based on within the production of pharmaceutical products i.e. medicine, resources available in the country, requirement of the inject-able forms of medicine within the country, demand and supply of the medicine from the domestic companies and imported from the abroad.

The study focuses in the contribution of the domestic pharmaceutical industries in the import substitution. The data available so far during the course of the study has been tabulated and analyzed accordingly.

1.5 Significance/ Importance of the study

The study of the Pharma market in Nepal has great importance in economic development of the country. The climate is also favorable in the Nepal for the pharma industry, but industry has not been able to utilize its potential. So, this study supports a lot to take care of pharma industry in Nepal and also to take pharmaceuticals industry to newer heights and support the economic transformation of Nepal. The study can contribute in many dimensions like as path for sales and marketing professional, to face challenges for the pharma entrepreneurs, to people to get knowledge of medicines and its uses.

There are other areas also to be included with the industry like herbal, ayurvedic and organic products. In Nepal the people have knowledge of use of herbal, ayurvedic and other products so with the emergence of WTO and being member of WTO. Nepal can take benefits of these products by taking the patent. So this study addresses one of the major areas of Nepal to uplift the economy of the country.

1.6 Limitation of the Study

Though this study is useful to the industrialization in the pharma sector as it elaborates the consequences of the Nepalese pharma markets, still its effectiveness is limited by number of reasons. Some of the limitations are listed as follows: -

(i) Based on domestic pharma-market only.

The study is based on data and information which are provided by domestic pharma entrepreneurs, publications, literature, and pharma professionals. So there is lack of export-based figure at the time of the study.

(ii) Lack of Knowledge

The study needs the knowledge of a number of related subjects. Deficiency in knowledge in related subjects like policy, statistics, and economics will limit the study.

(iii) Intuitive Decisions

The study wants the scientific analysis for which various situations will be time consuming so the intuitive decision limits the usefulness of the study.

(iv) Evolutionary Stage

The pharma market growth is in evolutionary stage and is still in a developmental stage and has not reached in final stage.

(v) Personal prejudices and bias: -

The interpretation of the information provided may differ from person to person depending upon the interpreter. So analysis and interpretation of data and information may be influenced by personal basis. As such, the objectivity of study may be affected by personal prejudices and bias.

1.7 Organization of the Study

For the systematic present of the report the research was divided into five chapters as follows: -

Chapter 1	:	Introduction
Chapter 2	:	Review of Literature
Chapter 3	:	Research Methodology
Chapter 4	:	Presentation and Analysis of Data
Chapter 5	:	Summary, Conclusions and Recommendation

- 1. Introduction:** It includes general background of the study, historical perspective of banking industry, overview of sample banks, statements of the problem, objectives of the study significance of the study and limitation of the study.
- 2. Review of literature:** Review of Literature contains the review of related books, journals, and past research works.
- 3. Research Methodology:** This chapter expresses the way and the technique of the studying applied in the research process. It includes research design, population and sample, data collection procedure and processing, tools and methods of analysis.
- 4. Presentation and Analysis of Data:** In this chapter collected and processed data are presented, analyzed and interpreted with using financial tools as well as statistical tools.
- 5. Summary, Conclusions and Recommendations:** - In this chapter, summary of whole study, conclusions and recommendations are made.

CHAPTER II

REVIEW OF LITERATURE

2.1 General Overview

Pharmaceutical Industry has been growing as one of the fastest high technology industry in the world. According to the IMS health, the premier medicinal market research institution of the world the global market of medicines is more than US \$400 billion and is growing at a rate of about 8% per annum. Although the world scene of pharmaceutical industry is dominated by big multinationals big economies, there is place for small quantity players especially for making medicines for the niche market. The rate of growth of pharmaceutical industry in developing countries is generally more than 15% per annum. In our neighboring country, in India it is growing by at a compound rate of 16.44%. As the medicines and drugs do have direct bearings on the life of the people, this industry is highly regulated. With the development of the science especially of biological and chemical sciences and recently of biotechnology this industry has made tremendous advances. Nepal is a very suitable place for the pharmaceutical industries. The clean environment and mild climate prevailing in much of Nepal makes it suitable for production of formulation medicines and bulk drugs. With proper Policy and appropriate initiatives Nepal could be made one of the centers of drug making.

The tradition of making drugs for avoiding or curing the disease is very old in Nepal. The traditional healers and vaidyas used to make drugs using the herbs found in various parts of the country. The tradition of making modern allopathic drugs started more than thirty years ago with the establishment of Chemi Drugs in Kathmandu in the year 1971. It was entirely a private sector initiative to produce

modern medicines to supply to the national market. The royal Drugs, the public sector response to the challenge of supplying quality drugs through local production came into existence some two years later. Other industries followed and the development of pharmaceutical industry came into the existence later.

There are 67 pharmaceutical companies in operation in Nepal now. These establishments command 25 % to 32 % of the market share of the pharmaceutical products of the country. The number of industries and their combined market share has been growing.

There are 347 pharmaceutical companies with more than 8496 brands of medicines operating in the country. The 67 Nepalese companies have 3006 brands registered in their name. About 4900 Indian and a little more than 500 other country brands are also available in the Nepal market. The proliferation of the brands in Nepali drug market has created difficulties for the government, consumer, and the physicians alike.

The number of whole sellers/importers dealing in drug and medicines is about 2000. The number of retailers registered with the appropriate agencies is 14000. In reality the number of retailers dealing in drugs and medicines in the country is estimated to be around 21000. The drugs and medicine are either used as per the prescription of the doctors, whose number in the country is less than 2500 or in the hospitals and nursing homes, which number about 150. On top of them it is a common practice in the country to sell drugs over the counter. Drugs with serious side effects are often sold and consumed without proper guidance of the physicians. This has resulted in the often misuse of drugs leading to unwanted consequences.

It is estimated that the market size of medicines in Nepal is worth of about Rs. 10.6 billion and is growing at a compound rate of 19% per annum. But it is rather unfortunate that the Nepal production has only 32% share in the market. It is not the

lack of capacity or the initiatives of the pharmaceutical producers, but it is rather the unfair competition coming from the cheap and often dubious quality import from across the border that is hampering the growth of the pharmaceuticals in the country. Nepali pharmaceutical producers are not able to enjoy a level playing field in the market. It is rather astonishing that our industries have exhibited spectacular growth despite ass odds prevailing in the market.

After establishment of the DDA, every effort has been made to regulate the pharmaceutical industry to operate with effective implementation of world health recommended good manufacturing practices (WHO). With stringent regulatory norms Nepalese pharmaceutical industries are in the process of obtaining WHO GMP certification/DDA had initiated the enforcement of GMP norms as guidelines for few years and planning to make the norms as mandatory by next couple of years.

2.2 Direction of Nepal's Foreign Trade

Though Nepal has trade with the neighboring countries from the time immemorial, data is available only since 1956-57 onwards. In 1956-57 the rupee value of Nepal's exports was 95.47 million rupees. It increased to 147.7 million rupees in 1988-89. During the same period, the rupee value of total imports increased from 169.89 million to 14,208.4 million rupees. During the 33-year-period, Nepal suffered from a huge trade deficit. During this period, the trade deficit of Nepal increased by about 95 times.

The trade statistics shows that in 2001-02, Nepal's total export value was 48,295,788 thousand rupees compared to 55,245,900 previous year. In the year 2001-02 the total import value was 105,501,797 thousand rupees. The total trade deficit during the year was 57,206,009 thousand rupees.

In the total exports, India alone occupied 59.8%, overseas countries 38.1% and Tibet 2.1%. While in total imports, India occupied 43%, overseas countries 52.8% and Tiber 4.2%.

The major export partners of Nepal are India, USA, Germany, UK and Italy respectively. While the major import partners of Nepal include India, Singapore, Malaysia, Saudi Arabia and china respectively.

The major export items of Nepal to India are vegetable ghee, jute goods, toothpaste, polyester yarn, and pulses. While the major export items to overseas include readymade garments, woolen carpet, and woolen and pashmina goods. Readymade garments alone accounts for 42.1% while woolen carpet accounts for 33.2% in the total overseas exports.

2.3 Brief Scenario of National Pharmaceutical Industries

As far as the total market of the country is concerned there are differences in estimates among different sources. This obviously is due to the fact that many companies, for a variety of reasons, are reluctant to disclose their true sales figures. According to DDA authorities, the present market for drugs is estimated to be roughly NRs. 10500 Million of which about NRs. 7140 million is imports from other countries, mostly India, and sales of local companies amount to around NRs. 3360 Million i.e. about 32% of the total market. The sale recorded in 1999/2000 was NRs. 5907 Million with growth of 18.8%. According to DDA records 237 Indian companies operate in the country with 5197 registered brands besides the 3006 brands registered by 67 Nepali companies. This potentially favorable ratio implying a promising gap in the market yet to be substituted by local brands is the reason why there has been such an increase in the number of players. It is obvious that drugs manufactured in the country have gained wide acceptance from the primary customers: sectors and chemists, as well as from end users, that is, the patients.

Certainly, the recently awarded GMP certificates will further enhance consumer confidence and, naturally, increase turnover.

Hence, a tremendous scope lies for indigenous manufacturing of drugs and pharmaceuticals, even only for the consumption in Nepal market, apart from a vast market potential of export to South Asian markets including India. The possibility of export to India is greater than to other South Asian Countries due to our proximity to that country. Especially, in the present context when Nepal is striving for getting membership in WTO, the government should give proper attention to Nepalese Pharmaceutical companies in order to make them capable of competing with the foreign pharmaceutical companies.

Better quality medicines can save lives thereby complementing success to the treatment regime of doctors. However, poor quality product will certainly damage the health of the individual patient. Poor quality medicines are not only a health hazard, but also a waste of money for individual customers. Poor quality medicine may contain toxic substance that has been unintentionally added.

