

Potentials of Bangladesh Pharmaceutical Industry: A Comparative Study

Naznin Sultana Niti¹

¹ Central Womens University

Received: 7 December 2018 Accepted: 1 January 2019 Published: 15 January 2019

6

Abstract

This article attempts to examine the current scenario of the pharmaceutical industry in Bangladesh and its possible impact on national growth. Bangladesh is a country of an emerging economy. The significant high growth rate of industrialization and investment in variant sectors are the main reasons behind its rising economy. Healthcare sector is one of those potent sectors, wherein the Pharmaceutical industry is the sole entity and one of the fastest growing industries in the world. As of late, the Pharmaceutical market of Bangladesh has formed as a sizeable industry that has prospective global standards. It has grown and developed surprisingly in the past two decades. During these years, the pharmaceutical sector succeeded a dignified position in the international and domestic market. Today, pharmaceutical companies fulfill more than 98

18

19 *Index terms—*

20 1 Introduction

21 eing one of the world's leading industries the global pharmaceutical industry revenue is forecasted to reach an estimated \$1,226.0 billion by 2018, with good growth over the next five years (2013-2018). The industry is expected to register growth led by aging population, changing lifestyles, hectic daily activities, unhealthy eating habits, increasing incidence of chronic diseases across the entire global population providing growth opportunities for the industry players 1 There are two effective policies that have noticeably, boosted up the growth of the Pharmaceutical Industry. One was the Drug Control Ordinance 1982, which barred foreign companies from selling imported pharmaceutical products in Bangladesh. The other regulatory framework was WTO's agreement on TRIPS (Trade-Related Aspects of Intellectual Property Rights) relaxation, which permitted Bangladesh to reverse engineer patented generic drugs and it was extended until December of 2032. Though, due to the recent graduation from LDC in 2018, this may change. But we can expect the relaxation will continue, until UN announces its elevation to the status of a developing country in 2024. The industry size was only BDT 1.7 billion in 1982, which eventually grew ninety times by 2018. Gradually, it has been expanding locally and internationally. Some of the leading pharmaceutical companies of Bangladesh has already got accreditation from international regulatory authorities like UK-MHRA, Australia-TGA, US-FDA, and EU.

35 . The Industry has seen remarkable changes in the present years that leave another heap on payers, suppliers, and producers. Today it is the core of Bangladesh's Healthcare sector. With an evolutionary history, the industry has now become one of the most successful pharmaceutical manufacturing industry amongst the growing nations. Currently, the industry meets 98% of local demand and exports to more than 125 countries. The pharmaceutical industry discovers, develops, produces, and markets drugs or pharmaceuticals for use as medications. Pharmaceutical companies are allowed to deal with generic or brand medications and medical devices. They are subject to a variety of laws and regulations regarding the patenting, testing and ensuring safety and efficacy and marketing of drugs. The majority of leading pharmaceutical companies also work in Consumer Health, Animal Health, Nutritional Products or Medical Devices/ Diagnostics business segments 2

44 Following those objectives, the pharmaceutical sector is now one of the 'thrust' sectors in Bangladesh. Before
45 Liberation, there was barely any pharmaceutical enterprise in Bangladesh (then East Pakistan). Though, during
46 the 50s and 60s, a few local pharmaceutical companies started operations. Nevertheless, after several years of
47 liberation, the government could not increase budgetary allocations for the improvement of . Therefore, the main
48 aim of Pharmaceutical companies is to work for the betterment of health and care of the people, and they devote
49 their utmost effort to give their best. Their products do not only comprise of drugs that help in curing diseases
50 but also consists of numerous nutritional supplements, and with the means of trading these products are sent in
51 all over the world.

