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Bangladesh Regional Connectivity Project-1

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Policy Review/Policy Study/Policy Paper Preparation
on
The Patents and Designs Act, 1911



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on

The Patents and Designs Act, 1911

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Preface

The review paper intends to respond to the requirement according to the provision of the contract agreement signed between Bangladesh Regional Connectivity Project-1 (BRCP 1) and South Asian Network on Economic Modeling (SANEM) for conducting **“Policy Review/Policy Study/Policy Paper Preparation under the Bangladesh Regional Connectivity Project 1)”** in collaboration with International Development Association (IDA), The World Bank. The objective of this technical assistance project is to review the existing government policies related to trade to strengthen cooperation in trade, transport, and transit facilities and facilitate the economic empowerment of women traders. The ongoing context and challenges are compared with the existing policies. It has also analysed the best practices of regional comparators to promote and improve trade-related activities as well as the relevance of SHE trade with the existing policies. Finally, based on the findings, the recommendation for future policy has been identified.

Consultancy services for conducting the **“Policy Review/Policy Study/Policy Paper Preparation under the Bangladesh Regional Connectivity Project 1)”** was provided by the South Asian Network on Economic Modeling (SANEM), Bangladesh. The study team consists of four senior-level experts. The major objective of the study is to depict a clear picture of the current situation state of the implementation of the policies, and challenges for upcoming LDC graduation to provide the suggestion for future policies. Furthermore, Reviewing and identifying the gaps in the existing policies were also aimed to be found for this study.

Various issues have been identified upon the careful review of the Patents and Designs Act, 1911 which includes an overview of the current application system for patents and designs, enforcement ability, TRIPS issues and whether the Act is TRIPS compliant or not, post-graduation challenges, and the need to further amend some significant provisions of the Act.

We hope that the policy recommendations would be helpful for the policymakers and other relevant stakeholders for the further development of the Act.

Md. Mijanur Rahman

Project Director (Joint Secretary)

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Acknowledgments

It is indeed a great pleasure that Bangladesh Regional Connectivity Project 1 (BRCP-1), Ministry of Commerce has entrusted International Development Association (IDA), and the World Bank to carry out “Policy Review/Policy Study/Policy Paper Preparation”. The report of the study has been prepared based on a mixed methodology. The studies are 1) Patents and Designs Act, 1911, 2) National API (Active Pharmaceutical Ingredients) and Reagents Production and Export Policy, 2018, 3) Bangladesh Tariff Commission (Amendment) Act 2020, and 4) Free Trade Agreement Policy Guidelines, 2010.

The five policy papers contain objective, scope, and methodology for the studies, current context, and challenges, deviation from the international practices, and the relevance of the policies to the SHE trade. The consultants also described the best practices of regional countries adapted to facilitate trade-related activities. In the end, the findings from the analysis and recommendations for the upcoming policy papers are portrayed.

The authors wish to thank Md Mijanur Rahman, Project Director, Bangladesh Regional Connectivity Project 1, and Md Munir Chowdhury, National trade expert, BRCP-1 for their valuable comments and continuous support in undertaking the study.

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This work would not have been possible without the participation of the relevant stakeholders in the Key Informant Interviews (KIIs). Thanks are also due to all respondents of interviews and KIIs who helped us by providing their information during the data collection period.

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Dr. Selim Raihan
Executive Director, SANEM

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List of acronyms

<i>ADB</i>	<i>Asian Development Bank</i>
<i>BRCP</i>	<i>Bangladesh Regional Connectivity Project</i>
<i>DCO</i>	<i>Drug Control Ordinance</i>
<i>DFQF</i>	<i>Duty-free Quota-free</i>
<i>DPDT</i>	<i>Department of Patents, Designs and Trademarks</i>
<i>EBA</i>	<i>Everything But Arms</i>
<i>FY</i>	<i>Fiscal Year</i>
<i>GDP</i>	<i>Gross Domestic Product</i>
<i>GI</i>	<i>Geographical Indications</i>
<i>GII</i>	<i>Global Innovation Index</i>
<i>GoB</i>	<i>Government of Bangladesh</i>
<i>ICT</i>	<i>Information and Communication Technology</i>
<i>KII</i>	<i>Key Informant Interview</i>
<i>LDC</i>	<i>Least Developed Country</i>
<i>MoC</i>	<i>Ministry of Commerce</i>
<i>MoI</i>	<i>Ministry of Industries</i>
<i>MoCA</i>	<i>Ministry of Cultural Affairs</i>
<i>OECD</i>	<i>The Organisation for Economic Co-operation and Development</i>
<i>PDA</i>	<i>Patents and Designs Act</i>
<i>SANEM</i>	<i>South Asian Network on Economic Modeling</i>
<i>SME</i>	<i>Small and Medium Enterprise</i>
<i>STEM</i>	<i>Science, Technology, Engineering, and Mathematics</i>
<i>TRIPS</i>	<i>Trade-Related Aspects of Intellectual Property Rights</i>
<i>UMIC</i>	<i>Upper Middle-Income Country</i>
<i>UNCTAD</i>	<i>United Nations Conference on Trade and Development</i>
<i>USPTO</i>	<i>United States Patent and Trademark Office</i>
<i>WIPO</i>	<i>World Intellectual Property Organization</i>
<i>WTO</i>	<i>World Trade Organization</i>
<i>4IR</i>	<i>4th Industrial Revolution</i>

Executive Summary

Bangladesh Regional Connectivity Project 1 (BRCP-1) in collaboration with the International Development Association (IDA), the World Bank is launched by the Government of Bangladesh (GoB) to facilitate trade and enhance regional connectivity. Component two of this umbrella project is being executed by the Ministry of Commerce (MoC). The primary objective of this component of the technical assistance project is to review the existing government policies related to trade, increase trade-related institutional capacity, ensure active and sustainable cooperation among the relevant stakeholders, and facilitate the economic empowerment of women traders. Also, as Bangladesh is on the verge of graduating from the LDC category in 2026, reviewing the existing trade-related policies is necessary for smoother post-graduation trade performance. Preparatory phases of graduation need effective formulation and efficient implementation of trade and trade-related policies.

As a part of this project, we have conducted a thorough review of the Patents and Designs Act, 1911 using a mixed methodology. This review paper has identified significant aspects of this Act, implementation challenges, and its relevance to the current global trade and business scenarios. This review has also compared the patent laws of Bangladesh with some of the significant success cases in formulating and implementing the patent laws of the South-Asia and East-Asian countries.

Formulating and enacting an act is exhaustive work and it needs rigorous study and continuous consultation with the stakeholders. Our primary findings point out that the provisions of the current Act are well thought out. However, there is a lack of coordination, enforcement ability, and monitoring, which eventually limits the effectiveness of the policy. The current Act also does not address the present changing trade and business dynamics (COVID-19 recovery, 4IR, LDC graduation, 8th Five-Year plan, Perspective Plan 2021-2041). Some of the vital issues are not mentioned in the Act which needs to be addressed as Bangladesh is soon to be graduated from the LDC bracket in 2026 and the patenting system should be WTO and TRIPS compliant.

Section two of this review paper gives an overview of the history and evaluation of the global as well as domestic formulation of the patents and designs policy. This section broadly discusses the economic and social aspects related to patents and designs. In this section, global best practices are deliberated and the lessons that can be adopted for the betterment and up-gradation of the patent legislation in Bangladesh are portrayed.

Section three of this review identifies the relationship of the Act with the SHE trade. Women inventors and designers have benefitted societies across the world since the beginning of time. But at the same time, data show that there exists a gender gap in patenting inventions as well, and patenting is somewhat gendered.

Some specific recommendations have been suggested for a proper formulation and efficient implementation of future patents and design laws in section four. The provisions of the existing Act must be revisited and tailor-made to be TRIPS compliant as Bangladesh is soon to be graduated from the LDC bracket. Legislations on trade secrets, GI, and layout design of integrated circuits should be enacted. The administrative capacity of DPDT and copyright

office is very much vulnerable due to the manual system, and shortage of officers, staff, and experts on IP. Digitalization of the governing authority will help to provide better services within the shortest possible time.

IP in Bangladesh faces several challenges in ensuring its proper protection. Currently, no legal framework exists in Bangladesh for supporting innovations and technology transfers. Even in the existing legislation, ambiguities are hindering the IP implementation. Further, there is no specialized court to deal with IP matters. Also, no uniform appellate authority is in operation, which could be resorted to in case a registration application is refused. It is submitted that the IP offices are centralized which in turn impacts people's access to IP protection. Mass awareness building initiatives regarding IPRs, e.g., seminars, symposiums, and workshops should be arranged regularly and the academic and training institutions should include copyright and other IPRs in their curricula.

Encouraging research in both the public and private sectors is important. In this case, funding is a thriving issue and most of the researchers suffer due to lack of funding. Linking local inventors with businesses and financing IP-based businesses will help to boost the research sector of the country.

1. Introduction

1.1 Background

Patenting provides an inventor the exclusive right and the exclusiveness obtained with a patent is the obligation to exploit the product or process. Patents allow the investor to attain a competitive advantage that makes a difference to the competitors. In today's knowledge-based economy, the significance of the intellectual property is increasing rapidly and knowledge-based resources are considered a sustainable primary source. Bangladesh is all set to graduate from the LDC bracket by 2026 and to make the graduation sustainable and smooth, the government should put in place appropriate regulatory and institutional forces to make the most effective and strategic use of the relevant TRIPS provisions including increasing efficiency, transparency, improving the service quality of intellectual property institutions, reorganization, and strengthening of IP offices.

As a part of the Government of Bangladesh's (GoB) attempt to liberalize trade, diversifying export items and export destinations, the Bangladesh Regional Connectivity Project 1 (BRCP-1) is initiated in cooperation with the International Development Association (IDA). The project is being jointly implemented by the Bangladesh Land Port Authority (BLPA), the National Board of Revenue (NBR), and the Ministry of Commerce (MoC). The Ministry of Commerce is responsible to implement component two of the umbrella project. The primary objective of this technical assistance project is to improve trade-related institutional capacity to ensure active and sustainable cooperation among stakeholders related to trade and facilitate the economic empowerment of women traders.

The South Asian Network on Economic Modeling (SANEM), has been assigned to provide consultancy services for the selected activities of the technical assistance project, which is to review the existing trade-related policies to strengthen cooperation in trade, transport, and transit facilities. The policy reviews will also address the barriers faced by women traders in becoming more integrated into the global supply chains and trading opportunities. As part of the project, SANEM will review 22 policy documents and critically analyse each of the policies to demonstrate the compatibility, objectives, challenges, future aspects, and possible recommendations for further improvement.

1.2 Objectives and research questions

The century-old Act on patent, patent application, copyright, and associated procedures is currently inconsistent with the WTO TRIPS Agreement on several levels, including but not limited to, time-frame, scope, and circumstantial jurisdiction. Whereas the WTO Trips Agreement allows 20 years at the least, for patent protection, the 1911 act allows only 16 years and does not cover process patents either. Following the amendment of Article 31(f) of the TRIPS Agreement, the 1911 Act has become all the more incompatible in connection with the granting of compulsory licenses for domestic use and export (subject to certain circumstances). Therefore, the act will be reviewed to determine whether two separate acts for protecting patents and designs are required. The scope of potential provisions for

facilitating businesses of women entrepreneurs will also be taken into consideration through this review.