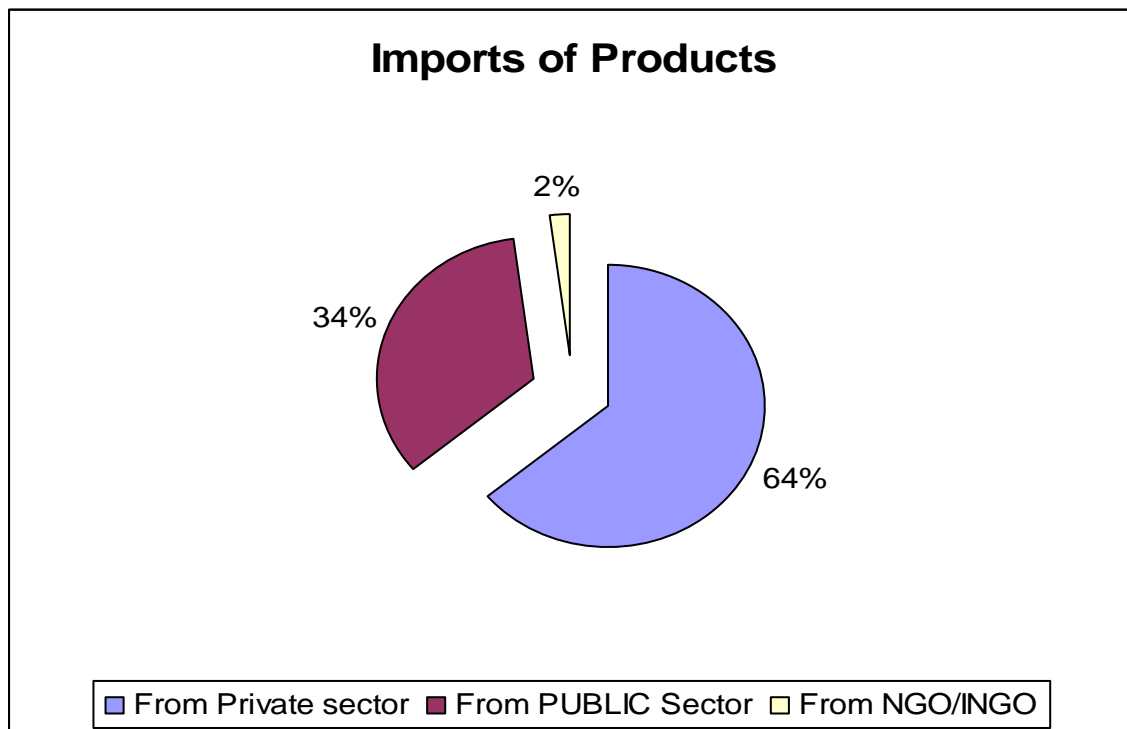
Hence, the qualified doctors can play a vital role to ensure good quality products are dispensed to their patients by only prescribing approved quality medicines and also by educating the patient about the importance of consuming the specific brand prescribed to them. This will help to reduce the higher health care cost resulting from the lost of productivity in the work place, lengthy hospital stays and the high cost of newer antibiotics.

In return, this will complement for the growth of indigenous companies as the Nepalese companies are trying to come ethically in Nepalese market, substantiated by the ethical promotions. Better practices of prescribing appropriate quality brand along with ensured dispensing is the most important factor in the success for treatment regime of any medical practitioner.

Growth of pharmaceutical industries in Nepal can compliment to the national economy by means of economical value addition as well as by means of generating more employment opportunities to the highly qualified technical people. At the present scenario, more than 73% of the total medicine demand is met by import from India, Bangladesh and third world countries as shown in the chart below. Only 27% of the total drug demand is supplied by the 35 national pharmaceutical companies.

So it is imperative for the industry and medical professionals to work towards sustainable development of drug manufacturing within the nation. It has become essential to reduce the multiplicity of similar and confusing brand names and also to reduce the proliferation of small to large-scale industries form neighbouring countries especially from India for proper quality monitoring of the products.

Chart – 2.1

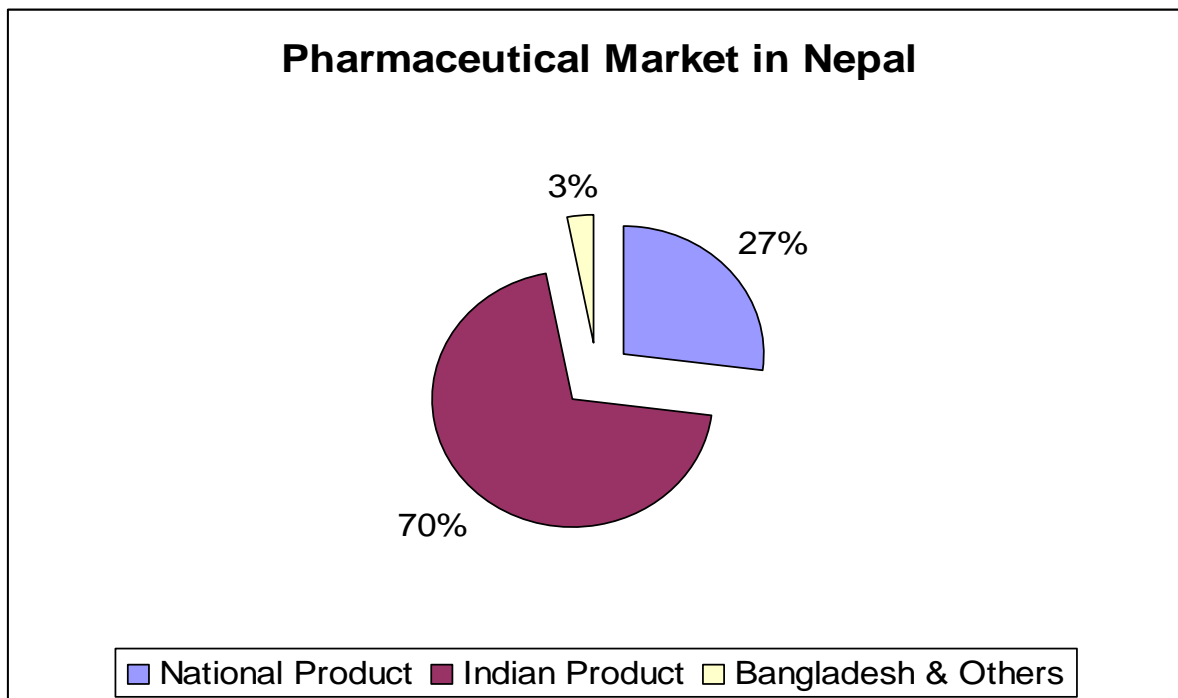


Source: - DDA, HMG

2.4 Pharmaceutical Marketing in Nepal

Pharmaceutical market in Nepal consists of local and foreign companies, out of which foreign companies are in dominant position. At the present scenario 70% of the total demand is met by import of Indian drugs, 27% is only fulfilled by 35 national pharmaceutical companies and 3% by pharmaceutical companies of Bangladesh and third world countries as shown in the chart below. Hence it is high time to work for the development of drug manufacturing within the nation. There are a number of similar and confusing brands sprouting like mushrooms day by day. Hence, it has become essential to reduce the multiplicity of substandard brands and also to reduce the proliferation of small to large-scale industries from the neighboring countries especially from India in order to monitor the proper quality of the products.

Chart – 2.2



Source: - Field Survey

However, the most disturbing agenda hindering the growth of indigenous production is the advantage given to the import of drugs from foreign countries in comparison to the promotion and export of national products. It may be noted that the drugs are imported with 3.5% customs duties whereas the duties national industries pays to many of the inputs is higher than the one paid by finished products. This is most discouraging factor for the national industries.

2.5 Review of related studies

- (i) **Drugs:** - Drug is a single active chemical entity present in the medicine that is useful for diagnosis, prevention, treatment or cure of disease. WHO (1996) has given a more comprehensive definition as “Drug is any substance or product used or intended to be used to modify or explore physiological system or pathological states for the benefit of the recipient.”

Similarly, WHO has defined health as “A state of physical mental and social well-being and not merely the absence of disease or infirmity.”

- (ii) **Essential Drugs:** - Essential Drugs are those that satisfy the health care need of the majority of the population. They should be available all the time in adequate amount and in appropriate dosage forms has sorted out of the list of essential drugs (EDL) in drug bulletin. This EDL is first approved in 1986 A.D. EDL is revised 3 times. Recent revision was done in 2002. EDL is based on WHO mode list. However, in Nepal EDL is made to suit Nepalese condition.
- (iii) **Pharmacy:** - Pharmacy is the art and science of compounding and dispensing drugs or preparing suitable dosage forms for administration of drugs in human or animals. It includes collection, identification, purification, isolation, synthesis, standardization and quality control of medical substances.

- (iv) **Pharmacology:** - Pharmacology is derived from Greek word “Pharmakone” which means study or knowledge of drugs. It encompasses all the aspects of science of drugs; mostly they are relevant to effective and safe use for medical purposes. It deals with history, sources, physical and chemical properties, biochemical and physiological effects, mechanism of action, absorption, distribution, biotransformation, excretion and therapeutic use of drugs.
- (v) **Pharmacopoeias:** - “Pharmacone” means drugs and “Pio” means compounding. These are authorized and official books, which are published by authorized bodies under some laws and government regulations.

A committee of qualified pharmacists, physicians and pharmacologist is appointed in every country in order to regulate the strength and quality of different drugs preparations, and authority that publishes pharmacopoeia has backing of respective government.

The relevant informations are outlined in the form of monograph as under: -

- Name and Source of drugs
- Molecular formula
- Structural formula
- Solubility
- Identification methods
- Methods of preparation
- Dosage form
- Methods of standardization
- Assay or bioassay
- Preservation and storage
- Dose and therapeutic dose range etc.

The chief purpose of this book is to indicate and maintain uniformity of drugs in quality and standard. Pharmacopoeias differ in different countries. Though all the developed nations develop own pharmacopoeias but United States Pharmacopoeia (USP), British Pharmacopoeia (BP), Indian Pharmacopoeia (IP) and European Pharmacopoeia (EP) are most commonly followed in Nepal. Recently, Nepal has developed Nepalese National Formulary which contains the information on drugs on daily use, exclusively and commonly used in the country. As the pharmacopoeias contain rules and regulations which control the quality, potency and standards of purity of drugs, therefore the pharmacists and drug manufactures are officially bound to follow the rules and regulations in manufacturing their preparations conforming to USP, BP or IP.

2.6 Importance of Drug use in Health Care System

Drugs are such an unavoidable commodities for the serious time of sickness that they should be available readily in every cone and corner of the country, where a treatment facility is available. Drug and Drug sales are directly related with living to death of any living being, so this is a very responsible and sensitive problem.

Curative part of Health is entirely depending on drugs in one hand, while available of physicians in another hand. Many child age diseases even though exterminated once been reviving again. Many new disease infections in characteristic such as viral influence and development of resistant to old generation anti-microbial has imposed anxietiful burden for sick people and health care takes equally.