52 **2 B**

53 of the pharmaceutical industry in Bangladesh and its possible impact on national growth. Bangladesh is a country
54 of an emerging economy. The significant high growth rate of industrialization and investment in variant sectors
55 are the main reasons behind its rising economy. Healthcare sector is one of those potent sectors, wherein the
56 Pharmaceutical industry is the sole entity and one of the fastest growing industries in the world. As of late, the
57 Pharmaceutical market of Bangladesh has formed as a sizeable industry that has prospective global standards.
58 It has grown and developed surprisingly in the past two decades. During these years, the pharmaceutical sector
59 succeeded a dignified position in the international and domestic market. Today, pharmaceutical companies fulfill
60 more than 98% of the local demand and export a significant quantity of medicines to more than 100 countries,
61 including Germany, USA, France, Italy, UK, Canada, Netherlands, and Denmark. International regulatory
62 authorities like UK-MHRA, Australia-TGA, US-FDA, and EU have already approved and certified some of the
63 pharmaceutical companies. In case of earning foreign currency, the pharmaceutical sector has turned out to be
64 the 2 nd largest potential sector of Bangladesh, and its contribution to national GDP is mounting rapidly. How
65 the industry is continuously booming and its possibilities for more growth in the future, will be discussed in the
66 present study.

67 **3 II.**

68 **4 Historical Background**

69 Source: Bangladesh Pharmacy Council (BPC), Annual Report -2009

70 **5 III. Industry Overview & Growth Rate**

71 There are several sectors on which Bangladesh can be proud of and undoubtedly the pharmaceutical industry
72 is one of these sectors, which is the secondlargest contributor to the government exchequer. There are however,
73 1,495 wholesale drug license holders and about 37,700 retail drug license holders in Bangladesh. Following the
74 IMS report of 2014, the overall size of the pharmaceutical market of Bangladesh is estimated to be approximate
75 Tk.113bn. With an annual growth rate of about 11.37%, Bangladesh Pharmaceutical Industry is now self-
76 sufficient in meeting the local demand, and it is the largest white-collar intensive employment sector of the
77 country employing around 115,000 workers. As indicated by IMS Health, annual pharmaceutical sales in the
78 local market may reach BDT 160 billion within 2018. By 2020 the market is estimated to be \$3,369bn 6 .
79 Bangladesh's pharmaceutical sector will grow 15 percent year-on-year to reach \$5.11 billion by 2023, propelled
80 by high investments by local companies as they seek to grab a big share of the global market. By 2022, the
81 market size will be more than doubled to \$4.44 billion from \$2.02 billion now 7 The pharmaceutical industry of
82 Bangladesh is primarily a generic one. There are about 5,300 different brands which meet 97% of the domestic
83 demand. The Then, from the 1980s, pharmaceutical sector started to improve. In the last two decades, it has
84 grown at a considerable rate. After the promulgation of Drug Control Ordinance-1982, the development of the
85 pharmaceutical industry has accelerated. As the local Pharmaceutical companies were the beneficiary of the
86 NDP, they started to expand their business. Meanwhile, the MNCs sold their business shares to local companies.
87 The drug policy had two immediate consequences. First, it eliminated the importation, sale, and production of
88 drugs declared to be dangerous or useless. While groups differed in their assessment of the costs (and desirability)
89 of removing so many drugs from the market, most groups agreed that the policy succeeded in achieving this goal.
90 Second, it reduced the cost of essential drugs within Bangladesh (with savings to consumers, government, and
91 foreign exchange reserves) by decreasing import prices and the value of imported finished products .

92 **6 5**

93 . According to the Directorate General of Drug Administration (DGDA), the market share of the locally produced
94 drug was 175 crores in 1981 that increased to 325 crores by 1985. Since the promulgation of Drug Policy in 1982,
95 the sector has grown from BDT 1730 million to more than BDT 113 bn (\$1.5 bn). In 2000, there were 173
96 active and licensed allopathic drug manufacturing units in the country, while the figure now stands at 300. There
97 are two organizations, one governmental the Directorate General of Drug Administration (DGDA), Under the
98 Ministry of Health and family welfare. DGDA regulates all activities related import and export of raw materials
99 and finished products, packaging materials, production, sale, pricing, license, registration, etc. of all kinds
100 of medicine including those of Ayurvedic, Unani, Herbal and Homeopathic system and one semi-Government.

101 The pharmacy council of Bangladesh (PCB) regulates the practice of Pharmacy throughout Bangladesh control
102 pharmacy practice in Bangladesh.