The key research questions that the research team will answer particularly for this study are as follows-

- How can the Act be adjusted to make it more consistent with the WTO TRIPS Agreement?
- Should the acts for protecting patents and designs be formulated separately?
- What amendment should be made to make this Act compatible after LDC graduation?
- How can the Act include special provisions to encourage innovation and design by female entrepreneurs?

1.3 Scope and limitations

The existing Patents and Designs Act that Bangladesh still follows dates back to 1911. The scope of this policy review/policy study/ policy paper presentation lies in reviewing the Patents and Designs Act and making necessary alteration recommendations to ensure the balance of the interests of inventors on one hand and the interests of the public on the other hand. Another vital purpose of this study is to analyse whether the stated provisions of this act are capable enough to cope with the current changing global trade scenario and possible future challenges (LDC graduation, UMIC graduation, 8th Five-Year plan, and Second Perspective plan of Bangladesh). The review will also look into the patent laws of different countries (India and China) and advocate the important provisions that Bangladesh might adopt for its future Patents and Designs Act. This policy review paper will critically analyse the bottlenecks and implementation challenges, and provisions for mainstream women entrepreneurs and traders in the domestic value chain. Possible commendations about inclusion, exclusion, revisions, alteration, and extension of the existing act will make it more relevant to the present context of achieving protection of the inventions. Moreover, since the review is an ongoing process this might not include the updated version as the recently updated act was published during the study. In the upcoming future, the findings from this study can be added.

1.4. Methodology

Given the objectives and the key research questions of this study, the research team will primarily follow mixed methodologies in presenting the deliverables. The methodology will be based on two significant tasks in general:

- (i) Rigorous desk research of all relevant policy documents, literature, and secondary data, and
- (ii) Primary data collection and analysis by conducting Key Informant Interviews (KIIs).

Therefore, the research methodology can be categorised as follows:

1.4.1. Desk research

The study will conduct rigorous desk research focusing on the principal components of the study. The desk research will include a review of all relevant documents and literature on

patents, the TRIPS Agreement, and domestic and international law. Accordingly, the team will also examine and analyse the available secondary data. The research team will focus on the following documents for desk review-

- The Patents and Designs act, 1911
- International best practices and the WTO provisions on intellectual property rights
- 8th Five-Year Plan
- Bangladesh Second Perspective Plan 2021-2041
- Relevant literature on the topic

During the desk research, the research team will follow the following steps-

- A thorough assessment of policy documents, which includes all relevant and existing acts, ordinances, legislation, agreements, treaty, and literature would help to detect policy bottlenecks and discrepancies.
- Developing the KII checklist based on the assessment of the stated documents.
- Complementing and comparing the preliminary analysis with the findings from the primary data.
- Reviewing the context and current trends in patents, international status, and practices from UNCTAD, WTO, World Bank, and IMF databases.
- Analysis of the TRIPS agreement and amendments.
- Comparison of Bangladesh with other LDCs, developing countries, and developed countries.

1.5. Evaluation and analysis

All the gathered data and information has evaluated and analysed at this stage. This process includes:

- Identifying the gaps in existing information through rigorous desk research.
- Exploring the potential provisions of the existing act for women entrepreneurs.
- Analysis of primary data through KIIs to evaluate the actual activities of the implementing organization and its actors in the present scenario.
- Identifying the weaknesses and implementation challenges of the existing act from stakeholders' experiences, through KIIs.
- Comparing international best practices with the current provisions of the act.
- Providing possible legal recommendations about changes, alterations, exclusion, and extension of the current act through consultation with legal experts, and recommendations of key informants.

1.6. Organization of the paper

The policy review paper follows the later mentioned structure. The context and current challenges of the policy are discussed in Chapter Two. This chapter briefs the scenario of the existing policy, trade-related provisions, and bottlenecks of existing provisions. The chapter also focuses on the patent and design policies of different countries and how our policy deviates from that. In Chapter Three, the relevance of this policy to SHE trade is depicted. This chapter also illustrates whether the current provisions of the existing policy support gender

inclusiveness in trade or not. Chapter Four suggests necessary recommendations and ways forwards to make it a compatible and strong policy considering several issues such as LDC graduation of Bangladesh, changing global trade patterns, WTO guidelines, etc. Finally, this paper marks its end with a concluding remark in Chapter Five.

2. Context and challenges of the Patents and Designs Act, 1911

2.1. History of patent law

The origin of the concept of patents for invention is considered an indeterminate one. But reasonable evidence suggests that something similar to a patent system was used among some ancient Greek cities, as early as 500 BCE, where chefs in Sybaris had the opportunity to enjoy a year of monopolized profit for unique culinary dishes that they had invented. This is probably the first intellectual property protection reference though there seems to have a controversy regarding its authenticity (Bugbee, 1967). Several hundreds of years afterward, Vitruvius, a judge in Alexandria, tried and exposed many poets who were found guilty of stealing the material of others in their fields. From then on, Roman jurists discussed different kinds of ownership for intellectual works, although they still did not have any intellectual property laws.

In 1416, the Great Council of Venice awarded the first patent for a technological invention to Ser Franciscus Petri of Rhodes. The first recorded patent was granted in 1421 to the architect and engineer Filippo Brunelleschi in Florence. The patent awarded him with a three-year monopoly for inventing a means of conveying heavy loads up the Arno River for the construction of the Florence cathedral.

The first English patent for invention was granted in 1449 to John of Utynam, a Flemish glass manufacturer, by King Henry IV. John of Utynam was granted a 20 years monopoly for a glass-making process that was unknown in England at that time. The stained glass produced would be used to complete the windows of Eton College. This marked the beginning of the granting of the 'Letters Patent' by the English Crown. The Crown granted monopolies for trades and manufacturers including patents for invention. From 1561 to 1590, Elizabeth I granted about 50 patents allowing the recipients to exercise monopolies in the sale and manufacture of goods such as soap, leather, glass, salt, sailcloth, iron, and paper. During the reign of Queen Elizabeth, I and her successor, King James I, the royal court granted patents on proven technologies and commodities invented. This process was blamed for corruption which lead to some civil unrest, and consequently, the administration of patents was transferred to common law courts. To prevent such unprecedented situations, the Statute of Monopolies was enacted in 1624. According to section 6 of this statute, granting patents to novel inventions was legalized.

The US constitution of 1787 laid the foundation for granting patents to inventors in Article One, section 8, clause 8. America's first patent act was enacted on April 10, 1790. A major reform was brought about by the Patent Act of 1952, which further strengthened the patent system by introducing 'non-obviousness' of processes or products as a prerequisite for obtaining a patent.

2.2. Patent law in Bangladesh

Bangladesh inherited the legal framework on intellectual property (IP) dating back to British-India and the earliest legislation found to protect IP in Bangladesh was the Patents, Designs, and Trademarks Act of 1883. However, the act was repealed subsequently and the new Patents and Designs Act, 1911, and the Trademarks Act, 1940 were enacted respectively. Later in 2003, both these Acts were amended, and the Department of Patents, Designs, and Trademarks (DPDT) was formed under the Ministry of Industry by amalgamating two independently operational offices- the Patent Office and the Trademark Registry Office. The Trademarks Ordinance was promulgated in 2008 and the Trademarks Act was enacted in 2009. The copyright system in Bangladesh has emanated from the British Copyright System and the Copyright Ordinance was promulgated by combining different Copyright Laws in 1962. The ordinance was administered up to 1999 and after that, the Copyright Act was enacted in 2000 and further amended in 2005.

The Patents and Designs Act was formulated in 1911, by the British colonial age and the act was valid for all the provinces of the Indian sub-continent, based on the principles laid down in the British Statute of Monopolies, Patents, Designs, and Trademarks Act, 1883 and the Patents and Designs Act, 1907. The laws related to patents and designs, therefore, contracted in a single enactment in Bangladesh namely, the Patents and Designs Act, 1911.

Bangladesh joined the World Intellectual Property Organization (WIPO) on May 11, 1985, and Paris Convention for the Protection of Industrial Property in February 1991. Bangladesh became a member of the Berne Convention for the Protection of Literary and Artistic Works in 1999. Bangladesh is a signatory of the Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement of the WTO which came into force on January 1, 1995. The TRIPS agreement sets detailed and common standards for all countries following the dispute settlement system of the WTO. Being a member of LDCs, Bangladesh is enjoying the extended transition period to bring herself into compliance with its rules.

2.3. Patents

A patent is referred to a government authority or license conferring a right or title for a certain time (usually 20 years), especially the sole right to exclude others from making, using, or selling an invention. Legal action can be taken against those who infringe the patent by copying the invention or selling it without permission from the patent owner. Patents can be bought, sold, hired, or licensed with the proper consent of the owner. A patent application must satisfy that the invention is:

- Utilitarian- Ideas, theories, and scientific formulas are not useful or industrially applicable enough to be patented.
- Novel- The invention must be recent and original, but most importantly it should not already be available in the public domain. In most countries, except the USA, the patent is awarded to the first individual to apply for a patent, regardless of whether this individual was the first to invent.
- Non-obvious- Not obvious to an individual skilled in technology and excessive inventive activities than the mere invention of what already exists in nature.

Patents can be categorized into three broad types:

- (i) Utility- A utility patent is the most common form of patent means. It is also the most common type of patent that inventors apply for. A utility patent defends the invention of new or improved products, procedures, compositions of matter, or machines that are useful.
- (ii) Design- A design patent simply protects the ornamental features and the presence of a product, but not the structural and working features. Because design patents and utility patents deal with completely different areas of intellectual property protection. One can apply for both utility and design patents for the same product.
- (iii) Plant- A plant patent defends new kinds of plants that have been regenerated asexually. This means that the plant has been reproduced by plant or by cuttings, and it cannot be a tuber-circulated plant or a plant that is still uncultivated.

The current patent law of Bangladesh allows patent defense for 16 years from the date of applying, whereas, TRIPS Article 33 specifies the requirement of the term of protection as not less than 20 years. So, to be TRIPS compliant, Bangladesh should offer its legal provision of a minimum term of protection of 20 years from 16 years. Though the duration of protection may be renewed for a further period.

2.4. Brief overview of the Patents and Designs Act, 1911

The Patents and Designs Act, 1911 consists of preliminary, definitions, three parts, and 81 sections. Part I broadly describes the provisions related to patents. Part II consists of provisions related to designs and Part III consists of general instructions related to patents and designs. Some significant features of the Act are as follows:

- The subject matter of a patent should be a 'manner of new manufacture'
- The inventor or his legal representative or his assignee should be a party to the application for a patent
- The application for a patent may be made along with either a provisional specification or a complete specification
- Every application in respect of which a complete specification has been filed is examined before its final acceptance
- On the acceptance of an application, the specification becomes open to public inspection
- The grant of a patent on an application may be opposed by any person within four months from the date of the advertisement of its acceptance
- every patent should be confined to one invention only, but the specification may contain more than one claim
- The normal term of a patent is 16 years from its date, but in special circumstances, the term may be extended for a further period not exceeding 10 years
- The continuance of a patent other than a patent of addition is subject to payment of certain renewal fees
- The patentee can be compelled by the Government to grant licenses in the public interest and a patent can be revoked by the Controller, the Government, or the High Court, in certain circumstances.