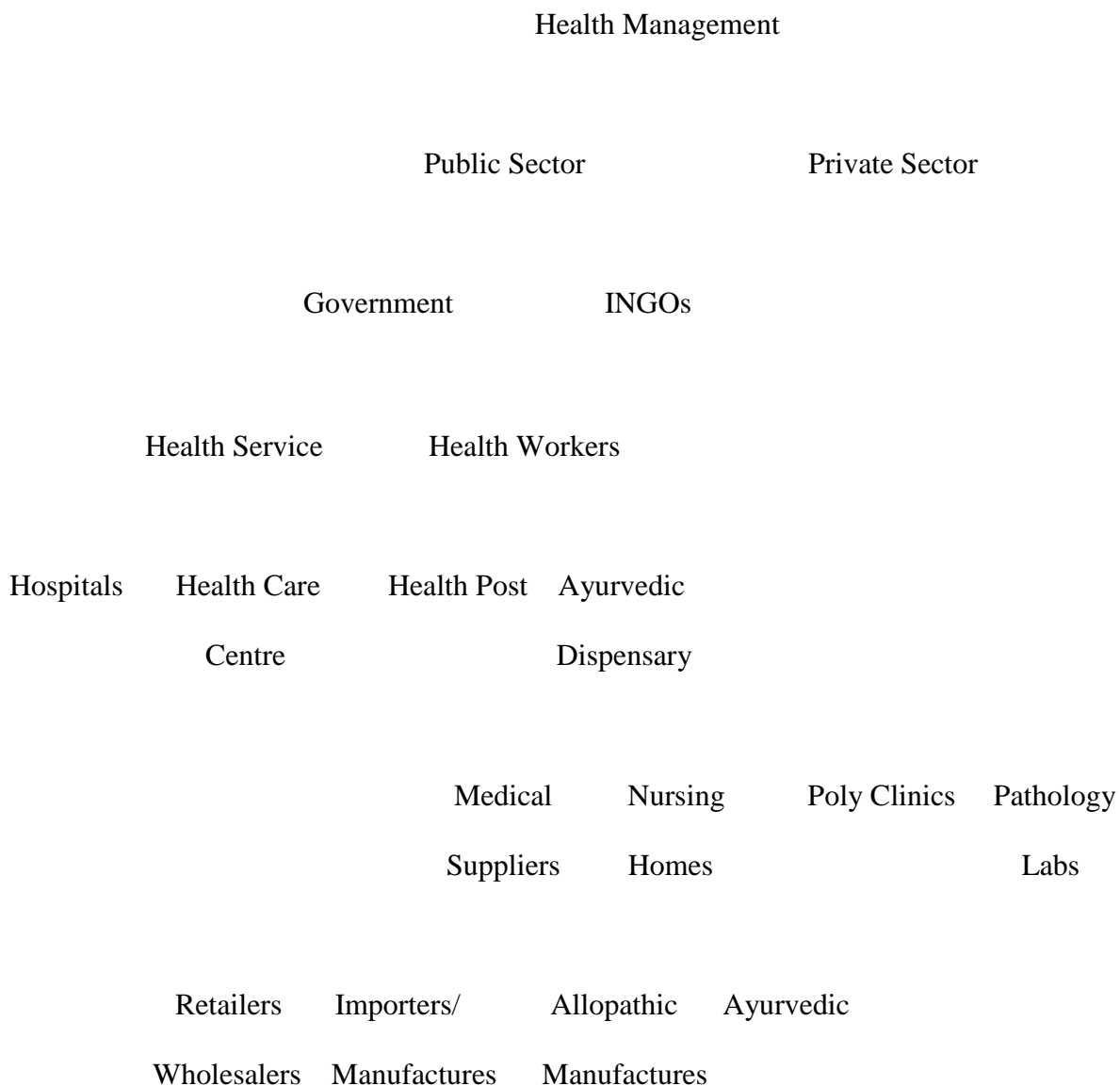
The state of good health is not only to be free form disease but to be physically and mentally fit for the duty. To attain this state people should first have the facilities.

2.7 Sales and Distribution Channels of Drugs

Any drugs distribution outlet (shop) must have to register according to Drug Act and Registration procedure and valid unit following the ethics defined on drug act 38 and 39 where if any shop finds any unethical way of sales it may immediately have to pay penalty or cancel the authorization depending on case.

Chart – 2.3

Chart of Health Care System in Nepal



2.8 Aspiration and Code of Conduct in Drug Marketing

According to Drug policy, following points must be considered while drug are marketing: -

- Periodical awareness of the responsibility to abide by the general ethics to maintained rather than punishment because prevention is always better than cure.
- Measures for rationalization, quality control and growth of pharmaceuticals industry in Nepal without disturbing.
- Ensuring abundant availability, at reasonable price of essential, life saving and prophylactic medicine of good quality.
- Strengthening the realistic system of quality control and growth of pharmaceutical industry in Nepal without disturbing availability.
- Promoting the rational use of drug in the country.
- Creating an environment conducive to channeling new investment into the pharmaceutical trade and industry to encouraging cost effective production with economic size.
- Strengthening the indigenous capability for production.
- Import of technology and financial partners.

2.9 National Drug Policy 1995

To maintain, safeguard and promote the health of people of making the country self-reliant in drug production; ensuring the availability of safe, effective, standard and quality drug at affordable price in quantities sufficient to cover the need of every corner of the country; and to manage effectively all the drug related activities including production import, export, storage, sale, supply and distribution.

Objective of National Drug Policy 1995

- a) To evolve a suitable mechanism to ensure availability of sale, effective and quality medicines at reasonable price throughout the country.
- b) To adopt a well-defined and effective mechanism for procurement, transportation, sale-distribution, storage and dispensing of drugs at various levels of governmental and non-governmental health institutions.
- c) To supply adequate quantities of essential drugs at each level of governmental health institutions.
- d) To include drug industry as priority sector by all concerned ministers of HMG in order to make the nation self-reliant in the production of essential drugs.
- e) To develop pharmacy manpower for effective implementation of the policy.
- f) To promote rational use of drugs and to establish a drug information system.
- g) To set-up a well-equipped quality control laboratory with trained staff under the Ministry of Health to carry out testing, analysis and standardization of drugs.
- h) To develop an appropriate system to administer and monitor uniformity in drug pieces.
- i) To define, promote and regulate the quality and standards of Ayurvedic, Homeopathic, Traditional and other systems of medicines by adopting scientific approach.
- j) To improve the existing infrastructure of the Development of Drug Administration and provide sufficient qualified and trained personnel for strengthening the drug administration mechanism and effective enforcement of the Drug Act.
- k) To consolidate and amend the existing Drug Act, Rules and Regulations to facilitate effective implementation of the Drug Policy.

2.10 Problems with National Pharmaceutical Industries

Being a clear cut objectives and policy national industries are facing a lot of problems. The problems were as follows: -

- a) **Industry-Protection:** - Pharmaceutical producers blames that Nepalese government are not providing security for National Industries even they have lot of capacity to produce (only 20-30 % capacity were only used up)
- b) **Government Views:** - HMG is being indifferent towards local pharmaceutical industries, because according to Health Secretary Shrikant Regmi “We do not give any protection to the local industries. We want them to complete with the imported brands”. But still there are few local industries that need more gestation period to adjust themselves to the conditions conductive to the government regulations.
- c) **Registration Variance:** - The local companies have to pay Rs. 100 for each product and have to show a bunch of documents, which cost up to Rs. 50,000. But comparing to imported companies they have to pay just Rs. 100 only and to show analytical report of any laboratory certificate of WHO. If any body thinks logically and can easily find that they can submit fake documents to get register.
- d) **Taxing System:** - Even Nepalese companies don't have to pay any taxes but they have to pay 13% VAT on packaging. But in India, their companies only have to pay 4% central tax and 10% local tax if they supply their product in their local market. This system encourages Indian companies to export in Nepal, and able to give 100% bonus to chemist which will hard for Nepalese companies to sell their products in same percent of commission.
- e) **Quality Control Check:** - Custom barriers are the other problems where raw materials have to be inspected with laboratory test, which takes minimum 15 days to clear, but Indian companies don't have to inspect. This trend shows

the attitude of government, which are harming the interest of local entrepreneurs.

f) Government Revenue: -

- These imported drugs are not economically viable to poor and down trodden population, because it doesn't generate a penny amount of government revenue.
- Importing medicine export the monetary fund outside country but if those funds be able to keep within Nepal, it may use for infrastructure development for national industries.

g) Ineffective Implementation of Policies: - These series of practice doesn't comply with National Drug policy 1995.

- Procurement of medicine for government requirement was said that national industries should get priority but unfortunately priority was getting Indian companies.
- According to policy, Nepal set objectives that Nepal will able to produce 80 % of drugs within 2006, but the date shows hopeless to fulfill the objectives, these situation was arrived due to ineffective implementation of government.

h) Ineffective Monitoring System: -

- Numbers of unregistered products from neighboring country are also found in substantial among basically in remote tarai area and about 80% of the sales representatives are not Nepali citizens.
- Large number of formulations, which are marketed in Nepal, is creating utter confusion to the clinicians as well as to the chemists and druggists and consumers. Since most of the products are sold in brand names, there is no proper scientific study to analyze the utility and impact of the constituents of these poly-pharmacy products.

- Mostly Medicines are available in generic name where as it was banned to sale medicine generic name except hospital and governmental use, because this leads to high percentage of gift and attractive bonus.
- Chemists are fixing prices according to their own consent, how ever it was announced that except a certain commission from Manufacturing company no body are allowed to take extra commission, but ineffective implementation shows that its only for formality. This system only leads chemists to commercialization rather than quality service motives.
- The reputed newspaper published news that Nepalese companies fails to follow General Manufacturing Practice (GMP), this message leads consumers that Nepalese companies are not competent to produce quality medicine.

2.11 Conceptual Review

2.11.1 Introduction of International Marketing Concept

International marketing is a system of exchange of goods and services in between two or more countries of the world. PHILIPS CATEORA defines international marketing “as the performance of business activities that direct the flow of a company’s goods and services to consumers of users in more than one nation”. Although the goals and principles of international marketing are same as domestic marketing, the international marketing posses’ distinct and complicated challenges and responsibilities than those of domestic marketing. Similarly, although the basic functions are identical in both markers, implementation of the firm’s marketing program can be very different; that is, managing the international marketing can be significantly different from managing the domestic marketing.

2.11.2 Components of International Marketing

There are certain component of international marketing, to understand the concept these component are important;

- a) **Domestic Marketing:** - Marketing that is aimed at a single market, i.e. the firm's domestic marketing, is referred to as domestic marketing. In domestic marketing, the firm faces one set of environmental forces and market issues and, essentially, must deal with only one set of customers within the political boundary.
- b) **Export Marketing:** - The field of export marketing covers all those marketing activities involved when a firm markets its products outside its main (domestic) base of operation and when products are physically shipped from one market or country to another. Although the domestic marketing operation remains of primary importance. The major challenges of export marketing are the selection of appropriate markets or countries through marketing research, the determination of appropriate product modifications to meet the demand requirements of export markets, and the development of export channels through which the company can market its products abroad.
- c) **Multinational Marketing:** - The focus on multinational marketing came as a result of the multinational corporation characterized by extensive development assets abroad and operates in a number of foreign countries or markets as if they were local companies. Such development led to the creation of many domestic strategies. Thus the name multi-domestic strategy whereby a multinational firm competes with many strategies, each one tailored to a particular local market. Therefore, the multinational marketing as concerned with localization of international company and

operates its business activities in different countries as separate subsidiaries.

- d) **Multi-regional Marketing:** - companies adopting regional strategies rather than the strategies of a single country's strategies or the global strategies encompass the concept of multi-regional marketing. Many firms are prudently working on such solutions, moving from many multi-domestic strategies in Europe toward pan-European strategies.
- e) **Global Marketing:** - Global marketing encompasses the performance of business activities globally and adopting marketing activities strategies on a global scale. Global marketing strategy involves the creation of a single strategy for a product, service, or company, for the entire global market, that encompasses many markets or countries simultaneously and is aimed at leveraging the commonalities across many markets.