103 local companies have 90% share of the market while MNCs hold only 10%. Domestically, Bangladeshi firms
104 generate 82% of the market in pharmaceuticals; locally based MNCs account for 13%, and the final 5% is imported.
105 Although 257 pharmaceutical companies are registered in Bangladesh, only about 194 are producing drugs. The
106 top 20 companies generate 85% of the revenue. The top 30 to 40 companies dominate almost the entire market;
107 the top 10 hold 70% of domestic market share; and the top two, BEXIMCO and SQUARE, capture over 30%
108 of the market that demonstrates the relatively concentrated business structure of the industry. Comparatively,
109 the top ten Japanese firms generated approximately 45% of the domestic industry revenue in 2006, while the top
110 ten UK firms generated approximately 53%, and the top ten German firms generated approximately 60%. Out
111 of 257 registered companies, the top ten companies account for almost 70% of the total market. Total market
112 size of CAM (Complementary and alternative medicine) companies are about USD 0.18 Billion. Below here,
113 is a chart to show the rapid growth of the pharmaceutical market since 1981 to 2015 which is estimated to
114 grow around \$1,900,000 in 2017. The WTO Agreement on Trade-Related Aspects of Intellectual Property Rights
115 (TRIPS), the Doha Declaration and the succeeding decisions of the council of TRIPS allowed all LDCs to have
116 pharmaceutical patents immune from the ambit of patentability till 2016 (later the patent waiver period was
117 extended up to 2033). This TRIPS flexibility has helped companies in operating in Bangladesh develop generic
118 versions of pharmaceuticals that are under patent protection elsewhere and to sell these products in local markets
119 or to other LDCs or non-members of WTO which have not implemented patent protection. The proper utilization
120 of this patent waiver flexibility made Bangladesh become the only LDC country with adequate pharmaceutical
121 manufacturing ability and almost self-reliant. However such exemption will no longer be permitted when the
122 country will be finally graduating from LDC to the category of developing country.

123 The TRIPS agreement has turned Bangladesh into a center for affordable and high-quality generic medicines
124 and contract manufacturing, with exports to potentially more than 100 countries across the world. Even,
125 more than ten leading Bangladeshi capsules and syrups but also a wide range of products from anti-ulcerates,
126 fluoroquinolones, anti-rheumatic nonsteroid drugs, non-narcotic analgesics, antihistamines, and oral anti-diabetic
127 drugs. Bangladesh also produces high-tech medicines such as anticancer treatments, hormonal products, enzymes
128 and coenzymes on a limited scale, but it is currently only able to meet four percent of local requirements
129 9 of Bangladesh). The facility of exemption from obligations to implement patents and data protection for
130 pharmaceutical products gives the local pharmaceutical industry an advantage over India and China who do
131 not come under the exemption agreement. After entering the international market, Bangladesh pharmaceutical
132 industry has made prominent growth in export.

133 Bangladesh is in a position to emerge as one of the regional R&D centers for pharmaceutical research as
134 reverse engineering has ended in China and India. So, there is a great opportunity to vie with the Contract
135 Research and Manufacturing Services (CRAMS) model of India. Currently, more than 80% of the APIs are
136 imported from abroad. But with the establishment of adequate reverse engineering and API manufacturing
137 facilities, the local demand for raw materials can be met without import. Bangladesh can provide a strong
138 platform for offshoring/outsourcing generic bulk and formulation drugs due to a cheap labor force and established
139 infrastructure. Bangladesh can present itself as an attractive destination for off-shoring as more and more western
140 companies are concentrating more on the high-cost patented drugs and seeking new sources to cut cost in their
141 manufacture of bulk drugs. Besides, the industry can emerge as a regional hub for pre-clinical testing and clinical
142 trials with the establishment of modern technical facilities. The Contract Research Organization (CRO) model
143 success of India can act as a template to emulate as the subject cost will be very low in Bangladesh as compared
144 to that of western countries 10 . There is an opportunity for substituting import of vaccines, injectables through
145 manufacturing it domestically. Many local entrepreneurs are searching for new ways to amplify their operations
146 beyond the country borders. They are also trying to emulate the buying of distressed companies in the west
147 to attain immediate market access. Generic drugs exported from Bangladesh amounts to 25% of the worldwide
148 pharmaceutical sales. Bangladesh earned \$82.11 million, a 13.04% up, in the fiscal year 2015-2016, compared
149 to 72.64 million a year ago. The sector has exceeded the export target by 2.64%. Pharmaceutical export grew
150 around 25% in the last seven years. The amount stood at \$60.19 million in the first eight months of this fiscal
151 year, registering a 9.94% rise compared to the same period a year ago. Bangladesh has an export target of \$95
152 million, this fiscal year 2016-17, according to data from Export Promotion Bureau 11 .