The Act is summarized in Table-1.

Table 1: Brief overview of the Patents and Designs Act, 1911

Part	Title of the chapter	Section	Related provisions
	Preliminary	Section 1	Short title, extent, and commencement
	Definitions	Section 2	Definitions of various terms related to the Act
PART I: PATENTS	Application for and grant of patent	Section 3	Application procedure for patent
		Section 4	Specifications required for the grant of patent
		Section 4A	Time for leaving the complete specification
		Section 4B	Provisional protection
		Section 5	Proceedings upon application
		Section 6	Advertisement on acceptance of the application
		Section 7	Effect of acceptance of the application
		Section 9	Opposition to grant of patent
		Section 10	Grant and sealing of the patent
		Section 11	Date of patent
		Section 12	Effect, extent, and form of patent
		Section 13	Fraudulent applications for patent
		Section 13A	Single patent for cognate inventions
	Term of patent	Section 14	Term of patent
		Section 15	Extension of term of the patent
		Section 15A	Patents of addition
		Section 16	Restoration of lapsed patent
	Amendment of application or specification	Section 17	Amendment of application or specification by the Registrar
		Section 18	Amendment of specification by the Court
		Section 19	Restriction on recovery of damages
	Register of patents	Section 20	Register of patents
	Government	Section 21	Patent to bind the Government
		Section 21A	Assignment of the patent to the Government
	Compulsory licenses and revocation	Section 22	Compulsory licenses and revocation
		Section 23	Revocation of patents worked outside Bangladesh
		Section 23A	Operation of an order under section 22 or section 23
		Section 24	Power of the Registrar to revoke surrendered patent
		Section 25	Revocation of patent on public grounds
	Legal proceedings	Section 26	Petition for revocation of the patent
		Section 27	Notice of proceedings to persons interested
Section 28		Framing issue for trial before other Courts	
Section 29		Suits for infringement of patents	
Section 30		Exemption of innocent infringer from liability for damages	

Part	Title of the chapter	Section	Related provisions
		Section 31	Order for inspection, etc., in suit
		Section 32	Certificate of validity questioned and costs thereon
		Section 33	Transmission of decrees and orders to the Registrar
		Section 35	Hearing with assessor
		Section 35A	Grant of relief in respect of particular claims
		Section 36	Remedy in case of groundless threats of legal proceedings
	Miscellaneous	Section 37	Grant of patents to two or more persons
		Section 38	Public use or knowledge of the invention
		Section 38A	Disconformity
		Section 39	Loss or destruction of patent
		Section 40	Provisions as to exhibitions and readings before learned societies
		Section 41	Models to be furnished to the National Museum of Bangladesh
PART II: DESIGNS	Registration of designs	Section 42	Foreign vessels in Bangladesh waters
		Section 43	Application for registration of designs
		Section 44	Registration of designs in new classes
		Section 45	Certificate of registration
	Copyright in registered designs	Section 46	Register of designs
		Section 47	Copyright on registration
		Section 48	Requirements before delivery on sale
		Section 49	Effect of disclosure on copyright
		Section 50	Inspection of registered designs
		Section 51	Information as to the existence of copyright
		Section 51A	Cancellation of registration
	Industrial and international exhibitions	Section 51B	Registration of designs to bind the Government
		Section 52	Provisions as to exhibitions
	Legal proceedings	Section 53	Piracy of a registered design
		Section 54	Application of certain provisions of the Act as to Patents and Designs
PART III: GENERAL	Department of Patents, Designs and Trade Marks and proceedings thereat	Section 55	Appointments of state Registrar, etc.
	Fees	Section 57	Fees
	Provisions as to registers and other	Section 58	Notice of trust not to be entered in registers
		Section 59	Inspection of and extracts from registers
		Section 59A	Information relating to patents
	Section 60	The privilege of reports of Registrar	

Part	Title of the chapter	Section	Related provisions
	documents in the Department of Patents, Designs, and Trade Marks	Section 61	Prohibition of publication of specification, drawings, etc., where application abandoned, etc.
		Section 62	Power for Registrar to correct clerical errors
		Section 63	Entry of assignments and transmissions in registers
		Section 64	Rectification of register
	Powers and duties of Registrar	Section 65	Power of Registrar in proceedings under the Act
		Section 66	Publication of patented inventions
		Section 67	Exercise of discretionary power by Registrar
		Section 68	Power of Registrar to take directions of the Government
		Section 69	Refusal to grant the patent, etc., in certain cases
	Evidence, etc.	Section 70	Appeals to the Government
		Section 70A	Evidence before the Registrar
		Section 71	Certificate of Registrar to be evidence
		Section 71A	Evidence of documents in the Department of Patents, Designs, and Trade Marks
		Section 72	Transmission of copies of specifications, etc., and inspection thereof
		Section 73	Applications and notices by post
		Section 74	Declaration by the infant, lunatic, etc.
	Agency	Section 74A	Security for costs
		Section 75	Subscription and verification of certain documents
	Powers, etc. of the Government	Section 76	Agency
Section 77		Power for the Government to make rules	
Offences	Section 78	Wrongful use of words Department of Patents, Designs and Trade Marks	
Savings and repeal	Section 79	Savings for prerogative	

Source: *The Patents and Designs Act, 1911*

2.5. Overview of patents and designs application in Bangladesh

The Department of Patents, Designs, and Trademarks (DPDT) under the Ministry of Industries administers industrial property matters. The DPDT is affiliated with the World Intellectual Property Organization (WIPO). The DPDT is funded by the Government of Bangladesh and the revenue it earns from the application fees and other charges is considered Government revenue and the DPDT cannot use any fraction of its income. The government provides the DPDT with all its expenditures and takes back the earnings. So, it does not retain any operating surplus. The DPDT mainly functions in two major wings:

Patents and Designs Wing-

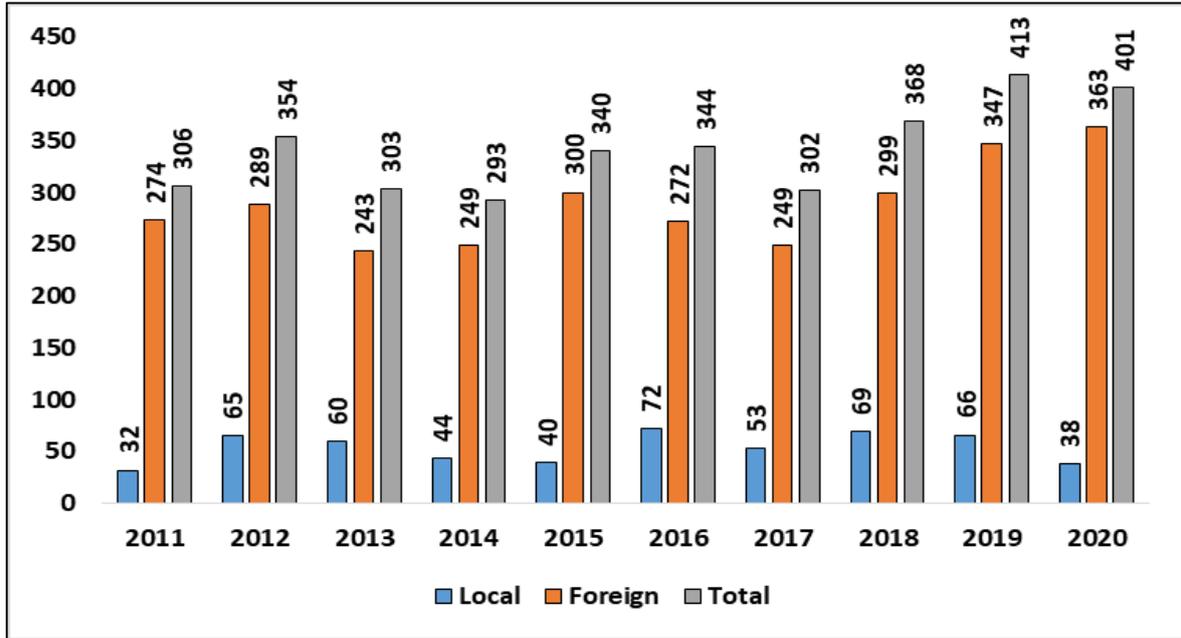
- Grants patents for inventions and innovations and monitor them
- Assists technologists and entrepreneurs with technological transfer
- Provides registration for industrial designs
- Aids in research and development activities of academic institutions and other research organizations through the patent system
- Assists in foreign investment through patent information
- Assists law enforcement agencies with counterfeit and infringing products
- Contributes to product development

Trademarks Wing-

- Deals with local and foreign applications for trademarks registration
- Ensures proper ownership
- Examines the trademarks applications after seeking out the similar and dissimilar marks
- Decides whether to accept or refuse the registration of trademarks
- Amends the trademark application and the registration after hearing
- Maintains index card alphabetically indicating the class of the product
- Monitors the activities such as assignment transmission, change of description of the proprietorship after registration
- Issues trademark and renewal certificate
- Conducts the opposition and rectification cases for disputed marks and their settlement

Not all patent applications are granted by the authority and the refusal rate is not negligible. The DPDT performs on a first-come-first-served basis. If two different parties asked for the same patent right then the party that applied earlier would be considered first. The number of total new patent applications is increasing but local patent applications do not seem to follow the trend.

Figure 1: New applications for patents (2011-2020)

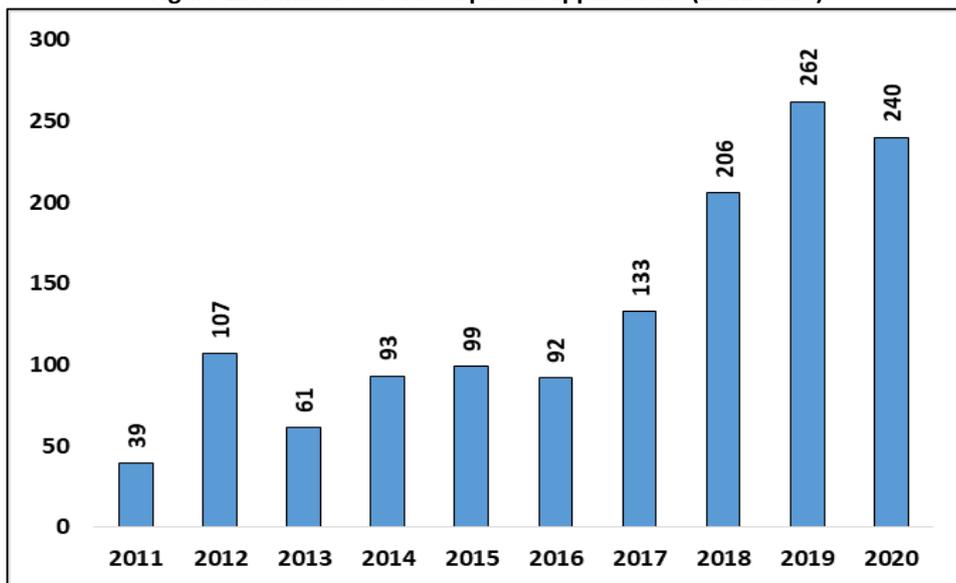


Source: Department of Patents, Designs, and Trademarks

According to Figure-1, the highest total number of patent applications was filed in 2019 among them 347 applications were foreign and 66 were local. The number of foreign applications filed is significantly higher every year than those of locals.