2.12 Review of Articles

Gopu Shrestha (2058) had conducted a research on a topic "*A study of attitude among medical practitioners' (Doctor) towards national pharmaceutical industries*". This was to measure the attitude among medical practitioners, their preference level, and collect recommendation for government and Nepalese companies and factors to build confidence. The researcher considered that doctors are the busiest people comparative to other profession. So the questionnaires have to administer by ranking as first, second, third accordingly. Sampling is based on doctor's directory 1998, Nepal Medical association where 1783 people existed with in 55 specialized areas. The sample size is only 50 from 9 specialized areas. Though this study has intended to know the pattern of acceptance of the Nepalese pharmaceutical products in the market, the writer has taken few samples only.

Chandra Bahadur Gurung (1995) had conducted a research on a topic "*Cement industry as an import substitution industry*"; the research design used into the study

is entirely based on secondary data obtained from various sources. This whole research study will follow up the analytical research design which deals with objectives set for the study. Simple statistical tools have been used. The sources of data used are all secondary data but this type of study seeks more about the primary data.

Ram Prasad Adhikari (2002) had conducted a research on a topic “*A study on the present status of DJPL (Deulari Janta Pharmaceuticals Labrotaries) and its present status*” has used descriptive research design. It is based on analytical as well as fact finding approaches relative largely to the present and abstracting generalization by the cross sectional study of current situations. This study is an attempt to project scenario of the Nepalese pharmaceutical industries and their marketing in Nepal with sharp focus to the marketing of pharmaceutical products of leading domestic pharmaceutical company.

2.13 Review of Previous Study

2.13.1 Books

Import substitution is defined as the substitution of a foreign product by domestic supply. Thus, import substitution implies three things: -

- 1) The creation of new sources of supply or production capacity in the country.
- 2) The expansion of the domestic production, and
- 3) The protection of domestic industries against foreign competition.

Import substitution was one of the important components of the commercial policy of developing countries for a long time. The foreign exchange scarcity created by the growing import-export gaps has prompted these countries to give emphasis on

import substituting industries to reduce their import requirements and thereby to narrow or remove the trade deficit.

Industries and other sectors with a potential for import substitution have been given great importance in Nepal's development programmes. Nepal relied very heavily on foreign source of supply for the requirement of capital as well as consumer goods. Therefore, considerable import substitution has taken place in many important areas – cement, Organic chemicals, paper, sugar, and pharmaceuticals. And so on.

2.13.2 Reviews of Previous Thesis\ Dissertation\ Unpublished Thesis

Gopu Shrestha (2001) there are studies some in this field one of them is “*The attitude among medical practitioners or doctors towards national pharmaceuticals industries*”. This study tries to find the actual acceptance of Nepalese pharma products by doctors and their performance, practice. Though the real consumers of medicines are patients (Public), the major decision makers for the use of medicines are the doctors who prescribe it. This study help to trace the Nepal is still importing 80% of medicine and that the Nepal entrepreneurs are always blaming government for not protecting national industries. But this study has confined to know the attitude of Nepalese customers for the Nepalese products. This study “Market potentiality of pharma industries in Nepal” will further explores the ground of pharma market in Nepal and contribution of it in the economy of the country.

Major finding of the study of Mr. Gopu Shrestha were as follows: -

- J Finding of the study will help to understand existing preference and general opinion among medical practitioners.
- J The study will help pharmaceuticals producers or marketers to utilize the doctors' beliefs and its attitude factor.

- J The finding will also assist health care service organization to formulate pharmaceuticals marketing strategies.
- J The formal research will also assist to any academic students, marketers or consultants for pharmaceutical marketing.

Limitation of the study

- J The study is confined with certain specialized areas so, it may not represent the whole population.
- J Literature is almost unavailable in pharmaceutical marketing, so the study limits to the aspects of attitude and their recommendations for strategic planning.

Karuna Pakwan (2003) another study on “*A study on the present status of DJPL (Deurali janta pharmaceuticals laboratories) and its marketing*” ; this study tries to emphasis the actual condition of a leading domestic pharmaceutical industry DJPL and its marketing strategies but less concentrated on further explore in the area of pharmaceuticals industries in Nepal.

Major finding of the study of Mr. Karuna Pakwan were as follows: -

- J To research on the utilization of natural resources for the production of drugs and allied chemicals.
- J Development of the technology for the production of drugs and their essential intermediate and transfer of technology to industries.
- J To test, standardize and quality control of drugs and allied materials
- J To provide technical guidance in their establishment of drug industries in Nepal.

The limitation of this study were time period, scope of study and availability of data.

Chandra Gurung (1995) more over another study on “*Cement industry as an import substitution industry*” has presented demand for cement and supply of cement in Nepal during 1990s which also analyzed the import of cement from abroad to meet the demand of cement in the country in the case of less production in the country. Though the topics is related to import substitution the writer has concentrate less on how import substitution takes by domestic companies.

Major finding of the study of Mr. Chandra Gurung were as follows: -

-) To analyse how far the cement industries has been able to provide cement facilities to the domestic market.
-) To analyse the volume of cement imported in Nepal from different countries.

2.13.3 Review of Journal Article

An article of the boss magazine which illustrates that pharmaceutical market of Nepal has emerged as better industry now. The article states Nepal pharma market is estimated of Rs. 800 crores of which Rs. 540 crores is in imports form other countries, mostly India, and sales of local companies amount to around Rs. 240 cores, i.e. 30% of total market. The pharma market has potential in Nepal by promoting production in Nepal still there is promising gap in the market. The markets yet to be substituted by local brands are the reason in the increase of number in the payers. More over drugs manufactured in the country have gained wide acceptance from the primary customer: doctors and chemists, as well as from the end users, that is the patients. (Shrestha; 2005:38-40) But this article hasn't focused much in the area of how import substitution possibility exists in the pharma market in Nepal. So writer of this thesis would elaborate the ways to import substitution in the Nepal pharma market.

Another article in this area of Business Manager Magazine states that the pharmaceutical industry is gradually being given weight age with the change of time and government policies. With the advent of democracy in 1990, the liberalization policies of HMG encouraged local entrepreneurs to venture into the area of pharmaceuticals. The 100% dependency on the imported drugs has been reduced to some extent, but is it possible for the indigenous industries to survive in face off stiff competition from foreign companies, non-protective policies of HMG and their final encounter with WTO? The study has tried to enforce the government to make policies to boost the pharma industry in Nepal but study has lacking to clear regarding import substitution. So the writer has tried to elaborate the import substitution part of pharma industry in Nepal.

Moreover an article published in the Business World on the occasion of the first ever international exhibition of Nepal pharmaceutical and Healthcare industry held at BICC on 24-25 September 2005. The pharmaceutical industry in Nepal “present issues and future prospect” states that Nepali pharmaceutical company is growing at a compound rate of 19% per annum but it is unfortunate that the Nepali production has only one-fourth share in the market. It is not the lack of capacity or initiative of the pharmaceutical producers, but it is rather the unfair competition coming from the cheap and often dubious quality import from across the border that is hampering the growth of the pharmaceutical industries in the country. Nepali pharmaceutical producers are not able to enjoy a level playing field in the market. It is rather astonishing that our industries have exhibited spectacular growth despite all odds prevailing in the market. But the article hasn't mention competitiveness in the pharma companies in Nepal so that they can substitute foreign pharma products merely blamed to the coming cheap and often dubious quality import from the borders. The writer hopes that this study will help to clarify these matters.

CHAPTER III

RESEARCH METHODOLOGY

Research methodology describes the method and process applied in the entire aspect of the study. Research methodology refers to the various sequential steps (along with a rationale of each step) to be adopted by a researcher in studying a problem with certain objectives. Thus the overall approach to the research is presented in this chapter. This chapter consists of research methodology to carry out the research to achieve the objective of the study.

3.1 Research Design

The main task here is to select the most suitable design for the study. Since the research should be fact finding operation for adequate information, the descriptive research design has adapted to carry out the study. It is a type of survey study which is generally conducted to access the opinion behaviors or characteristics of a given population and to describe the situation and events occurring at present. Descriptive research design is a process of accumulating facts.

Descriptive studies thus simply portray the facts: investigators collect, classify, and correlate data to describe what exists, but they don't fully analyse and explain why phenomena behave as they do. They don't put the relationships they describe to crucial experimental tests. Although descriptive research can't predict and control conditions and events, it contributes to science primarily by building a foundation of facts upon which exploratory hypothesis may be constructed by checking the validity of existing theories, and by directing attention towards alternative hypothesis which better fit and facts (Van Dalen: 1962:256).

The general Steps followed for this descriptive study are as follows: -

- a) Formulation of the objectives of study.
- b) Defining the problem and selecting a sample.
- c) Designing the method of data collection.
- d) Analysis and interpretations of the data facts.

3.2 Nature and Source of Data

The scientific attempt hasn't been made to study the import-substitution situation of the fast growing Nepalese pharma industry in Nepal. The present study is based on primary and secondary source of data. Secondary data consists of total demand of pharmaceuticals products; total supply of pharma products by Domestic companies and foreign companies will be considered from the government and NRB (Nepal Rastra Bank) reports. From primary data, many issues are collected from pharma companies, Doctors, consumer and policy makers of the government through questionnaires.

3.3 Population

Population or universe refers to the entire group of people, events, or things of interest that the researcher wishes to investigate. (Wolff and Pant, 2002:180).

Since the study is based on the Nepali pharma industries, the Nepalese pharma industries available in the countries are the population of the study. Now there are 42 pharmaceuticals across the country. So the total population of the study is 42 pharma products manufacturing companies.

3.4 Samples

A population is the large group of elements, so it is not always possible to study every item or elements in a universe. From the Population 25% of domestic companies supplying pharma products are considered for the sample size i.e. 10.

3.5 Data and Information Gathering Techniques

Data and information has been collected by following two methods: -

- a) Primary data and information
- b) Secondary data and information.

a) Primary Data and collection: - During the collection of primary data and information the questionnaire method has been followed to collect data as per the requirement of the research study. The list of the questionnaire and their types are attached in the APPENDIX 'II' of the Research study. To know the supply of pharma products by Nepalese pharma companies, questionnaires are administered in various levels. Doctors are the key customer for the pharma companies. So Doctors, consumers, entrepreneurs and Policy Makers are administered by questionnaires.

b) Secondary data and information: - Secondary data are often in the form of published data. However, the unpublished data such as the records, reports or statistics gathered or compiled by others prior to the study are also secondary data. (wolff and pant; 2002:140).

So the various published and unpublished data such as custom department, drug bulletin of Nepal, Nepal Rastra bank, and Appon reports are taken during the research study as secondary data.

3.6 Research Hypothesis

There may be various reasons for not fulfilling 80% of the market share by Nepalese entrepreneurs, but these studies only tries to collect the attitude of doctors in the basis of following rumors.

- Nepalese company can't produce quality drugs due to lack of professionalism.
- Nepalese doctors do not believe that Nepalese products have some quality as imported products.
- Nepalese companies are not hiring renowned pharmacist, which leads to quality production.
- Nepalese companies are not providing clinical trial reports which help doctors to build confidence.
- Nepalese companies are not inviting doctors for factory visit.
- Nepalese products do not have attractive packaging.
- Nepalese companies are expecting highest return with limited benefits.
- Nepalese companies are discriminating doctors on providing gifts and benefits.
- There are lots of brands, which confuse doctors to prescribe Nepalese brand.
- Mostly Nepalese companies are not following GMP standard.
- Policy makers are harassing Nepalese companies because they are getting high personal benefits from foreign companies.
- Nepalese companies are producing medicine as commercial products rather than quality conscious products.