153 Bangladesh is exporting their pharmaceutical products to 125 countries including Vietnam, Singapore,
154 Myanmar, Bhutan, Nepal, Sri Lanka, Pakistan, Yemen, Oman, Thailand, and some countries of Central Asia and
155 Africa. It also has a large market in European countries. Due to the relaxations provided by TRIPS, APIs can
156 bring a bunch of opportunities for exports. For, API (also known as Bulk Drugs), there is no stringent registration
157 requirement and the operational, as well as promotional charges, are also nominal. The only crucial factor in this
158 regard is the cost competitiveness. Bangladesh can export API to several countries if costeffectiveness is ensured.
159 But being restrained to synthesis stage only, Bangladesh has to rely on import of core compound, solvent, and
160 other intermediates. Thus, the cost-effectiveness of local production can be a bit dependent on import costs.
161 Alongside, these productions often also entail effluent treatment plant, requiring a high investment. Though,
162 the economy of scale is yet to achieve, and high investment requirement has troubled to achieve entrepreneurs'
163 attention. But developments will soon come forward, as some of the firms are manufacturing raw materials

9 GROWTH POTENTIAL

164 locally. The Active Pharmaceutical Ingredients Park in Munshiganj, around 40 km from the capital, will help
165 the sector manufacture at an economy rate, with plans to establish 40 API industries inside the park, including
166 a central effluent treatment plant and incinerator amongst many other facilities.

167 7 Import

168 Every year Bangladesh imports a huge amount of both, finished products and raw materials from out of the
169 country. More than 90% of 4.700 crores (TK) worth of raw materials are imported every year. Over and above
170 700 different types of finished products and 750 numbers of raw materials including packaging materials come into
171 Bangladesh for the use of the local pharmaceutical companies. Two categories of raw materials used and imported
172 1. Active ingredients/ basic materials and 2. Excipients. Different organizations of Bangladesh are associated
173 with the import of pharmaceuticals products and raw materials of pharmaceutical industries. Mostly, MNC's
174 are engaged to import the pharmaceuticals products. Imported drugs mainly comprise of cancer drugs, vaccines
175 for viral diseases, hormones, etc. Bangladesh pharmaceutical industry is now heading towards self-reliance in
176 meeting the local demand. However, developments are taking place through a number of firms' manufacturing
177 small amount of raw materials locally. Additionally, the government has already completed the construction of
178 API (Active Pharmaceutical Ingredient) industrial park that will go into operation in 2018. Costs of APIs are
179 estimated to decrease by about 20%, if the API Park is launched.

180 According to experts, Bangladesh has a competitive hindrance when compared to India, since its pharmaceuticals
181 production is not backward-integrated. Even if the API is manufactured in Bangladesh, the raw materials
182 have to be imported, which generates higher factor costs, especially in cases where the provider of the API is
183 a competitor in selling the finished product. Building up backward-integration for all relevant APIs is not a
184 realistic option: scale disadvantages and infrastructure of constraints are more relevant in the early stages of the
185 value chain, where the products have strong commodity character. Bangladesh import Organic Chemicals mainly
186 from Indonesia, USA, Japan, Taiwan, Germany, Malaysia, Republic of Korea, Singapore, China, India and others
187 Pharmaceutical Products Import from USA, China, Korea, Japan, Greece, Cyprus, Hungary, Ireland, United
188 Kingdom, UAE, Austria, Singapore, India, Italy, Belgium, Netherlands, Germany, France, Denmark, Spain, and
189 Switzerland etc. Half of the total raw materials are imported from China, 20% from India and the rest 20%
190 are from other countries. Again, the machineries for pharmaceutical manufacturing also has to be imported
191 while Indian manufacturers can source those equipments nationally. It's a cost disadvantage for Bangladeshi
192 companies. The leading manufacturers import most of their equipment from Europe or Japan, China, India, etc.
193 Here is a chart to explain, the gradually increasing amount of pharmaceutical import since 2000-2010.