Figure-2 shows the number of refused patent applications from 2011 to 2020, according to the data of the DPDT. In 2020, 240 new applications for patents were refused by the DPDT and the number of refused patent applications was 262 in 2019.

Figure 2: Number of refused patent applications (2011-2020)

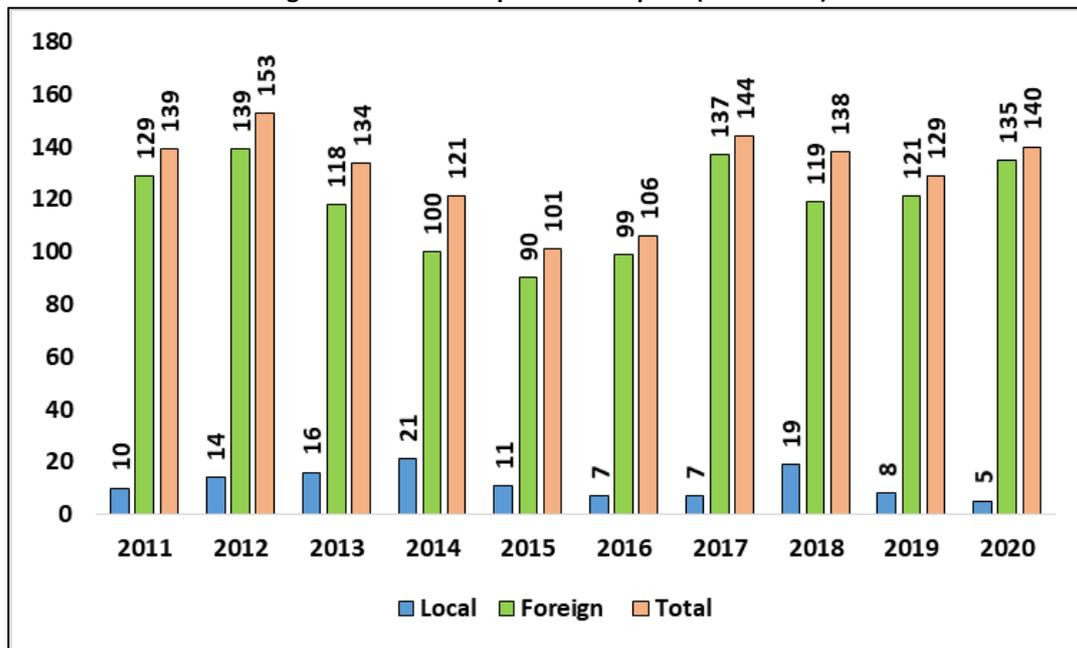


Source: Department of Patents, Designs, and Trademarks

According to Figure-3, the total number of patents granted in 2020 was 140 and among them, 135 were foreign patents and 5 were local. The trend of local patents application seems

surprisingly low over the years which eventually indicates the low level of innovation among the researchers in this country.

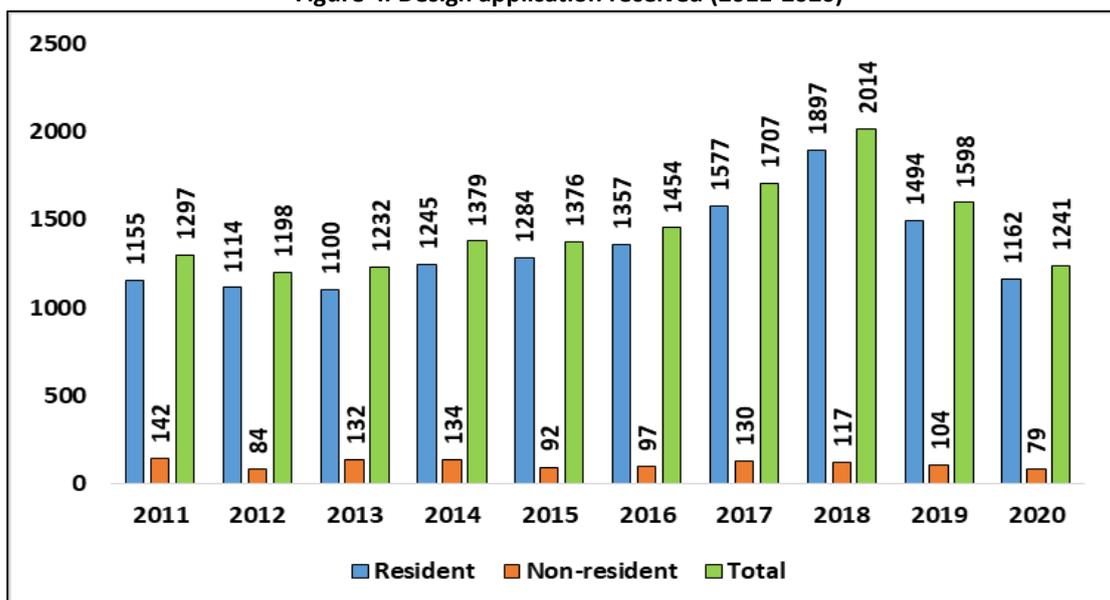
Figure 3: Number of patents accepted (2011-2020)



Source: Department of Patents, Designs, and Trademarks

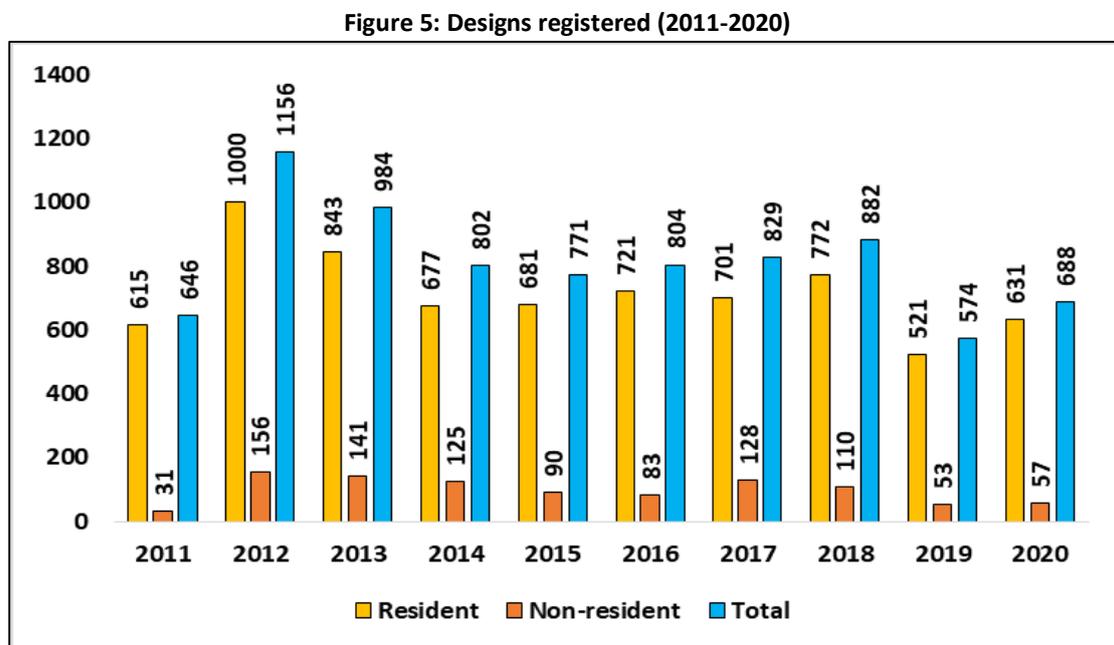
In the case of design, the applicants are mostly residents of Bangladesh. The application for new designs is seemingly high and in 2020, a total of 1241 applications (see Figure-4) were submitted before the Department of Patents, Designs, and Trademarks for approval. Though this number is lower compared to the previous years. In 2019, the total number of applications received by the DPDT was 1598 among them 1494 were residents and 104 were non-residents. The percentage of applications refused is not negligible.

Figure 4: Design application received (2011-2020)



Source: Department of Patents, Designs, and Trademarks

Figure-5 shows the total number of designs registered from 2011 to 2020. In 2020, a total number of 688 designs were registered among them 631 were residents and 57 were non-residents. In 2019, a total of 574 designs were registered among them 521 were residents and the rest were non-residents.



Source: Department of Patents, Designs, and Trademarks

2.6. Trade related provisions: current state and bottlenecks

Increasing interdependence and globalization of trade have posed much importance to the adequate legal protection of intellectual property rights. As there is no single, unified system of world patents where all international patent applications are examined but rather a collection of individual national patent offices which share information and protocols (Palangkaraya et al., 2017). Different national-level regulations of protecting IP have led to numerous initiatives to harmonize and strengthen the protection of intellectual property rights, both at national and international levels which are triggered through the inclusion of the TRIPS agreement in many bilateral and multilateral trade arrangements (Rafiquzzaman, 2002).

The relationship between IPRs and international trade remains ambiguous. Some economists oppose the inclusion of intellectual property standards and procedures into trade arrangements and argue that these arrangements slant the balance of advantage towards producers and take it away from consumers, especially consumers who belong to comparatively poorer countries. On the other hand, some economists prefer a strong IPR regime and argue that weak or non-existent intellectual property standards reduce the incentives for firms to innovate and the probability of more access to foreign technological innovations. Differences between national IPR regimes can act like non-tariff trade barriers (Braga & Fink, 1996).

2.6.1. Innovations and patents

Patents play a progressively significant role in the case of innovation and economic performance. The increasing use of patents to protect inventions and innovations by business entities and research organizations is closely related to recent evolutions in innovation processes, the overall economy, and patent regimes (OECD, 2004). Patents tend to promote innovation in the private sector by allowing inventors to profit from their inventions and ideas. According to Jones (2002), the presence of patents and copyrights enables inventors to earn profits to cover the initial costs of developing new ideas. The positive impact of the patents on innovation functions as an incentive mechanism, on the other hand, the negative impact of patents is it generates the window of anti-competition. Strict patent protection may also hamper further innovation when it limits the access to acquire essential knowledge, especially in the case of emerging technology. The major drawback of patents is their negative effect on diffusion and competition. As patents can create a temporary monopoly providing the patent holder to set a price much higher than the market price and at the same time limit the total volume of sales. However, patents are evident to have a positive effect on the competition when they enhance market entry and firm creation.

2.6.2. Patents and economic development

Technology and knowledge are considered to be the two most important factors for the economic growth and development of an economy. The patent system has evolved to promote innovation and enhance economic development. It also encourages investment to commercialize and market new inventions so that the consumers can benefit from the innovation as well. Moreover, this system is critically designed to disseminate knowledge and information to the public through the publication of patent applications and granted patents.