3.7 Research Methodology

The study was to measure the attitude among medical practitioners, their preference level, and collect recommendation for government and Nepalese companies and factors to build confidence. The researchers considered that doctors are the busiest people comparative to other profession. So, the questionnaires had designed and developed with limited question with multiple choices, where the respondent have to self administer by ranking as first, second, third accordingly.

The researcher drafts a questionnaire and pre-tested with some doctors, chief executive officers, Marketing Manager and Government Sector high level pharmacist. After review and feedback form various individuals the questionnaire came up with final draft. The collected opinions, suggestions and feed backs were discussed with lecturer Dr. Deepak sanya of T.R.M. Campus and finally questionnaire get ready to administer in field.

CHAPTER: IV

DATA PRESENTATION AND ANALYSIS

The data is analyzed to change it from unprocessed form to processed presentable form. The analysis of data consists of organizing, tabulating, performing, statistical analysis and drawing inferences. In this chapter data is organized by tabulation and then placing that data in presentable form by using figures and tables.

4.1 Production of Medicines in Nepal

Domestic production of medicine in Nepal started in 1971 with the emergence of Chemi drug pharmaceuticals. A study on consumption and quantification of modern drugs for human use for the fiscal year 2056/2057 (1999/2000) was conducted for the department of drug administration by pharmaceutical horizon of Nepal (PHON).

In 1979, the importation of drugs was estimated to be worth Rs. 114.6 million and there were only about 400 medical shops. According to another study conducted in 1988 the value of importation of drug was Rs. 385 million. Subsequently study in 1992 showed drugs consumption worth Rs. 1532 million in sales value. Though the pharmaceutical industries started in seventies, increase of number in industries in began in the eighties. At present, there are 67 pharmaceutical industries in operation in Nepal. (Consumption and quantification of modern drugs for human use in Nepal, DBN; 2001:5).

Table – 4.1

The domestic pharma sales in retail value in Nepal

Fiscal Year	Domestic pharma industry's retail sales (NRs. in million)
1994/1995	306
1995/1996	421
1996/1997	567
1997/1998	735
1998/1999	888
1999/2000	1207
2000/2001	1280
2001/2002	1536
2002/2003	1860
2003/2004	2240
2004/2005	2575
2005/2006	2984
2006/2007	3442
2007/2008	3895

Chart – 4.4

From above table and Graph it is shown that the domestic pharma sales has been showing significant growth every year. In 1994/1995 the sales of domestic pharma product was NRs. 306 million and by the end of 2006/2007 it is NRs. 3 billion 442 million this is because of establishment of modern state-of-art pharmaceutical industries across the country. Similarly, in the year 2007/2008 there has been drastic increase in the domestic pharma sales of NRs. 3 billion 895 million. It is of 453 million increases to that of past year.

From the graph in 2001/2002, it is seen that the domestic sales of pharma products was NRs. 1 billion 536 million subsequently in the year 2007/2008 it is NRs. 3 billion 895 million. Gradually the domestic manufacturing companies are snatching the share of import this is because of decrease of import from abroad and domestic pharma manufacturing companies are coming as import substituting industries.

4.2 Consumption of Medicines in Nepal

Medicines are one of the important components in the delivery of health care. For effective medicine management a proper selection, quantification, procurement, distribution and use are important.

A study on consumption and quantification of modern medicine for human use for the fiscal year 2056/2057 (1999/2000) was conducted for the Department of Drug Administration by Pharmaceutical Horizon of Nepal (PHON). In 1979, the importation of medicines was estimated to be worth NRs. 114.6 million and there were only about 400 medical shops. According to another study conducted in 1988 the value of importation of drug was NRs. 385 million. Subsequent study in 1992 showed medicine consumption worth NRs. 1532 million (sales value). Though the pharmaceutical industries began in the seventies, increase in the number in the eighties. At present there are 67 pharmaceutical industries and 2 repacking industries in operation in Nepal.

Consumption of modern medicines consists of value of imported drugs, sales value of local production, drugs procured by MOH, drugs procured by INGOs and NGOs. The calculation of consumption is made of in the retail value of imported and local production of medicines.

4.2.1 Calculation of Consumption in Retail Sales Value:

Generally the value of drugs at retail level is calculated on the following basis. However, some variation may be found.

Importer adds 7% to the import value as custom duty and handling charge. To this figure Wholesaler adds 10% commission and 0.5% handling charge (total custom and handling charge will be 7.5%). Retailer adds 16% to this figure hence retail price is fixed to sell the medicines. In practice, there is percentage commission in level by level and actual percentage in total become more than total added individual while calculating the retail value.

4.2.2 Presentation of Consumption of Medicines in Nepal

As described in previous in Nepal, pharmaceutical industries started in seventies and number increase in eighties the entire demand for medicines was fulfilled by imports. With the emergence of modern medicine industries in Nepal the demand for medicines gradually started supply by Nepalese pharmaceutical industries also. The total demand for medicine also increased gradually year after year with the increase of Hospitals, Medical College, Modern Nursing Home and rapid research in development of medicines. The following data show the consumption pattern of modern medicines in Nepal.

Table – 4.2

Consumption Pattern of modern medicine in Nepal

Fiscal Year	Total consumption of drugs in (NRs. in million) Sales value
1994/1995	1532
1995/1996	1915
1996/1997	2413
1997/1998	3064
1998/1999	3861
1999/2000	4826
2000/2001	5018
2001/2002	5907
2002/2003	7018
2003/2004	8000
2004/2005	8880
2005/2006	9946
2006/2007	10659
2007/2008	11324

Source: -DDA, HMG

Chart -4.5

From the above table and graph it is observed that the allopathic medicines consumption has been increased from NRs. 7018 million in the year 2002/2003 to NRs. 11324 million in the year 2007/2008. It shows that the consumption has increased by NRs. 4306 million in the last five years which is 61.36% more than 2002/2003. It shows an average annual increment by 18.1%. Similarly, in comparison to previous year 2006/2007 there has been increase of 6.24%, which shows that medicine consumption is been increasing every year.

4.3 Demand Forecasting of Medicines in Nepal

Table – 4.3

Year	Domestic Sales (NRs., Million)	Import Sales (NRs., Million)	Total Consumption	Share of Domestic Industry
1995/1996	735	2329	3064	24.00%
1996/1997	888	2973	3861	23.00%
1997/1998	1207	3620	4826	25.00%
1998/1999	1280	3738	5018	25.50%
1999/2000	1536	4371	5907	26.00%
2000/2001	1860	5158	7018	26.50%
2001/2002	2240	5760	8000	28.00%
2002/2003	2575	6305	8880	29.00%
2003/2004	2984	6962	9946	30.00%
2004/2005	3442	7217	10659	32.29%
2005/2006	3895	7429	11324	34.40%
2006/2007	-	-	12186	-
2007/2008	-	-	13027	-

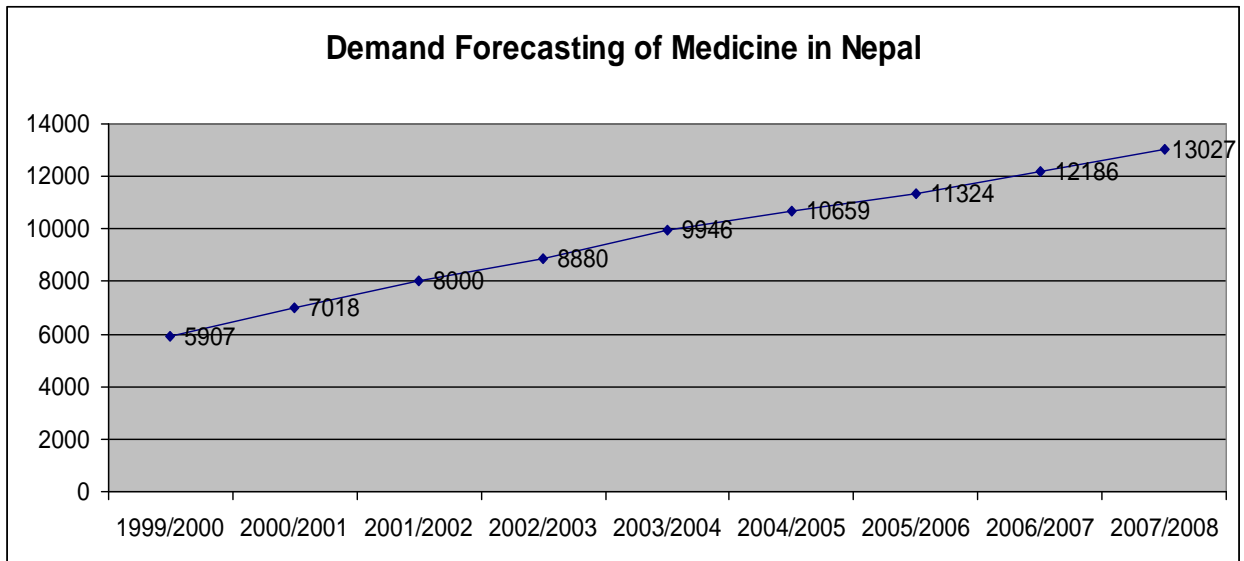
Source: - DDA, HMG

For the purpose of forecasting the future demand of medicine in Nepal, trend equation is a formal technique. The calculation of demand forecasting for the two years has been in the APPENDIX III of the Thesis. Hence the demand forecasting is as mentioned in the Table but only the demand forecasting of total consumption has been shown.

The above table reveals that the demand of medicines will increase in the future which is shown with the calculation of time- series analysis presented in the annex-

I. The allopathic medicine consumption has been increased from 3064 Million in year 1995/1996 to 11324 in the year 2005/2006, which shows that the consumption increased by 8260 million in the past ten years which is 269.58% more than 1995/1996, it shows an average annual growth by 28.24%.

Chart – 4.6



The above graph shows the total consumption of the medicine in the country by the Nepalese people and in the year 2007 and 2008 demand forecasting is made for consumption of medicine in Nepal. The above graph shows that the demand for medicine has been increasing year by year. The above graph shows the increasing trend from the year 1999 to 2008.

4.4 Present Chart of Share of medicine consumption

In the total consumption, 66% of drug consumption is met through import by public and private sector. Public sector consists of govt. agencies, UN, NGOs, INGO s. Public sector shares 8%, and similarly, 34% of drug consumption is met through domestic industries.