194 8 Table 5: Pharmaceutical Import to Bangladesh

195 Source: Bangladesh Bank, Bangladesh Bureau of Statistics Considering the socio-economic scenario, increasing
196 per capita income, and the literacy rate in the country and also due to increased concern about the health of
197 a certain group of people in the urban areas, it is assumed that total demand for all kinds of medicines and
198 healthcare products will grow in Bangladesh shortly. Simultaneously, with the increasing trend in the export of
199 pharmaceuticals, the demand for raw materials will also increase substantially. However, taking into consideration
200 of the past performance as well as the introduction of new entrants in the sector, it is expected that the import
201 will experience at an annual average growth rate of at least 10% in the next 4-5 years.

202 IV.

203 9 Growth Potential

204 According to Industry Insiders, the pharmaceutical industry of Bangladesh is gifted with high potentials to grow
205 in the days ahead as they enjoy a number of competitive advantages. Almost all pharmaceutical companies
206 are well-equipped with WHO Good Manufacturing Practice (GMP) standards. It has a strong ability to face
207 competition from developing countries like India, China, Brazil and Turkey in its export markets due to strict
208 quality compliance 12 R&D Activities, formulation, and market are three primary concerns for a strong API base.
209 Whereas our industry does not have R&D activities, we have good domestic formulation industry and a moderate
210 size domestic market. Alongside, we have trained local human resources to support development in the industry.
211 With the government proposed utility and ETP (Effluent Treatment Plant) benefits, and present regulatory
212 structure, it is possible for Bangladesh to develop a good base in the formulation of API and formulations for
213 generic products. Alongside, due to growth factors such as low manufacturing labor cost, availability of relevant
214 manufacturing technology and entrepreneurial assertiveness, the domestic market is to become an emerging
215 market. Change in affordability, the strength of continuous investment, the rapid spread of urbanization and
216 education will result in high growth of the industry in the coming years.

217 . Being a part of the healthcare sector, the growth of the pharmaceutical industry is related to several
218 economic variables. A gradual demographic shift, including increased life expectancy over the last two decades,
219 has translated into proliferated health consciousness and needs, encouraging people to spend more on healthcare
220 services. The income base of the population has been growing over the last decade. Health expenditure per capita
221 doubled during that same period, indicating people's willingness to spend more on health as their disposable
222 incomes increase. Further, with the emergence of private healthcare service -a number of high-quality private

223 hospitals began operating, including Apollo Hospitals, Square Hospitals, United Hospital, and others. These
224 hospitals have become popular due to their high-quality service. They have been an important factor contributing
225 to increased healthcare expenditure and have substituted for regional healthcare travel. Although government
226 expenditures as a percentage of total healthcare expenditures remained stable over the last decade, they have
227 increased in absolute terms ??3 At present, Bangladesh has a quite good outlook on its demographics. GDP
228 growth has been roaming around 6% over the last few years. With average population growth life expectancy
229 at birth has increased by 0.89% annually, along with poverty level reducing 1.68% each year. Most importantly,
230 healthcare expenditure per capita grew by at 8.7% per year, and private healthcare expenditure raised by 3.16%
231 annually, demonstrating a growing propensity among people for healthcare expenditure. With all these positive
232 indicators, more than 15% growth rate is expected now for the local market API industry can provide another
233 growth opportunity in the export market. Exports presently amount to 5.93% of total size (local + Export)
234 of the pharmaceutical market on average. With a vision to attain double-digit growth in 2018, the current
235 government has set a target to achieve a higher growth rate. So, it is expected that the actual growth rate
236 in GDP will be 7% within five years and the healthcare expenditure is likely to be more than that estimated
237 value of around 17%. Now, the retail Pharmaceutical market size is about 1% of GDP and health expenditure is
238 about 3.7% of GDP. As a result, the Pharmaceutical sector revenue accounts for almost 30% of the healthcare
239 expenditure. If this situation continues over the coming five years, pharmaceutical revenue will also mature at
240 par at 16.67% annually over the next five years. In the export market, as TRIPS relaxation extended, and present
241 effort towards improving international reach continues, the industry can expect another period of good growth,
242 with more growth coming from exports.