According to Maskus (2000), there are two major economic objectives of any intellectual property protection. The first is to enhance and promote investments in knowledge-based innovations by establishing exclusive rights to use and sell newly developed technologies, goods, and services. The second objective is to promote the widespread dissemination of new knowledge by encouraging rights holders to place their inventions and ideas on the market. Information is a form of public good in that it is inherently non-rival and developers may find it difficult to exclude others from using it. In economic terms, it is socially efficient to provide wide access to new technologies and products, once they are developed, at marginal production costs.

A strong and strict IPR regime may raise difficulties in the economic development of relatively poorer countries. In most developing countries, a significant number of laborers are employed in copying unauthorized goods and products. As these nations upgrade their laws and enforcement activities, these workers must find alternative employment.

2.6.3. Patents and SMEs

The role of SMEs in innovation and the impact of the patent system upon them is economically significant. Small and medium-sized enterprises are considered to be active innovators, particularly in products of a more radical nature that can threaten the dominant position of existing large firms. In this context, SMEs should have the greater potential to influence the structural change and disrupt the position of incumbent and dominant firms

with ultimate benefits to the consumers. Secondly, it is argued that they are more efficient users of resources in the process of innovation (Mina, 2010).

In Bangladesh, SMEs having assets of BDT 5 to 100 million and employing 25 to 99 workers in the manufacturing sector and with businesses worth BDT 500,000 to 10 million and employing 10 to 25 people in the service sector can develop ideas through research and development or licensing contracts, turn them into an IP asset and commercialize them through direct sales or licensing. IP creates economic value for a business and adds up to its existing assets. If four factors- licensing, monetization, funding, and valuation are present in a jurisdiction, that jurisdiction is fit for IP commercialization.

The protection of intellectual property is not only a matter of concern for the right holder but also for society and the country. It inspires innovators and businesses to invest in better innovations and technologies. In the field of manufacturing, intellectual property protection will help businesses develop. This will help the country develop economically. Its full protection guarantees higher foreign investment as foreign investors will be protected. For SMEs, especially in the manufacturing sector, IP protection will ensure that large corporations cannot unjustly appropriate their intellectual property. It also ensures better competition as it will encourage innovations that are better than those that already exist.

2.6.4. Global Innovation Index and Bangladesh

The Global Innovation Index (GII) ranks world economies according to their innovation capabilities and is published by the WIPO. It consists of around 80 indicators, grouped into innovation inputs and outputs, the GI aims to capture the multi-dimensional facets of innovation. It measures innovation based on criteria that include institutions, human capital and research, infrastructure, credit, investment, linkages, absorption, diffusion of knowledge, and creative outputs.

Bangladesh ranks 116th among the 132 economies featured in the GII 2021. For the last two consecutive years, the ranking has been the same for Bangladesh. In 2021, Bangladesh ranks 121st in innovation inputs which is lower than both 2020 (119th) and 2019 (114th). As for innovation outputs, Bangladesh ranks 113th which is higher than 2020 (114th) but lower than 2019 (108th). Bangladesh performs best in knowledge and technology outputs and its weakest performance is in human capital and research. Table-2 shows an overview of the strength and weaknesses of Bangladesh in the GII 2021.

Table 2: Strengths and weaknesses of Bangladesh in GII 2021

Strengths		Weaknesses	
Indicator name	Rank	Indicator name	Rank
QS university ranking, top 3	67	Education	129
Gross capital formation (% of GDP)	29	Expenditure on education (% of GDP)	114
GDP/unit of energy use	17	Pupil-teacher ratio, secondary	122
Microfinance gross loans (% of GDP)	22	Graduates in science and engineering (%)	106

Strengths		Weaknesses	
Indicator name	Rank	Indicator name	Rank
Ease of protecting minority investors	71	Global corporate R&D investors, top 3, million US\$	41
Trade, diversification, and market scale	65	Venture capital recipients, deals/billion PPP\$ GDP	91
Domestic market scale, billion PPP\$	30	University-industry R&D collaboration	123
High-tech imports, (% of total trade)	59	Patent families/billion PPP\$ GDP	100
Citable documents H-index	65	ICT services imports (% of total trade)	128
Knowledge impact	71	New businesses/thousand population (15-64 years)	120
Labour productivity growth (%)	2	Printing and other media (% of manufacturing)	101
Industrial designs by origin/billion PPP\$ GDP	51		

Source: Global Innovation Index, 2021

2.6.5. Bangladesh under TRIPS obligation

As a signatory to the TRIPS, Bangladesh is now in a transition period for meeting the compliance deadline. However, it is pre-loaded with certain IPRs laws. Almost all of them are taken to serve the trade liberalizing agenda and for protecting IPRs owners' interests since they provide the same treatment to IPRs owners irrespective of their country of origin. The Intellectual Property Rights laws in Bangladesh also contain broad words for the extension of Intellectual Property Rights protection to any development or modification. Bangladesh is undergoing also a process of amending old Intellectual Property Rights laws as well as the enactment of new Intellectual Property Rights laws. Though, in this process of changing and legislation of such laws, the classical argument of the principle of public interest, the application of the principle of balance of rights and responsibility was adopted with the lock of the solidity test. As worded in TRIPS Article 8.2, any measure taken under the umbrella of this article must be "consistent with" the provisions of the TRIPS Agreement. Some of the significant legislative options for patent law of Bangladesh, where subject matters eligibility, disclosure requirement, duration of patent protection, provision for parallel import, provision for compulsory licensing, pre-offer and post-offer oppositions, are examined in the following discussion:

- **Patentability-** Article 27(1) of the TRIPS claim that patents shall be obtainable for any creations, whether products or procedure, in all fields of technology, provided that they are new, include a creative step, and are talented in industrial application. The agreement however allows a certain freedom of interpretation to members in respect of what constitutes a "creation", and how the requirements of originality, creative step, and industrial applicability are appointed (Thorpe, 2002). According to the existing Patent law of Bangladesh, any invention is patentable and the invention is defined as `any manner of new manufacture that includes an improvement and an alleged invention. Regarding subject matter eligibility, the TRIPS provision is not completely clear and the provision of presenting patent law of Bangladesh has no

direct conflict with TRIPS but it is very ambiguous and complex to understand its meaning. Bangladesh Patents and Designs Act, 2011, approves patent of both product and method, in the legal text it is written 'patented article or process' but does not lay down any specific criteria of patentability of creation nor even define the 'process'.

- **Disclosure requirement-** TRIPS Article 29 specifies the requirements that may be fixed on patent applicants. These include the essential to 'disclose the best mode' for carrying out the creation as well as providing information concerning corresponding applications and grants. The patent law of Bangladesh, perform not use the word 'disclosure requirement' but stander procedural steps are described to bargain the 'specification of the invention'.
- **Duration of patent protection-** The present patent law of Bangladesh, allows patent protection for 16 (sixteen) years from the date of filing, whereas, TRIPS Article 33 specifies the requirement of the term of protection as not less than twenty years numbered from the date of filing. So, to be TRIPS compliant, Bangladesh should offer its legal provision of the minimum term of protection to 20 years from 16 years. It is unusual that, in Bangladesh, though the word of protection is limited to 16 years, still there is a provision for the application of the extension of the term of protection at least six months before the time is limited for the exhalation of the patent. The petition for an extension of the term of protection can be disposed of by the patent authority or even can be transferred to High Court Division decision.

According to Article 46 of the TRIPS agreement, to create an effective deterrent to infringement, the judicial authorities shall have the authority to order that goods they have found to be infringing be, without compensation of any sort, disposed of outside the channels of commerce in such a manner as to avoid any harm caused to the right holder, or, unless this would be contrary to existing constitutional requirements, destroyed, The judicial authorities shall also have the authority to order that materials and implements the predominant use of which has been in the creation of the infringing goods be, without compensation of any sort, disposed of outside the channels of commerce in such a manner as to minimize the risks of further infringements. In considering such a request, the need for proportionality between the seriousness of the infringement and the remedies ordered as well as the interest of third parties shall be taken into account. It would be necessary for Bangladesh to amend the Patent & Design Act to develop a harmonious system of patent protection.

2.7. Changing nature of the world trade and relevance of the Patents and Designs Act, 1911

The idea of trade has evolved beyond simply shipping goods across borders. Innovation, creativity, and branding represent a large amount of the value that changes hands in international trade today. However, the global trade pattern, political economy, industrialization, and use of technology have undergone remarkable changes as of 2021. As an LDC Bangladesh currently enjoys DFQF market access to the developed and some developing nations and EBA schemes from the EU. But after graduation some serious challenges will be posed and to face the challenges, a strong IPR regime must be ensured in the country. The TRIPS agreement plays a significant role in facilitating trade in knowledge and creativity, resolving trade disputes over intellectual property, and in assuring WTO

members the latitude to achieve their domestic objectives. This agreement is legal recognition of the significance of links between intellectual property and trade.

2.7.1. LDC graduation challenges

Bangladesh received the final recommendation to graduate from the LDC bracket by fulfilling all three criteria to graduate which include per capita GNI, human assets index (HAI), and economic vulnerability index (EVI). Bangladesh has successfully fulfilled these three criteria in successive triennials of 2018 and 2021. Graduation from the LDC category is undoubtedly a key achievement in the sustainable development progress of a country. Bangladesh is recommended to graduate from the LDC bracket in 2026. Graduating from the LDC will bring about a mixed set of consequences for Bangladesh. After graduation, Bangladesh is destined to lose all the flexibility enjoyed under the WTO rules and the TRIPS. The LDCs currently enjoy two types of transition period benefits under the TRIPS agreement which include a general transition period and a special transition period specially designed for the pharmaceutical industry. The general transition period has been extended till July 1, 2034, and a special transition period for the pharmaceutical industry shall remain valid till January 1, 2033 (Islam, 2021).

After graduating from the LDC bracket, Bangladesh will need to ensure compliance with the TRIPS agreement as well as other international treaties related to IPR except for protecting patents and undiscovered information for pharmaceutical products as waived under a special transition period. Strong enforcement and application of existing IP laws or enacting new laws for protection must be updated by the government. Creating economic values depends mostly on natural resources, labor, and new innovative ideas. Although Bangladesh has been utilizing the first two, there appears to have been no significant progress in the last one. According to the data collected from the patent office, there is a stagnant situation in receiving patents by Bangladeshi residents or firms for the last 48 years. Not only in the local patent office, the patent receiving record of Bangladeshi entities in foreign offices, including the WIPO and USPTO is virtually nil.