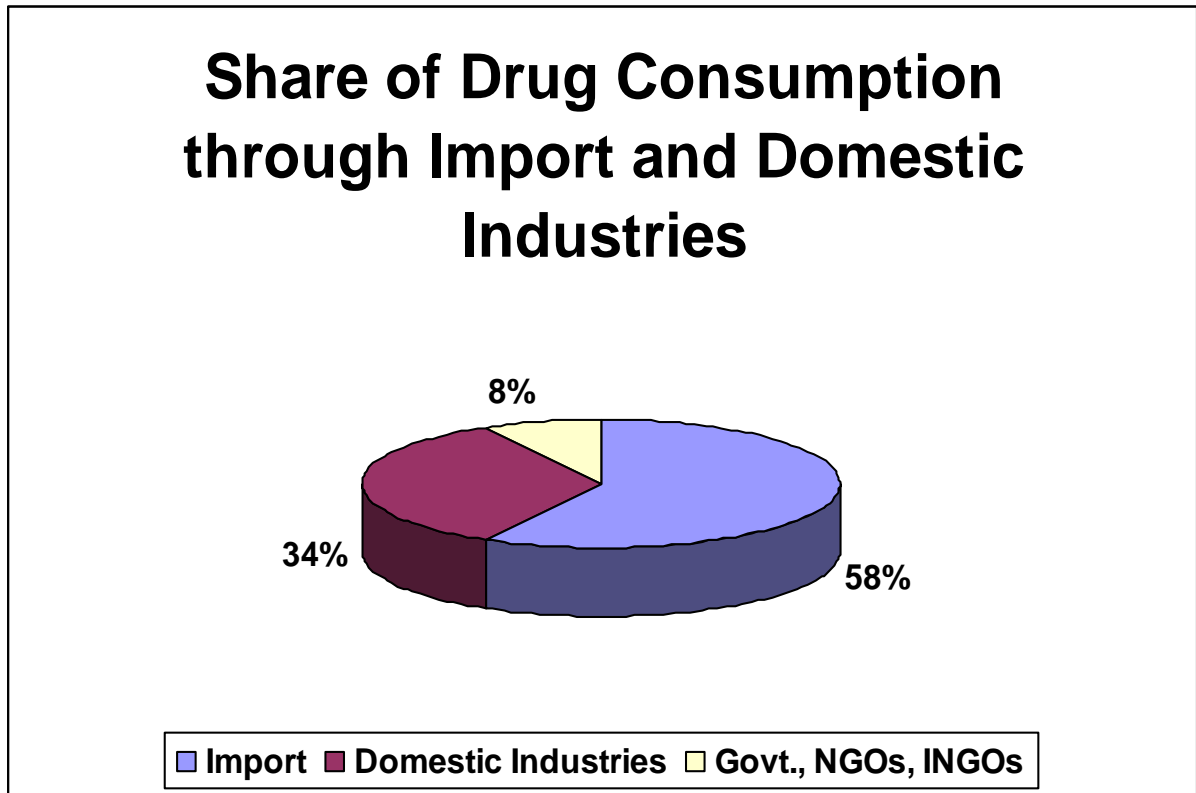
Table- 4.4

Share of Drug Consumption through different Sectors

Sector	Percentage
Domestic Industries	34 %
Import	58 %
Govt., NGOs, INGOs	8 %

Source: - DDA, HMG

Chart – 4.7



4.5 Import substitution of medicine

The concept of import substitution was developed during post war period in the developing countries. Most of the developing countries began to establish import

substitution as a strategy of economic development. The reasons for adoption of import substitution as a strategy of industrial development were: -

- i. Consequence of the consistent foreign exchange crunch that prevailed during post war years in developing countries for which controls in imports was essential.
- ii. The need for protection of domestic infant industries in order to achieve a minimum level of self sufficiency in the production of basic manufactured good. In order to attain the above two major tenets, various measures were implemented such as various tariff and non tariff measures. These measures help to control imports and provide necessary incentives to indigenous industries.

Economists like Bruton and Chenery has defined import substitution simply prohibiting imports or protection of imports in total supply. If the domestic production is higher than imports then import substitution is taking place and vice versa. Therefore, the developing countries experienced from the past that by giving protection and increasing incentive to the indigenous industries, production could be increased which would automatically control the imports. Nevertheless, available evidence in a number of countries suggests that such strategy does, in fact, produce hopeful rate of industrial growth for decade or so. But several factors are responsible for achieving high rates of industrial growth during initial period, such as large domestic market, protection (tariff, quota, foreign exchange, licensing etc.)

Unfortunately, in spite of all endeavor of the government import substitution strategy could not deliver the desired result in many developing countries? Recent study undertaken in few developing countries like Argentina, Philippines, Chile, Brazil etc. indicated that these countries have been experiencing rather dismal outcome from import substitution policies and failed in enhancing further industrialization policies and failed in enhancing further industrialization. The

accusation charged against the import substitution strategy is overprotection of domestic industries charging high price of their products, under-utilized of the industry due to limited market etc.

Because of above fact, in the recent economic literature, the strategy of export led economy has been prescribed as an alternative of import substitution. Export led industrialization emphasizes the orientation of the industrial sector towards foreign market and stresses export of labor intensive manufactures or other commodities which the country enjoys comparative advantage. South Korea, Hong Kong, Taiwan, Singapore are cited as successful models of export led industrialization. These countries also led an experience and had gone through import substitution phase in an initial stage, though the rate of protection implemented were lower. At present, the developing countries having the economy of import substitution strategy would have to rethink about the protection polices they have adopted.

In the context of Nepal, import substitution industries were established during the Second World War period. Those industries were sugar mills, jute mills and match factory. Later on pharmaceutical industries were established on seventies. After that the effort of economic development in the real sense begun in 1956 after the first five year plan was promulgated. Since then Nepal has been experiencing 8th plan and during this period several policies and programme were formulated and implemented in the effort of economic development.

In the economic development process, the import substitution strategy were also adopted by way of different protection policies such as issuance of license, tariff and customs etc. and attempt has been made to establish the import substitution industries. But, like other developing countries, Nepal also left behind to industrialize the economy. The earlier period of planned efforts, were basically concentrated to build the economic infrastructure. But the performance of the

existing industry and also newly established industries were always dismal and poor. Eventually, import always dominates export in the economy.

The establishments of medicine companies in Nepal not only enhance the industrialization but also help to curtail the import of medicine. As mentioned above, Nepal has executed protection as restricting quota and applying the license system before the open market economy has been introduced.

The following table depicts the import substitution situation Nepal has experienced so far in medicines.

Table – 4.5

Import Substitution of Medicines in Nepal

Fiscal Year	Domestic Production	Import	Total Demand	% of Import	Rate of Substitution	Increase/ Decrease in consumption
1997/1998	735	2329	3064	76	24	-
1998/1999	888	2973	3861	77	23	797
1999/2000	1207	3620	4826	75	25	965
2000/2001	1280	3738	5018	74.5	25.5	192
2001/2002	1536	4371	5907	74	26	889
2002/200	1860	5158	7018	73.5	26.5	1111

3						
2003/200	2240	5760	8000	72	28	982
4						
2004/200	2575	6305	8880	71	29	880
5						
2005/200	2984	6962	9946	70	30	1066
6						
2006/200	3442	7217	10659	67.71	32.29	713
7						
2007/200	3895	7429	11324	65.60	34.40	665
8						

Source: - DDA, HMG

It is noticed from the above table that there is continuous increase in the production of Domestic pharmaceutical products, i.e. it was 735 million on 1997/1998 and it is 3895 million on 2007/2008. There are 3160 million increases in the past ten years in the production of domestic medicines.

After 1998/1999 the rate of share of import substitutions are encouraging it was 23% on the mentioned year and it is 34.40% on 2007/2008. It is seen that after nine years the increase in the rate of import substitution is 11.40 % which is significantly increasing i.e. the domestic productions are replacing the imported pharmaceutical products. Though the consumption of medicine in Nepal market is increasing, the import percentage in not significantly growing i.e. the import of medicine on the year 1997/1998 was 76% of the total consumption it is 65.60 % on the year 2007/2008. These all above fact indicates that the import of medicines is substituting by the domestic production of medicines by the national pharmaceutical products.

Therefore, it is examined that the rate of import substitution of medicine is encouraging and can increase more if the shortcomings and internal drawbacks of the existing pharmaceutical companies could be eradicated.

4.6 Presentation and Analysis of Primary Data

The primary data are collected from policy makers, doctors, entrepreneurs (producers, dealers, chemists) and consumers. To know the reliability, validity of the research primary data has helped a lot in every aspect. So data collected from field has included supporting the solution of research problem. These collected data are analyzed systematically by the researcher to obtain the information regarding research problem. The questionnaires distributed to the policy makers, doctors, entrepreneurs and consumers are presented as follows: -

4.6.1 Presentation of primary data in table

Primary data plays the vital role to make the research task meaningful as well as concrete. The study has followed secondary data as supporting base which has been taken from previous resources, studies, report, library search & other related documents. In the course of availing first hand data to justify the study on the topic primarily, interviews and questionnaire method have been made applicable. It reveals the important information as to outlook of the role of medicine in Nepal.

The following table consists of questionnaires regarding 20 doctors; there were 18 subjective and objective questions for the doctors;

Table –4.6

Interview with Doctors

Answers S. No	A	B	C	D
1	12	8	-	-
2	6	10	2	2

3	7	13	-	-
4	5	8	4	3
5	15	5	-	-
6	14	6	-	-
7	6	9	0	5
8	3	17	-	-
9	SUB-	-JE-	-CT-	-IVE
10	SUB-	-JE-	-CT-	-IVE
11	5	15	-	-
12	SUB-	-JE-	-CT-	-IVE

Source: - Primary Data and Field Survey

Q. No. 1

Doctors believe that Nepalese drugs are as competitive as imported drugs. It is obtained from 60% response in the favor by doctors from the total Survey.

Q. No. 2

The quality of Nepalese drugs are good, So Doctors are prescribing products of Nepalese pharma industry.

Q. No. 3

Nepalese pharma industry has yet to capture the pharma market, which are not sufficient to provide complete drug range.

Q. No. 4

Only 51% to 75% of drugs are available in the areas of practice of the doctors.

Q. No. 5

Most of the Doctors have view that imported drugs should be substituted by domestic ones which helps to retain foreign currencies, to utilize Nepalese resources, to grow Nepalese pharma companies.

Q. No. 6

Doctors also suggest that government should support the Nepalese pharma industry. 70% Doctors have supported to the Nepalese industry.

Q. No. 7

Now most of the Doctors satisfy with the behaviour of the government to Nepalese pharma industry.

Q. No. 8

Present 32% share is not sufficient to the Nepalese pharma industry. 85% Doctors have supported to increase the percentage of Nepalese pharma industry, and then only import can be substituted.

Q. No. 9

Being subjective question, most of the Doctors have emphasis on the quality drugs and competitive price to get more support for the Nepalese pharma industry.

Q. No. 10

Most of the Doctors suggest to hire professional, resource person, technical man power to capture more market share to the Nepalese pharma industry.

Q. No. 11

DDA and RDRL have not sufficient infrastructure to check the quality of drugs.

Q. No. 12

The co operative policy should formulate to enhance the market share of Nepalese pharma industry.

The following table consists of questionnaires regarding 15 entrepreneurs (dealers, chemists, wholesalers) there were 15 questions in the questionnaires.