243 Currently, 48 LDCs, including Bangladesh, are not obliged to enact legislation on product patent rights.
244 Taking the fast growth of the economy into consideration, there is growing concern that the bonanza might
245 end soon for Bangladesh. However, based on international standards and previous examples, it is believed that
246 Bangladesh will continue to enjoy TRIPS benefits at least until 2025. Moreover, since partners are encouraged
247 not to abruptly end LDC support, Bangladesh can enjoy limited TRIPS support even after that with some
248 competent negotiations 14 V.

249 **10 Conclusion**

250 . Today, it's needless to say that the Pharmaceutical industry has already declared as one of the powerful
251 and dimensional sectors of Bangladesh. The pharmaceutical industry is growing at our expected rate with
252 the development of healthcare infrastructure and an increase in health awareness and the purchasing capacity
253 of people. Apart from that, while most of the emerging and LMIC (lower-middle-income countries) drug
254 markets are dominated by multinational Pharma companies, Bangladeshi Pharma companies can penetrate these
255 markets. Being thriving in domestic market Bangladesh pharmaceuticals Industry is successfully exporting active
256 pharmaceutical ingredients (APIs) and a wide range of Pharmaceuticals products covering all major therapeutic
257 class and dosage forms to more than 125 countries. To achieve a new peak, we have to find new markets, enhance
258 quality of products, enhance productivity, branding and overall efficiency to sustain in the global competition.
259 New technology should be developed to generate new kinds of medicines are added to the product line, and it
260 can be used in various establishments. Progress in Pharmaceutical industry means progress in the economy.
261 The growth of the pharmaceutical industry depends on the advancement of the economic condition. The
262 pharmaceutical industry also faces many problems. So, if government develops policies to support this industry
263 as well as to overcome its obstacles, this industry will flourish and its contribution to employment, other sectors
264 of the economy and growth of export earnings from the present level of five thousand million would be more.
265 Hopefully, within a short time, Pharmaceutical manufacturing industries of Bangladesh would become a 'generic
266 player' in the world. ¹

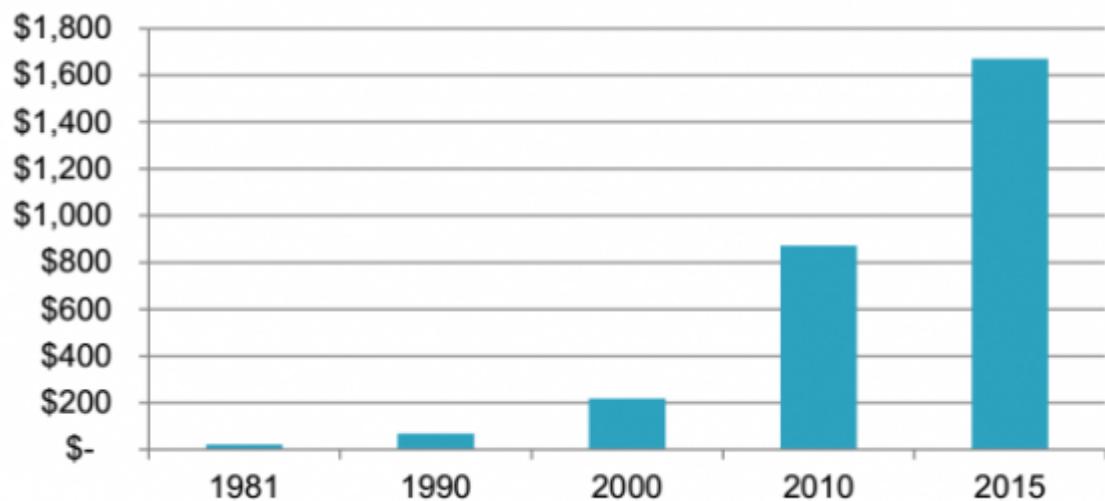


Figure 1: .