The pharmaceutical industry in Bangladesh is growing rapidly and it contributes to almost one percent of GDP. This industry produces off-patent generic and on-patent medicines and after meeting almost 98 percent of the domestic supplies, it exports to more than 100 countries including the United States. A fifth of the total medicines produced are on-patent but patented elsewhere since the DPDT stops patenting pharmaceuticals through an executive order issued in 2008. Instead of offering patents to pharmaceutical products, the order provides for storing patent applications in the mailbox and processing them after the TRIPS agreement, 1994 set transition period granted for LDCs or upon their graduation whichever incident occurs earlier. This patent relaxation in a way suspending the patent provisions of the Patents and Designs Act, 1911 relevant to pharmaceuticals, and other government efforts including legal, infrastructural, and investment facilities since 1982 through the National Drug Policy, 1982 and the Drugs (Control) Ordinance, 1982 help to grow this industry. After graduation, the pharmaceutical industry of the country would stop enjoying patent waivers seven years before the expiry of the stipulated transition period which may negatively affect their ability to produce and import generic versions of patented medicines. As a developing country, Bangladesh then needs to introduce provisions for patents on pharmaceutical products and processes.

The importance of intellectual property is increasing day by day and knowledge-based resources are considered a sustainable primary source. To enjoy the maximum advantage of the LDC graduation, Bangladesh should put in place appropriate regulatory and institutional forces to make the most effective and strategic use of the relevant TRIPS provisions.

2.7.2. COVID-19 pandemic

The effects of the COVID-19 pandemic have been felt worldwide and across all sectors posing a maximum threat to the public health sector of every country. The race for vaccines has raised important intellectual property rights issues. The exclusive right of the patent owner can sometimes be legally condensed due to the public interest or interest of the society. The compulsory license is one of the grounds. This allows the government to allow someone else to produce patented products or processes without the consent of the patent owner or to plan to use the patent-protected innovation itself. Such provisions are enshrined in the Paris Convention, 1883 and the TRIPS Agreement, 1994, and in the light of these provisions, manufactured goods can be supplied to the country through compulsory licenses. Although the Patents and Designs Act of Bangladesh does not yet comply with the TRIPS, it provides for a compulsory license in section 22. To maintain the balance between the vaccine patent owner's exclusive rights to make, use, distribute, import, or sell the vaccine and the public interest or the interest of the society, the WHO-initiated COVID-19 Technology Access Pool (COVAX) program. Although, no pharmaceutical company has come forward within one year to share its intellectual property, know-how, and technology through the COVAX. Developing and LDCs have benefitted quite a lot because of the COVAX program.

2.7.3. 4th Industrial Revolution

The 4th Industrial Revolution represents a fundamental change in the way of life, work, and relation to one another. It introduces a new chapter in human development, enabled by extraordinary technological advances commensurate with those of the first, second, and third industrial revolutions. It is a synthesis of advances in artificial intelligence (AI), robotics, the internet of things (IoT), 3D printing, genetic engineering, quantum computing, and other advanced technologies. As artificial intelligence will replace the repetitive jobs mostly performed by the low and semi-skilled workers, many developing countries like Bangladesh will lose the comparative advantage in the low-skilled labor-intensive production process as a consequence.¹ The 4IR will induce job loss, as automation will take over the labor-intensive manufacturing sector of Bangladesh.

With the pace of global innovation in 4IR technologies, the rate of patenting has increased rapidly in the last decade. In exchange for limited exclusive rights, patent applications are published, revealing the technical details of the inventions for public interest and research purposes. Patent information provides early indications of technological developments.

2.7.4. 8th Five-Year plan and the Perspective plan (2021-2041)

The 8th Five-Year plan and the Perspective Plan of Bangladesh pose much importance for the creation of a knowledge-based innovative country. A wide range of programs and activities have been initiated for linking industries, academia, and the government. Industries are being

¹ 8th Five-Year plan of Bangladesh p. 646

encouraged to focus more on the invention and redesign of products they are producing now by adding digital technology-based features to products as well as processes. On the other hand, researchers and academicians are being awarded for their inventions and research projects.

According to the 8th Five-Year plan, programs to invest in research and development in the technology space are carried out and Bangladeshi firms have started upgrading their value addition capacity by leveraging patents ideas.

2.8. Deviation from the international practices (by comparators)

In this section, we will look into the patent legislation of some comparators that have achieved remarkable success in the past years. As Bangladesh is soon to be graduated from the LDC bracket and possesses a clear vision to become a UMIC by 2031, a timely Patents and Designs Act must be designed to contribute positively to the economic growth of the country. Amending an act requires several legal procedures and at the same time, this process tolls a lot of time as well. But a well-crafted act can have a huge impact on the regulation process. A critical analysis of the patent legislation of India and China will be helpful to take learnings from them.

2.8.1. India

The first legislation in India relating to patents was Act VI of 1856 and the major objective of this legislation was to encourage the inventions of new and useful manufacturers and to induce inventors to disclose the secret of their inventions. According to this legislation, exclusive privileges were granted to inventors of new manufacturers for 14 years. The Act was subsequently repealed as it was enacted without the consent of the British Crown. New legislation for granting exclusive privileges was introduced in 1859. The Act of 1859 was consolidated to provide protection relating to designs. The Act of 1872 was further amended in 1883. This Act remained in force for about 30 years without any change and in 1911, the Indian Patents and Designs Act was introduced which replaced all the previous acts. After independence, it was felt that the Indian Patents and Designs Act, of 1911 was not fulfilling its objective. There was an urge to amend the act and an amendment was made in 1950. After much consultation and recommendations by the experts, the Patents Act, 1970 was passed and came into force in April 1972. After that three amendments were made to this Act namely the Patents (First Amendment) Act, 1999; Patents (Second Amendment) Act, 2002 and the Patents (Amendment) Ordinance, 2004.

Table 3: Overview of India's Patents Act

Title of the chapter	Highlights	Weaknesses	Takeaways
Chapter I: Preliminary	<ul style="list-style-type: none"> • The term of protection is 20 years. • Amendment in 1999 increased exclusive marketing rights in the transition period. • Amendment in 2002 was made to meet the TRIPS standards. • Amendment in 2005 was made for a comprehensive improvement before the expiration of the transition period. • Amendment made in 2005 put public health interest in the center. • Patenting of process as well as product. • Provisions for importing patented products from an authorized license holder indicating that the provision is not an act of infringement. 	<ul style="list-style-type: none"> • Limited framework for the protection of life sciences. • Patentability requirements outside international standards. • Lengthy pre-grant opposition proceedings. • Limited participation in international IP treaties. • The enforcement of IP regime is considered weak. • Poor infrastructure and limited resources. • Copying, plagiarism, piracy, and other IPR violations were ignored. 	<ul style="list-style-type: none"> • Several Amendments were made to make the law TRIPS compliant. • Compulsory licenses for use in cases of public interest. • India's experience of utilizing TRIPS flexibilities. • To curb the abuse of patents, the Indian Government uses flexibility. • Achieved success in the pharmaceutical industry by ensuring proper IP regime.
Chapter II: Inventions Not Patentable			
Chapter III: Applications for Patents			
Chapter IV: Publication and Examination of Applications			
Chapter V: Opposition Proceedings to Grant of Patents			
Chapter VI: Anticipation			
Chapter VII: Provisions for Secrecy of Certain Inventions			
Chapter VIII: Grant of Patents and Rights conferred thereby			
Chapter IX: Patents of Addition			
Chapter X: Amendment of Applications and Specification			
Chapter XI: Restoration of Lapsed Patents			
Chapter XII: Surrender and Revocation of Patents			
Chapter XIII: Register of Patents			
Chapter XIV: Patent Office and Its Establishment			

Title of the chapter	Highlights	Weaknesses	Takeaways
Chapter XV: Powers of Controller Generally			
Chapter XVI: Working of Patents, Compulsory Licences, and Revocation			
Chapter XVII: Use of Inventions For Purposes of Government and Acquisition of Inventions by Central Government			
Chapter XVIII: Suits Concerning Infringement of Patents			
Chapter XIX: Appeals to the Appellate Board			
Chapter XX: Penalties			
Chapter XXI: Patent Agents			
Chapter XXII: International Arrangements			
Chapter XXIII: Miscellaneous			

Source: Authors' compilation from various sources

2.8.2. China

Patent law in China began with the promulgation of the Patent Law of the People's Republic of China in 1984. In 1985, China acceded to the Paris Convention for the Protection of Industrial Property, followed by the Patent Cooperation Treaty in 1994. When China joined the World Trade Organization (WTO) in 2001, it became a member of the TRIPS agreement. To comply with its international obligations, as well as to facilitate its development into an innovative country, China has since amended its Patent Law several times: first in 1992, then again in 2000, in 2009, and most recently in 2021.

Table 4: Overview of China's Patent law

Title of the chapter	Highlights	Weaknesses	Takeaways
Chapter I: General Provisions	<ul style="list-style-type: none"> Amendments were made to cope with the changing global IP regime. Through the first Amendment, patents became available for all chemical inventions. The Second Amendment was made to make it TRIPS compliant in the case of rights of patent owners. The Third Amendment introduced a new standard for novelty, regulatory exemption for infringement, and infringement damage assessment. The New Amendment of 2021 incorporates important modifications such as improving patent prosecution, strengthening patent protection, and promoting patent exploitation. 	<ul style="list-style-type: none"> Inadequate enforcement of the legislation. Difficult for entrepreneurs to enjoy exclusive control of their inventions. The rejection rate of the patent is very high. 	<ul style="list-style-type: none"> Citizens are incentivized for filing a new patent. Maintains a standard of absolute novelty. Simple registration process. Grants patents to the product with a short commercial life or lesser inventions. Filing of an invention patent application and a utility model patent application simultaneously.
Chapter II: Conditions For The Grant Of Patent Rights			
Chapter III: Application For Patents			
Chapter IV: Examination And Approval Of Patent Applications			
Chapter V: Term, Termination, And Invalidation Of Patent Rights			
Chapter VI: Compulsory License For Exploitation Of A Patent			
Chapter VII: Protection Of Patent Rights			
Chapter VIII: Supplementary Provisions			

Source: Authors' compilation from various sources

3. The Patents and Designs Act, 1911 and relevance to SHE trade

The contribution of women inventors and designers has benefitted societies all around the world for since long. Since the beginning of time, female inventors and creators have transformed the world through the power of their imagination. But according to data, fewer women than men use the intellectual property system and this gender gap exists for several reasons, most importantly because gender equality is a human right.

Patents are granted to incentivize the creation of inventors that are novel, non-obvious, and have some utility. Patent law is considered to be an objective law, dealing with the objective subject matter of the technical arts. Yet, empirical studies show that patenting rates differ between the sexes, and patenting is gendered. Entry and retention of women in the fields of science, technology, engineering, and mathematics (STEM) are disproportionately low compared to that of men. This disparity is apparent in every industry that requires a STEM degree, including patent law. Existing literature examines why there lies a gender gap in the patenting system. According to Lai (2020), the reasons can be broadly categorized into three parts. They are- the fact that more males do the kinds of inventing that are protected by patents. Certain types of research and innovation are male-dominated or female-dominated because of the socialization and cultural practices of that particular community. The second reason shows that patent law has been developed around western-masculine-centric modes of invention and innovation. And lastly, invention and innovation take place in gendered environments. Gender disparities are harder to measure in creative works such as books, music, and films because the IP rights that protect those works – copyright and related rights – generally arise automatically and do not need to be registered with a central authority. That makes it difficult to track such rights. But all the available information indicates that women lag behind their male counterparts in the creative industries.