Table – 4.7

Interview with Entrepreneurs

Answers S. No.	A	B	C	D
1	3	12	-	-
2	11	2	0	3
3	1	3	9	2
4	0	0	8	7
5	9	6	0	-
6	3	3	7	2
7	2	1	2	10
8	8	3	0	4

9	SUB-	-JE-	-CT-	-IVE
10	SUB-	-JE-	-CT-	-IVE
11	0	11	3	1
12	13	2	0	-
13	SUB-	-JE-	-CT-	-IVE
14	7	5	3	-
15	SUB-	-JE-	-CT-	-IVE

Source: - Primary Data and Field Survey

The result of the above table can be summarized as follows: -

Q. No. 1

Most of the entrepreneurs are not satisfied with the present share of Nepalese pharma industry.

Q. No. 2

Now pharma market of Nepal is encouraging to invest so, 74% of the entrepreneur has supported the facts.

Q. No. 3

Entrepreneurs have vision to raise 51% to 75% Nepalese pharma companies share in the pharma segment.

Q. No. 4

Nepalese pharma entrepreneurs are reluctant to provide exact sales because government has not set up systematic monitoring policy to keep record of the sales.

Q. No. 5

WHO GMP guidelines enhances the quality of the Nepalese pharma industry. 60% of the entrepreneurs have supported the facts.

Q. No. 6

Government is some how supporting Nepalese pharma industry.

Q. No. 7

Almost 67% has to say that government should help Nepalese pharma industry.

Q. No. 8

The reason for the increment in the number players in the market is the growth of the Nepalese pharma market.

Q. No. 9

The total turnover of the Nepalese pharma industry is 3895 million in 2007/2008.

Q. No. 10

The data of total consumption of drugs in Nepal is 11432 million in 2007/2008.

Q. No. 11

Almost 74% entrepreneurs have dissatisfaction about increment of tax on raw material, packaging material.

Q. No. 12

To retain foreign currencies, to generate employment, to utilize national resources, 87% has to say that foreign drugs should be substituted by national pharma products.

Q. No. 13

Protective measures should adopt by the government to boost Nepalese pharma industry.

Q. No. 14

Most of the entrepreneurs have to say that WTO will help to become competitive for the Nepalese pharma industry.

Q. No. 15

With focus in quality and competitive price Nepalese pharma products can be exported in the abroad also.

The following table consists of questionnaires regarding 15 consumers; there were 12 subjective and objective questions in the questionnaires.

Table – 4.8
Interview with consumers

Answers S. No.	A	B	C	D
1	7	6	2	0
2	13	1	0	1
3	2	3	10	1
4	12	2	1	-
5	11	3	-	-
6	10	2	3	-
7	3	12	2	-
8	2	4	3	6

9	11	3	2	-
10	SUB-	-JE-	-CT-	-IVE
11	2	2	1	10
12	SUB-	-JE-	-CT-	-IVE

Source: - Primary Data and Field Survey

The following inferences can be drawn from above table: -

Q. No. 1

Almost 47% consumers have to say that the Nepalese pharma products are as good as imported products.

Q. No. 2

Doctors are the customer to the pharma industry, so most of the consumer takes drugs as per the prescription of the Doctors.

Q. No. 3

Most of the consumers do not take substitute pharma products. Almost 67% of the consumer tries in the other chemist if they do not get in one chemist.

Q. No. 4

Most of the consumers satisfy with the Nepalese pharma products.

Q. No. 5

Almost 74% of the consumer indicates that the foreign pharma products should be substituted by Domestic products which enhance to grow Nepali pharma industry, help to become competitive, to generate employment.

Q. No. 6

The government should provide facilities to the Nepalese pharma industry, 67% of the consumers have supported with this fact.

Q. No. 7

Only increment of number of industry does not help to improve quality of the medicines in Nepal.

Q. No. 8

By facility to Nepalese pharma industry, WHO GMP, favorable policy helps to compete with imported drugs.

Q. No. 9

Most of the consumers have to say that government should protect the industry.

Q. No. 10

The ways to grow Nepalese pharma companies are as follows: -

Lowering tax in raw material and packaging material.

Increase registration charge to foreign companies.

Facilitate to compete in foreign market.

Q. No. 11

Nepalese pharma products are economical, quality and easily accessible to the consumer so 67% of the consumer has supported the fact.

Q. No. 12

Being a subjective question, most of the consumer has emphasis to follow WHO GMP guidelines to protect the medicine market from sub standard medicines.

4.7 Major Findings of the study

From the above presentation and analysis of secondary and primary data the following major findings have been drawn out in the research study.

- i. Domestic medicine production started on 1971 with the emergence of chemical drug pharmaceuticals in Nepal.
- ii. Up to early seventies, the consumption of medicines in Nepal was met by import from abroad only. The number of pharmaceutical companies came into existence in the eighties, at present there are 42 companies in this industry.
- iii. The domestic pharmaceutical industry has been increasing significantly every year. In 1997/1998 the sale of the Nepalese pharmaceutical industry was NRs. 735 million and by the end of 2007/2008 it is NRs. 3895 million.
- iv. The retail sales value of medicine have been calculated by 33.5% in the net value(company value) to the imported medicines and 26% to the domestic pharmaceutical products since there have no import duty . Moreover there have been taken 20% average bonus while calculating the retail sales value.
- v. With in last five years the consumption of medicines increase by 61.36% and it shows an average annual increment in consumption is 18.1%.
- vi. The import of drug has been decreasing every year this has been because of increasing sales of domestic pharmaceutical companies. The import on 1997/1998 was 76% and on 2007/2008 it is 65.60 % of the total consumption of medicine market of Nepal.

- vii. At present 65.60% approx. 66%, of the medicine consumption is met through import by public (govt., UN, NGOs and INGOs) sector and private sector. Where public sector has 8% and private sector has 58%, 34% of share goes to domestic pharmaceutical industry.
- viii. The Nepalese pharmaceutical industry has been substituting import of medicines from abroad. Above secondary and primary data reveals that the domestic pharma sales have grown significantly in the pharma market.
- ix. Doctors believe that Nepalese pharmaceuticals companies have been producing quality products at competitive price which are easily accessible though range of medicines yet to produce like injections.
- x. Doctors, entrepreneurs (Dealers, wholesaler, chemist), consumer have said that the present share 34% is not sufficient to Nepalese pharma industry it should reach up to 75%. So still there have been maximum chances of import substitution in days to come.
- xi. Government co-operation is inevitable to grow the pharma market in every aspects of Nepalese pharmaceutical industry.
- xii. Nepalese pharmaceutical industry is well aware about the WTO, all concern have put emphasis to become more competent to explore the export potential of the emerging industry.

CHAPTER: V

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

Medicine is the most important component in our life now days. In Nepal it is believed that nation should become self reliance on manufacturing of medicines. In early seventies, consumption of medicines in Nepal was totally depending on imported medicines from abroad. The milestone of breaking of this started on 1971 with the emergence of Chemi Drugs Pharmaceuticals in private sector subsequently public sector involved to formulate medicine on 1972.

Considering the potential of the growth of indigenous pharmaceutical industry for self-reliance in essential and export to other countries, it is high time the government should update the policies accordingly and support and improve existing pharmaceutical industry in Nepal providing them institutional support.

Hence government should co-operate the private sector to become competitive in the era of WTO to exist long term in the pharma segment of Nepal as well as abroad.

Consumption of medicine in Nepal is increasing every year significantly; there is 18.1% average growth in the past five years. This increment of consumption in Nepal is higher than the growth of global scenario. Likewise, the share of Nepalese pharmaceutical industry has increased with the emergence of state-of-art manufacturing pharmaceutical companies. The import has decreased although the consumption of medicines increased in Nepal. So, Nepalese pharmaceutical industry has emerged as an import substituting industry. However, government should support this industry as priority industry, export and import policy should be formulated and implemented in an integrated manner to suit the developmental policies of import substitution and export diversification. At last but not least, if all sectors will involve developing this potential segment there is huge scope to substitute the imported medicine in Nepal.

5.2 Conclusions

From the research study conducted in emergence of Nepalese pharmaceutical industry as an import substitution industry in Nepal, the following conclusion has been made:

- i. Medicines are one of the important components in the delivery of health care. For effective drug management a proper selection, quantification, procurement, distribution and use are important.
- ii. The analysis of status of Nepalese pharmaceutical industry is significant to government, public which helps to know the position of Nepal in global context in health sector.

- iii. This type of study has made clear the complex health sector of Nepal to some extent.
- iv. Though the market share of domestic industry has increased in terms of quality as well as percentage, yet there is space for the improvement in quality standard as designed by WHO GMP to compete with big giants in domestic and international market.
- v. The domestic pharmaceutical industry has been substituting the import of the medicines. From this study it is revealed that on 2001/2002 the substitution percentage was 26%, on 2007/2008 it is 34.40%. The substitution has been taking place gradually.
- vi. Now pharmaceutical industry has been potential segment in market if the government play role in policies and implement it will be better to grow this industry in Nepal.

5.3 Recommendation

Based on the findings and analysis of different aspects of pharmaceutical industry, the following recommendation has been made for further development and improvement of the pharmaceutical industry which could contribute to save the outflow of foreign exchange to import pharmaceutical products.

- i. Health is one of the basic concerns of the public in the modern age. Because of its importance to the public the demand of medicines are increasing. Health care is not possible in the absence of medicines.
- ii. In Nepal, though domestic pharmaceutical industry has increased since some years back, huge supply has met by imports from the abroad. So demand has not been fulfilled by domestic companies. Therefore, it is inevitable that domestic production should be raised to curtail the import.
- iii. Capacity utilization of existing companies and acquiring of new technology is vital to raise the production capacity of medicines.

- iv. Government should try to involve more private sector entrepreneurs to attract foreign companies to work in joint venture. Government should also make feasibility study on utilization of human resources.
- v. The top 15 medicines produced in the country shared 43.4% of the total sales from the domestic industries. Seven drugs are from the national list of essential drugs. The domestic industries should be encouraged for production of essential drugs.
- vi. The consumption of drugs by therapeutic groups including antibiotic should be estimated. It will support to formulate strategy for local production.
- vii. Mostly doctors are very positive with national industries and they are prescribing more than 50% national drugs in their prescription. This situation is very favorable for national industries. So, Nepalese companies are recommended to satisfy doctors by communicating of quality precaution system.
- vii. It was found that mostly doctors are more concern with national development and they are prescribing drugs due to national development, so producers must have to grab such opportunities and keep up doctor's positive feeling.
- viii. In the view of policy makers, the establishment of Research and Development section in the pharma industry is important for the development of the Nepalese pharma industry.
- ix. The government should set up systematic monitoring policy so that Nepalese pharma entrepreneurs are reluctant to provide exact sales.
- x. There should be increase in the quality and competitive price of Nepalese pharma products so that it can be exported abroad also.
- xi. In Nepal, the view from consumer is that not only the number of the industry should be increased but also quality of the medicine should be improved.

- xii. Government should formulate effective strategy to check substandard medicines and unregistered drugs from foreign countries in Nepal market. It is observed that from open boarder substandard drugs have entered in the tarai market.
- xiii. Domestic pharmaceutical industry should be ready in the emergence of WTO in Nepal by focusing on quality, price, and competition to cope with international products as well as to capture the export potential.