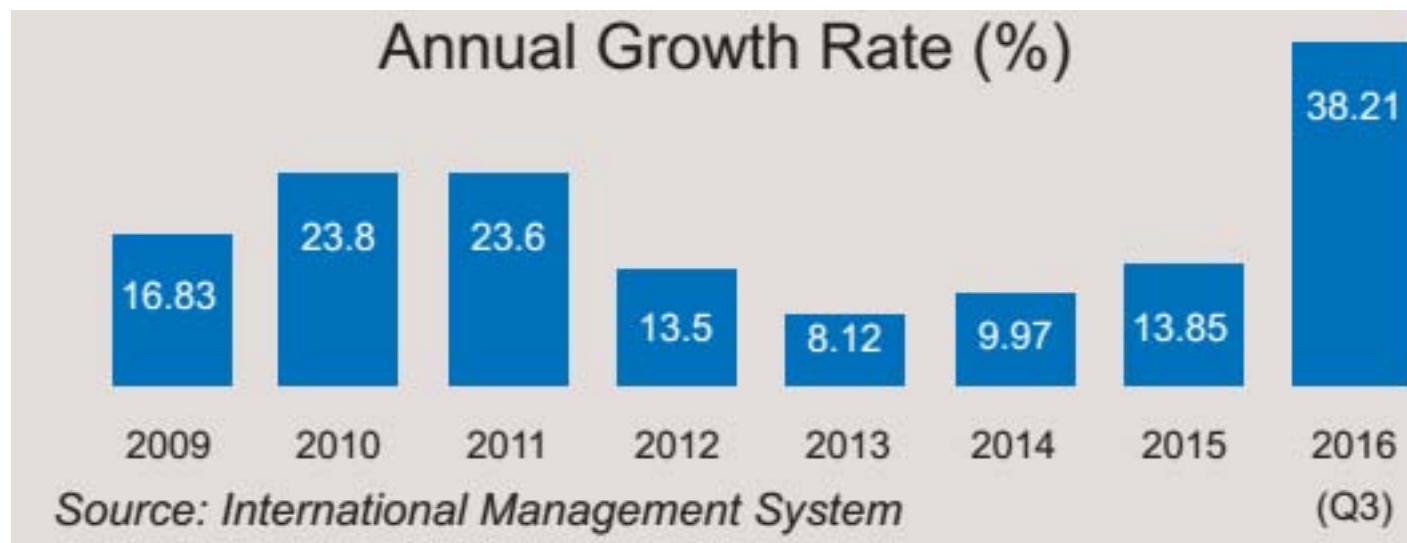


Figure 2:

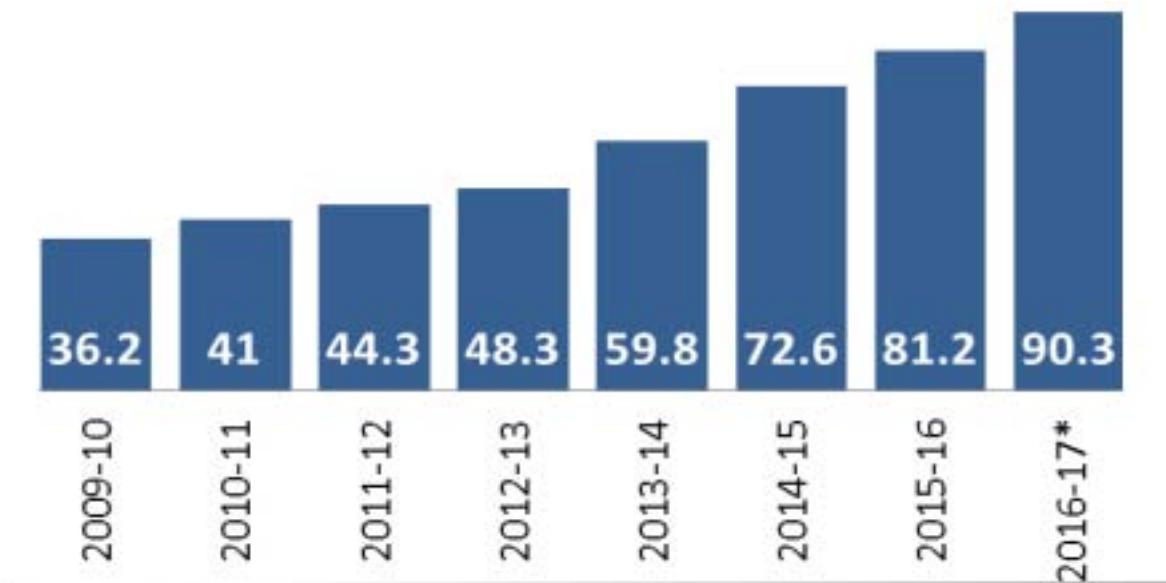


Figure 3:

(USD Million)	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
All Products	9335	8540	9658	10903	13147	14746	17157	21629	22507	23505
Pharmaceutical Import	33	39	44	45	41	50	49	62	80	82
Pharma % of Total	0.35%	0.46%	0.46%	0.41%	0.31%	0.34%	0.29%	0.29%	0.36%	0.38%
Yearly Growth for Pharma	18.18%	12.82%	2.27%	-8.89%	21.95%	-2.00%	26.53%	29.03%	36.30%	38.01%

Figure 4:

10 CONCLUSION

1

the health sector, as the sector was prominently dominated by Multinational Companies, whereas, local companies were suffering from proper infrastructure, modern equipment, and technology. Moreover, there was no regulatory authority. Most of the people had little access to the essential lifesaving medicines 3 . According to the World Development Report published by world bank, in the early 1980s, Bangladesh ranked as the world's second poorest country, with average per capita income of US\$130, and with about 95 million people in a land area of 144 000 square kilometers, giving it the highest population density in the world?.a large portion of the Bangladesh population had limited access to modern drugs, with estimates varying from 30% of the population2 to 85%.3 In 1981, the national market consisted of about US\$75 million in allopathic drugs, less than 0.1 % of the total world drug market 4

Government Spending

BDT	
1,500	mil-
million	per
per	year
3500	
177	
8	
16000	
1300	
90%	
available	
drugs	
10%	
available	
drugs	

Figure 5: Table 1 :

2

Source 8

Figure 6: Table 2 :

3

Figure 7: Table 3 :

Source: Export Promotion Bureau of Bangladesh

Figure 8: Table 4 :

267 [Ibid] , Ibid . p. 134.

268 [Bangladesh Pharmaceutical Industry (2017)] , *Bangladesh Pharmaceutical Industry* July 27, 2017. 101.

269 [Bangladesh -Pharmaceutical (2016)] , Bangladesh -Pharmaceutical . <https://www.export.gov/article?id=Bangladesh-Pharmaceutical> September 27. 2016.

270 [732/global_pharmaceutical_industry_20132018_trend_2. Pharmaceutical industry in Bangladesh]
732/global_pharmaceutical_industry_20132018_trend_2. *Pharmaceutical industry in Bangladesh*,

271 [Limited] *Bangladesh Pharma Industry: Opportunities in Global Generics*, Kaiser , Ceo , Renata Limited .
https://www.jetro.go.jp/ext_images/world/asia/bd/seminar_reports/20160413/p4.pdf

272 [Reich ()] 'Bangladesh pharmaceutical policy and politics'. M R Reich . *Health Policy Plan* 1994. 9 p. .

273 [Global Pharmaceutical Industry 2013-2018: Trend, Profit, and Forecast Analysis] https://www.researchandmarkets.com/reports/2634_Global_Pharmaceutical_Industry_2013-2018:_Trend,_Profit,_and_Forecast_Analysis,

274 [Local pharma market set to hit 5] *Local pharma market set to hit \$5*, <https://www.thedailystar.net/business/local-pharma-market-set-hit-511b-2023-1614133>

275 [Pharma sector can earn 1b in exports within 5 years] *An overview of the pharmaceuticals sector in Bangladesh*, Parvez M Chowdhury (2010).
276 'Pharma sector can earn \$1b in exports within 5 years'. http://www.bracepl.com/brokerage/research/1301468109Pharma_Overview.pdf 11 *An overview of the pharmaceuticals sector in Bangladesh*, Parvez M Chowdhury, July 2010. March 29, 2017.

277 [Pharma sector hopes new height of export. The New Nation (2012)] *Pharma sector hopes new height of export*.
278 *The New Nation*, 18 August 2012.