Bridging the gender gap in patenting would largely benefit everyone. Anything that restricts innovation and creativity indirectly points out that the society is less well-off. It means some potential benefits are being missed. Empirical evidence suggests that increased participation of women in all fields improves the innovation performance of organizations and societies. Researches show that diverse, inclusive teams are more innovative, and diverse companies are more profitable.

Women are not inherently less innovative or creative than men. A roundtable of experts at WIPO in 2017 provided a useful overview of some major issues:

- The IP gender gap reflects widespread gender inequality in social and economic life. For example, in most countries, far fewer girls than boys study STEM subjects. In consequence, a relatively low proportion of women work in the sort of fields that produce the most technical innovation.
- In part, these wider inequalities reflect prejudices, preconceptions, and stereotypes about girls and women. All-too-many people – girls and women as well as boys and men – still think of women as being limited to certain traditional roles rather than potential leaders in science, technology, business, and the arts. If stereotypes are not challenged, inequality can be self-perpetuating: girls and young women may lack role models to inspire them to fulfill their potential.

- Inequality is also caused by inflexible economic and social structures which can restrict women's career prospects. The problem of the "glass ceiling" is notorious. Talented women may succeed as students and in the early stages of their careers only to miss out on promotions later on, especially if they take time out to have children. Organizations and societies need to find ways to allow women (and men) to combine work and family life.
- There may also be issues that relate more specifically to the IP system. Developing some types of IP, especially patents, may involve significant financial commitment, and there is an argument that women prioritize the stability of their family income, making them more risk-averse than men.
- In addition, some legal scholars have critiqued the IP system from a feminist perspective, arguing that although it is ostensibly neutral, certain elements of the law may embed bias against women.

Some exclusive advantages designed for women inventors can promote and enhance the active participation of women in the case of new patents. The Patents and Designs Act, 1911 of Bangladesh is considered to be free from gender bias. Neither any discriminatory provisions are included nor any women-friendly ones. To enhance the participation of women inventors and designers, the social stigma, cultural barriers, and community barriers must be eliminated.

4. Recommendations/ Action plan/ Way forward

In this chapter, we have provided some recommendations for further amendments to the Patents and Designs Act, 1911. The policies are in general well-crafted and well-written. A lot of effort, consultation, and opinions from related stakeholders are considered while formulating the policies. The intent and measures to achieve the desired goals stated in the Act are sincere. Several issues are not mentioned properly in the Act but including them will aid to attain the stated objectives.

Our careful review of the Patents and Designs Act, 1911, has identified some specific areas that need to be addressed in future policy. One of the major impediments to updating the Act is, that the procedure of amending an Act takes a toll on time. Legal procedures are complicated by the time of amending, however, in most cases, the issues are settled by then. As this Act is a century-old, it lacks mentioning many important aspects of the recent times. A properly designed Patents and Designs Act with a detailed action and strategic plan is a crying need. To cope with the international IP regimes, a new and comprehensive Patents, and Designs Act should be formulated.

Some noteworthy vague issues of the Act that need to be readdressed properly in the future Act are as follows:

Patentability- Article 27.1 of TRIPS defines in general terms three patentability criteria for inventions—novelty, inventive steps, and industrial application— and leaves to national legislation the freedom to legislate the detailed requirements of such criteria. However, the article requires that national legislation obey the rule of non-discrimination in patent protection. Therefore, while complying with the TRIPS Agreement, patent law and pharmaceutical regulation in Bangladesh should provide equal protection for domestic and foreign pharmaceutical patent applicants and inventors.

Prior to TRIPS and during TRIPS negotiations, concerns about increased prices for patented pharmaceuticals and accessibility to pharmaceutical technology, and a strong campaign by NGOs and public interest groups, were the main reasons for the opposition of developing countries to patent protection for pharmaceutical products.

However, under Article 27.1, national patent law can no longer justify this kind of exclusion from patentability due to the requirement for non-discrimination in the field of technology of the invention. Pursuant to Article 27.1: “patents shall be available ... without discrimination as to the place of invention”. Accordingly, any discrimination concerning patent applications made by nationals and foreigners is contradictory to the requirement of non-discrimination as to the place of the invention.

Although the Paris Convention does not mention patentability or particular exclusions from patentability, TRIPS enumerates concrete criteria for these contents. Unlike the situation under the Paris Convention, national laws under TRIPS are required to conform to specific criteria regarding patent protection. Concerning this point, TRIPS removes much of the freedom conferred by the Paris Convention on national legislation.

Therefore, the Patents and Designs Act, 1911 and the DCO, 1982 of Bangladesh need to be altered to include clear provisions on pharmaceutical processes and product patent protection. In addition, existing pharmaceutical regulations must remove product restrictions on the multinational pharmaceutical industry. However, the norms of patentability allow for some exceptions. In addition to requirements of non-discrimination for patentable subject matter and place of invention, national patent regulations may also need to review the existing rights and obligations of patentees in the context of the TRIPS Agreement.

Bangladesh inherited its patent law from the British Government during its rule in India, which was subsequently divided into the three countries of India, Pakistan, and Bangladesh. Bangladesh essentially retains the colonial law; only a few minor amendments have been made since the enactment of the legislation.

The present legislative regime relating to patents and the pharmaceutical industry comprises the *Drugs Act, of 1940*, the *Patent and Designs Act, of 1911* (PDA), and the *Patent and Design Rules, of 1933*. In 2003, amendments were made to the PDA to establish the Department of Patents, Designs, and Trademarks (DPDT). The DPDT is controlled by the Ministry of Industries and has the jurisdiction to issue patents and designs. The current patent law in Bangladesh is largely the same as it was in India, before the changes in 1970.

In common with other countries, Bangladesh follows a process for granting patents and has certain criteria for “something” to be patented: novelty, an inventive step, and industrial application. When an application is made by the first and true inventor or an assignee/ legal representative, an examination of the specification commences. An examination of the specification can trigger one of three outcomes: (i) the specification is correct and the invention is patent-worthy, (ii) the specification does not reflect any new invention and is therefore rejected, or (iii) the specification is accepted subject to modification or amendment. There are provisions for an appeal to the registrar and further to the High Court Division of the Supreme Court. Any amendments or modifications may be made to the original patent under an application for patents of addition. If such an application is successful without objection, or if an objection is found to be unjustified, the DPDT will issue a certificate of patent registration. Once granted, a patent is valid for 16 years from the date of application. There have been disputes among scholars in Bangladesh about the patentability of pharmaceutical products under the PDA. Some consider that the patenting of pharmaceutical processes, but not of pharmaceutical products, should be adopted in Bangladesh. Other scholars argue that in the absence of a clear legislative provision or any court ruling on the distinction between processes and products, both pharmaceutical products and processes are patentable under the PDA. To some extent this is a purely academic debate, as in 2008 the DPDT suspended the patenting of pharmaceuticals in Bangladesh until 1 January 2016 or until the end of the TRIPS waiver periods under the Doha Declaration. The DPDT’s notification stipulates that applications relating to patents for medicines and agricultural chemicals will be preserved in a “mailbox” to be considered after the expiration of the waiver periods for the pharmaceutical patent.

Prior to the suspension, the available information indicates that from 1998 to 2007, patent applications and patents granted in Bangladesh increased two times more than in previous periods and that 90% of those patents were owned by MNCs. In 2007, the DPDT registered

269 foreign patent applications, of which 50% related to multinational pharmaceutical formulas.

Existing patent law and pharmaceutical regulation in Bangladesh does not utilize exceptions and limitations available under the TRIPS Agreement to protect public health. Therefore, the laws need to be revised to ensure the right balance between pharmaceutical innovation and access to medicines after the introduction of pharmaceutical patents. In addition, some existing limitations need to be removed from domestic patent law and pharmaceutical regulations to maintain the principle of non-discrimination and compliance with the TRIPS Agreement.

In Bangladesh, existing pharmaceutical regulations and patent laws impose certain limitations on pharmaceuticals. For instance, pharmaceutical patents (both product and process) are prohibited in Bangladesh until the expiration of the pharmaceutical patent waivers under the TRIPS Agreement. There are also other limitations, such as restrictions on the manufacture of certain medicines; import of certain drugs manufactured in Bangladesh and of pharmaceutical raw materials marketing approval and licensing; local production facilities; ingredients; advertising; and test data. These limitations either need to be removed or revised to meet the requirements of the TRIPS Agreement.

Bangladesh has made substantial progress in promoting the local production of essential drugs by way of prohibiting pharmaceutical patents and putting restrictions on the import and production of drugs by MNCs that are produced locally. One participant who was interviewed appreciated the positive effects of these restrictions: “during (the) the 1980s, 80% of local pharmaceutical market was controlled by MNCs, but now more than 80% of the local market is controlled by the local generic producers”.

Therefore, there is serious apprehension that Bangladesh’s withdrawal of these restrictions may have negative effects on the local market. One participant during an interview mentioned that “in principle, if there is any patent on a particular product, it cannot be produced by the local generic producer without permission from the patent holder and without paying royalties, which will increase the price of pharmaceuticals”.

However, the “National Formulary”, which contains brief descriptions of all the pharmaceutical products produced in Bangladesh, shows that almost 90% of the pharmaceuticals produced in Bangladesh are off-patent; therefore, the introduction of pharmaceutical patents may not create any problems for the generic production of these pharmaceuticals.

Table 5: Issues regarding the pharmaceutical regulation in Bangladesh

Issues	Existing pharmaceutical regulation in Bangladesh	Changes needed for TRIPS compliance
Product patent for pharmaceuticals	Currently, pharmaceutical patents are prohibited	Both process and product patents for pharmaceuticals need to be introduced

Issues	Existing pharmaceutical regulation in Bangladesh	Changes needed for TRIPS compliance
Duration of patent protection	Currently, patent law protects for only 16 years	Protection should be extended to 20 years
Local production facilities and local working	Certain pharmaceutical products are excluded from licensing unless made in local production facilities by MNCs	It is not mandatory to have a local production facility but there is debate regarding local working provisions as a grounds for issuing compulsory licenses
Import restrictions	Import restrictions on pharmaceuticals and pharmaceutical raw materials that are locally produced: if an item is not on the DDA's essential drug list but is produced by at least three local companies, it may not be imported	No import restrictions whether locally produced or not as this would be discriminatory and hence a violation of WTO and TRIPS principles
Marketing approval restrictions	Marketing approval is not granted to MNCs if a particular pharmaceutical product is locally produced	No restrictions on the marketing based on products made locally or imported
Production restrictions	NCs are not allowed to produce some drugs, such as vitamins and antacids	M There must not be any restriction as this would be discriminatory
Single-ingredient	Only single-ingredient products are allowed for production and distribution in the local market	Combination drugs need to be allowed
Advertising restrictions	No advertising is allowed on pharmaceutical products	Although unethical advertising may be restricted, advertising must be allowed
Test data protection	There is no test data protection for pharmaceuticals	There may be pressure from the MNCs and developed countries like the US and the EU for the introduction of test data protection

Source- Authors' compilation from various sources

Patent Term, Enforcement, Rights, and Obligations- It is up to national legislation to decide the possible duration of patent protection under the Paris Convention. However, the TRIPS Agreement states in Article 33 that the term of patent protection shall not end before the expiration of a period of 20 years, counted from the filing date. The patent law of Bangladesh

provides for only 16 years of protection; this will need to be extended to 20 years. This provision is considered one of the major successes of the developed countries during the Uruguay Round in internationalizing their practices of patent protection.