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APPENDIX - I

List of Pharmaceutical companies of Nepal

<u>Companies</u>	<u>Address</u>
1. Alive Pharmaceutical Pvt. Ltd	Kathmandu
2. Amie laboratories Pvt. Ltd	Janakpur
3. Apex Pharmaceuticals Pvt. Ltd.	Birganj
4. Arya Pharmalab Pvt. Ltd	Birganj
5. Asian Pharmaceuticals Pvt. Ltd	Bhairahawa
6. Amtech Pharmaceuticals Pvt. Ltd	Biratnagar
7. Birat Pharmalab Pvt. Ltd	Biratnagar
8. Chemi Drug Industried	Kathmandu
9. Concept Pharmaceuticals(Nepal) Pvt. Ltd.	Birganj
10. CTL Pharmaceuticals Pvt. Ltd	Bhaktapur
11. Curex Pharmaceuticals Pvt. Ltd	Kavre
12. Danium Laboratories Pvt. Ltd	Birganj
13. Deurali-Janta Pharmaceuticals Pvt. Ltd.	Kathmandu
14. Dingla Pharmaciuticals Pvt. Ltd	Birgunj
15. Everest Pharmaceuticals Pvt. Ltd	Kathmandu
16. Florid Laboratories Pvt. Ltd	Lalitpur
17. G. D. Pharmaceuticals Pvt. Ltd	Birgunj
18. Hukum Pharmaceuticals Pvt. Ltd	Bhaktapur
19. Lomus Pharmaceuticals Pvt. Ltd	Kathmandu
20. Manoj Pharmaceuticals Pvt. Ltd	Dharan
21. Mark-Formulations Pvt. Ltd	Kathmandu
22. Milan Pharmaceuticals Pvt. Ltd	Biratnagar

23. National Healthcare Pvt. Ltd	Birgunj
24. Nepal Pharmaceuticals Pvt. Ltd	Birgunj
25. Omnica Laboratories Pvt. Ltd	Bhaktapur
26. PCN Pvt. Ltd	Birgunj
27. Pharmaco Industries Pvt. Ltd	Kathmandu
28. Quest Pharma Pvt. Ltd	Birgunj
29. Raj Chemical Works Pvt. Ltd	Jhapa
30. Royal Drugs Limited	Kathmandu
31. S. R. Drugs Laboratories Pvt. Ltd	Kathmandu
32. Shiv pharma Lab Pvt. Ltd	Dharan
33. Shree Ram Pharmaceuticals	Birgunj
34. Siddhartha pharma Pvt. Ltd	Bhairahawa
35. Simca Laboratories Pvt. Ltd	Bhaktapur
36. Sumi Pharmaceuticals Pvt. Ltd	Nawalparasi
37. Time pharmaceuticals Pvt. Ltd	NawalParasi
38. Unique pharmaceuticals Pvt. Ltd	Birgunj
39. Vijaydeep pharmaceuticals Pvt. Ltd	Lalitpur
40. Vijaydeep Laboratories Pvt. Ltd	Lalitpur
41. Medivet pharmaceuticala Pvt. Ltd	Bhaktapur
42. Nepal Chemical Works	Biratnagar
43. P.C.N.Private Limited	Bara
44. Nepal Aushadhi Limited	Babarmahal
45. SR Drugs Laboratories Pvt.Ltd.	Satungal
46. Universal Pharmaceuticals Pvt.Ltd.	Rupandhi
47. Serene Pharmaceuticals Pvt.Ltd.	Thankot
48. Allience Pharmaceuticals Pvt.Ltd.	Simra
49. Fleur Himalayan Ltd.	Butwal

5. Do you suggest that the foreign pharma products should be substituted by domestic ones?

a) Yes b) No,

If yes: -

- (i) Because Nepalese company has small market to grow
- (ii) To utilize Nepalese resources.
- (iii) To retain foreign currencies.
- (iv) All

6. Would you think that government should provide facilities to protect Nepalese industry?

a) Yes b) No,

If yes, how: -

- (i) Reducing in duties of raw materials, packaging and other equipment.
- (ii) Should make appropriate policies.
- (iii) Should give marketing product without WHO GMP.
- (iv) If others specify,

7) What is your opinion regarding government support to Nepalese pharma industry?

a) Good b) Satisfactory c) Neutral d) Negative

8) Present 35% share of Nepalese pharma companies is satisfactory in the Nepalese pharma market?

a) Yes b) No

If No, why?

- (i) It increases import of drugs to country.
- (ii) It would increase unemployment in the country.

(iii) Foreign currency goes to abroad.

(iv) All

9) What do you suggest to Nepalese pharma companies to become competitive?

10) What suggestions would you like to provide to Nepalese companies to capture more market share?

11) Would you think that DDA and Royal Drug Research (RDRL) efficient to administer drug quality?

- a) Yes b) No

12) Would you please suggest to the Nepalese policy makers to boost Nepalese pharma industry?

Questionnaire

- b) Tax evasion
 - c) To protect the throat cut competition among the pharma industry.
 - d) If other specify
5. Does good manufacturing practice (GMP) guidelines set by the WHO will enhance the competitive advantage to the Nepalese pharma companies?
- a) Yes
 - b) No
 - c) don't know
6. Do you think government is supporting Nepalese pharma companies?
- a) Yes
 - b) No
 - c) Some how
 - d) Not much
7. Why government should protect Nepalese pharma industry?
- a) To get economical products by people.
 - b) To retain foreign currency
 - c) To generate export business
 - d) To get competitive advantage by the national companies;
 - e) Employment generation
 - f) All of above
8. Why number of players increasing in the Nepalese pharma market?
- a) Growing market for pharma industry
 - b) Low taxation
 - c) No regulatory measure to know the exact sales
 - d) If others, specify

9. Do you provide information regarding total annual turnover of Nepalese pharma industry?

10. Would you please suggest the total consumption of drugs in Nepalese market?

11. What do you say about the recently increased tax on raw material, packaging material?

- a) It is good
- b) It is discouraging to the Nepalese pharma companies.
- c) It should be kept as it is
- d) If other, specify

12. Do you think that the foreign products should be substituted by domestic ones?

- a) Yes
- b) no
- c) don't know

If yes, how?

- (i) Which helps to retain foreign currencies?
- (ii) Generates employment with in nation
- (iii) Helps to utilize resources
- (iv) Helps to earn more to entrepreneurs

13. What do you suggest to the policy makers to boost Nepalese pharma market in Nepal?

14. Does WTO have positive effect in Nepalese pharma market?

- a) Yes
- b) no
- c) don't know

If yes, how?

If no, why?

15. Do you suggest that how Nepalese pharma companies export its products to foreign?

Questionnaire

“Market Potentiality of pharma industries in Nepal”

I am Neesha Shreewastav, a student of Thakur Ram Multiple Campus preparing thesis for MBS. This questionnaire is administered to obtain the answer of research question. The researcher assures you that the information will be protected in accordance with the existing laws and policies of the Nepal.

Name of Respondent: -

Questionnaires for consumers

1. What do you think about the quality of Nepalese drugs as compare to imported drugs?
 - a) Excellent as imported
 - b) Good
 - c) Normal
 - d) Not good

2. How do you consume medicine?
 - a) As prescription of consultant doctor.
 - b) As suggestion of paramedical
 - c) As suggestion of retailer.
 - d) Know form other

3. What would you do when you don't get the prescribed brand?
 - a) Use alternative drug myself
 - b) As suggestion by the retailer
 - c) Try in another pharmacy.
 - d) I don't know.

4. Are you satisfied with the prescription of Nepalese products by the doctors?

- a) Yes
- b) No
- c) Don't know

If yes, why?

- (i) This will enhance Nepalese pharma industry
- (ii) They are good quality products.
- (iii) They are cheap as compare to imported drugs
- (iv) All

5. Do you think that the foreign pharma product should be substituted by domestic ones?

- a) Yes
- b) no

If yes, why?

- (i) It will provide chance to grow Nepali companies
- (ii) It will help to be competitive
- (iii) it helps to employment of Nepali people
- (iv) specify
- (v) all of above

6. Do you think that government should give facilities to national industry to grow?

- a) Yes
- b) No
- c) Don't know

7. Does increment in number of industry only enhance the quality of drug?

- a) Yes
- b) No
- c) Don't know

8. How Nepalese companies become more competent with imported drugs?

- a) By giving facilities to Nepalese pharma industries
- b) Adapting WHO GMP guidelines.
- c) Making favorable policy to companies
- d) All

9. Would you think that government should protect Nepalese pharma industry?

- a) Yes
- b) No
- c) Don't know

If yes, how?

- (i) It will generate employment within the country.
- (ii) It helps to save foreign currencies.
- (iii) It makes country's economy sound.
- (iv) All

10. How Nepalese pharma industry can grow?

11. Why do you prefer Nepalese pharma product rather than foreign one?

- (i) It is economical
- (ii) It has got quality
- (iii) Easily accessible

(iv) All

12. What should be the policies of government to check the sub-standard drugs?

APPENDIX III

Linear Trend Equation: -

When the time-series data reveal a rising trend in the sales, then a straight-line trend equation of the following form is fitted:

$$S = a + bT \quad \text{-----} \quad (1)$$

Where s = annual sales, T = time (years), a and b are constants. The parameter b gives the measures of annual increase in sales.

The co-efficient a and b is estimated by solving the following the following two equations based on the principle of least square:

$$S = na + b \sum T \quad \text{-----} \quad (2)$$

$$\sum ST = a \sum T + b \sum T^2 \quad \text{-----} \quad (3)$$

Where,

n = Number of Observations

Demand forecasting for consumption of medicine in Nepal

Years	Total sales in Billion (s)	Time (T)	T²	ST(billion)
1997/1998	3.064	1	1	3.064
1998/1999	3.861	2	4	7.722
1999/2000	4.826	3	9	14.478
2000/2001	5.018	4	16	20.072
2001/2002	5.907	5	25	29.535
2002/2003	7.018	6	36	42.108
2003/2004	8.000	7	49	56.000
2004/2005	8.880	8	64	71.040
2005/2006	9.946	9	81	89.514
2006/2007	10.659	10	100	106.590
2007/2008	11.324	11	121	124.564
n =10	S =78.503	T =66	T ² = 506	ST = 564.687

By substituting numerical value in equations (2) and (3), we get

$$78.503 = 11a + 66b \quad \text{----- (4)}$$

$$564.687 = 66a + 506b \quad \text{----- (5)}$$

By solving equations (4) and (5), we get the trend equation as

$$S = 2.0876 + 0.8415T \quad \text{----- (6)}$$

Form the above equation no. (6) Projection has been made for next two year, which is as follows: -

$$S = 2.0876 + 0.8415 * 12; (12^{\text{th}} \text{ year is } 2006/2007)$$

$$= 2.0876 + 10.098$$

$$= 12.1856 \text{ billion; } 12186 \text{ million}$$

Again,

$$S = 2.0876 + 0.8415 * 13; (13^{\text{th}} \text{ year is } 2007/2008)$$

$$= 2.0876 + 10.9395$$

$$= 13.0271 \text{ billion; } 13027 \text{ million}$$