A growing number of low-quality patents and their protection for 20 years may put an undue burden on the operation of the patent system and may prevent the diffusion of knowledge and competition. While a long period of protection may be justifiable in the case of major inventions, for minor improvements the optimal period of protection should be shorter and commensurate with the lower investment in skill, time, and resources made by the patentee. Thus, patent offices in LDCs like Bangladesh need to devise strict qualifying criteria for inventions and hence a longer duration of protection; they also need to introduce separate mechanisms for weak innovation, rather than simply granting patents. While doing so, the Government of Bangladesh needs to craft carefully its TRIPS obligations for enforcement of IP rights.

Enforcement obligations- Whereas the Paris Convention and other IP agreements under the WIPO leave the questions of enforcement to the domestic legislation of member states, TRIPS provides for specific enforcement obligations. Although some pre-existing IP conventions have several provisions dealing with remedies against infringement, they do not impose the compulsory obligation to incorporate those remedies into the national laws of the member states, nor do they provide particular sanctions and remedies of enforcement. However, TRIPS does impose on members the compulsory obligation of enforcement and elaborates particular enforcement measures, remedies and procedures. This is quite different from the situation regarding pre-existing international IP conventions.

Article 41 of TRIPS states that enforcement procedures must “permit effective action” against present and future acts of infringement and be incorporated into the national legislation to become available in the domestic laws of the member states. TRIPS also requires that judicial authorities have the authority to require claimants to indemnify parties who are wrongly subjected to any of the provided procedures. It further provides that preliminary injunctions to prevent future infringements and preserve relevant evidence must be available to judicial authorities. Counterfeiting and piracy are concretely defined and distinguished from the general infringements to be applied in the “Special Requirements Related to Border Measures” elaborated in Articles 51–60 of TRIPS. Competent national authorities may act *ex officio* to suspend the release of goods concerning which the *prima facie* evidence of infringement is available. The imposition of strict border control measures on imports of counterfeit goods is perceived as “a safety valve” in case enforcement at the source has been ineffective. However, it is also argued that overbroad laws claiming to address the problem of fake or spurious medicines, but labeled as “anti-counterfeiting” laws, can seriously restrict the availability of generic HIV medicines.

Thus, while adopting effective enforcement provisions complying with the TRIPS Agreement, the Government of Bangladesh may need to give due consideration to the exceptions and limitations available under the TRIPS Agreement so that enforcement provisions do not become a barrier to the realization of public health goals.

Exceptions and limitations of exclusive rights- Although the Paris Convention does not provide the criteria for exceptions but leaves them to national legislation, TRIPS provides in Article 30 limited exceptions from the exclusive rights conferred on patent holders. Article 30 refers only to “exceptions” to the exclusive rights derived from the patent rights. However, the limitations to patent rights are implied in the provisions on compulsory licensing, which are mentioned generally in Article 8 and particularly in Article 31 of TRIPS. TRIPS refers to the limitations to exclusive patent rights with the phrase “other use without authorization of the right holder” in Article 31, rather than with “compulsory licenses” as provided in Article 5(A) of the Paris Convention. Accordingly, the requirements set forth in Article 31 aim at different types of compulsory licenses. The applicability scope of this article is broader than that of the rule provided in Article 5(A) (4) of the Paris Convention, which is only applicable to the type of compulsory licenses for non-working or insufficiently working patents. Although the TRIPS Agreement permits compulsory licenses (CL), countries having no or low technical capacity cannot take the advantage of it as article 31(f) limits CL to drugs produced to meet domestic needs rather than exported to other countries. Para. 6 of the Doha Declaration suggested a possible solution, which was finally approved by the WTO General Council in August 2003 (August 30 Decision).

Table 6: Recommendations for future Patents and Designs Act

Part	Chapter	Stated provision in the Patents and Designs Act, 1911	Unchanged	Extension	New inclusion	Drop
	Definitions	<p>2. In this Act, unless there is anything repugnant in the subject or context,-</p> <p>(1) “Attorney-General” means the Attorney General for Bangladesh];</p> <p>(2) “article” means (as respect to designs) any article of manufacture and any substance, artificial or natural or partly artificial and partly natural:</p> <p>(3) Omitted</p> <p>(4) “copyright” means the exclusive right to apply a design to any article in any class in which the design is registered:</p> <p>(5) “design” means only the features of shape, configuration, pattern or ornament applied to any article by any industrial process or means, whether manual, mechanical or chemical, separate or combined, which in the finished article appeal to and are judged solely by the eye; but does not include any mode or principle of construction or anything</p>	NA	NA	<ul style="list-style-type: none"> • Definitions of an exclusive license, medicines or drugs, and detailed definitions regarding patents. • To mention whether Bangladesh should grant patent protection for ‘process’ or ‘product’. It would be advisable to allow patent protection only to ‘process’ rather than to ‘product’ to protect farmers' rights to indigenous seeds. 	NA

Part	Chapter	Stated provision in the Patents and Designs Act, 1911	Unchanged	Extension	New inclusion	Drop
		<p>which is in substance a mere mechanical device, and does not include any trademark as defined in section 478, or property mark as defined in section 479 of the [Penal Code]:</p> <p>(6) "District Court" has the meaning assigned to that expression by the Code of Civil Procedure, 1908:</p> <p>(7) [Omitted by the Central Laws (Statute Reforms Ordinance, 1960) (Ordinance No. XXI of 1960).]</p> <p>(8) "invention" means any manner of new manufacture and includes an improvement and an alleged invention:</p> <p>(9) "legal representative" means a person who in law represents the Patents and Designs Act, 1911 (Act No</p> <p>estate of a deceased person:</p> <p>(10) "manufacture" includes any art, process or manner or producing, preparing or making an article, and also any article prepared or produced by manufacture:</p>				

Part	Chapter	Stated provision in the Patents and Designs Act, 1911	Unchanged	Extension	New inclusion	Drop
		<p>(11) “patent” means a patent granted under the provisions of this Act:</p> <p>(12) “patentee” means the person for the time being entered on the register of patents kept under this Act as the grantee or proprietor of the patent:</p> <p>(13) “prescribed” includes prescribed by rules under this Act:</p> <p>(14) “proprietor of a new or original design,”-</p> <p>(a) where the author of the design, for good consideration, executes the work for some other person, means the person for whom the design is so executed; and</p> <p>(b) where any person acquires the design or the right to apply the design to any article, either selectively of any other person or otherwise, means, in the respect and to the extent in and to which the design or right has been so acquired, the person by whom the design or right is so required; and</p> <p>(c) in any other case, means the author of the design; and (15)</p>				

Part	Chapter	Stated provision in the Patents and Designs Act, 1911	Unchanged	Extension	New inclusion	Drop
		“Registrar” means the Registrar of Patents, Designs, and Trade Marks appointed under section 55 (1) of this Act:] and where the property in, or the right to apply, the design has evolved from the original proprietor upon any other person, includes that other person.				
PART I: PATENTS	Application for and Grant of Patent	4A. (1) If the applicant does not leave a complete specification with his application, he may leave it at any subsequent time within nine months from the date of the application: Provided that the said nine months shall be extended to such period, not exceeding ten months from the date of the application, as may be specified in a request made by the applicant to the Registrar, if the request is made and the prescribed fee is paid within the period so specified.	NA	<ul style="list-style-type: none"> To grace the period from nine months to one year. 	NA	NA
	Application for and Grant of Patent	9. (1) Any person may, on payment of the prescribed fee, at any time within four months from the date of the advertisement of the acceptance of an application, give	NA	NA	<ul style="list-style-type: none"> The pre-grant objection which is limited by conditions is- that the objection 	NA

Part	Chapter	Stated provision in the Patents and Designs Act, 1911	Unchanged	Extension	New inclusion	Drop
		<p>notice at the Department of Patents, Designs and Trade Marks of opposition to the grant of the patent on any of the following grounds, namely:-</p> <p>(a) that the applicant obtained the invention from him, or from a person of whom he is the legal representative or assigns; or</p> <p>(b) that the invention has been claimed in any specification filed in Bangladesh which is or will be of prior date to the patent, the grant of which is opposed; or</p> <p>(c) that the nature of the invention or the manner in which it is to be performed is not sufficiently or fairly described and ascertained in the specifications; or</p> <p>(d) that the invention has been publicly used in any part of Bangladesh or has been made publicly known in any part of Bangladesh; or</p> <p>(e) that the complete specification describes or claims an invention other than that described in the provisional specification, and that</p>			<p>must be made within four months of the advertisement of the acceptance of the application and the latter one is that the objection can only be based on the provisions mentioned in section 9(1). The TRIPS agreement does not describe any specific type of opposition system.</p> <ul style="list-style-type: none"> • Including more extensive pre-grant heads of objection. • Including a process for post-grant opposition. 	

Part	Chapter	Stated provision in the Patents and Designs Act, 1911	Unchanged	Extension	New inclusion	Drop
		such other invention either from the subject of an application made by the opponent for a patent which if granted would bear a date in the interval between the date of the application and the leaving of the complete specification, or has been made available to the public by publication in any document published in Bangladesh in that interval; but on no other ground.				
	Term of patent	14. (1) The term-limited in every patent for the duration thereof shall, save as otherwise expressly provided by this Act, be sixteen years from its date.	NA	<ul style="list-style-type: none"> To extend the term of the patent from 16 years to 20 years which is accepted internationally. 	NA	NA
	Compulsory Licenses and Revocation	22. (1) Any person interested may present a petition to the Government which shall be left at the Department of Patents, Designs and Trade Marks, together with the prescribed fee, alleging that the demand for a patented article in Bangladesh is not being met to an adequate extent and on reasonable terms and praying for the grant of a compulsory license, or, in the	NA	<ul style="list-style-type: none"> The option for a grant of compulsory licensing is cumbersome. 	<ul style="list-style-type: none"> Introducing strong and explicitly defined compulsory licensing provisions which will be TRIPS compliant. 	NA

Part	Chapter	Stated provision in the Patents and Designs Act, 1911	Unchanged	Extension	New inclusion	Drop
		alternative, for the revocation of the patent.				
PART II: DESIGNS	Copyright in Registered Designs	47. (1) When a design is registered, the registered proprietor of the design shall, subject to the provisions of this Act, have copyright in the design during five years from the date of registration.	NA	<ul style="list-style-type: none"> A term of 20 years of copyright is appreciated. 	NA	NA
	Legal proceedings (Piracy of registered design)	53. (2) If any person acts in contravention of this section, he shall be liable for every contravention- (a) To pay to the registered proprietor of the design a sum not exceeding five hundred takas recoverable as a contract debt.	NA	<ul style="list-style-type: none"> An amount of ten thousand taka is appreciated. 	NA	NA
PART III: GENERAL	Powers and duties of Registrar	69. (2) An appeal shall lie to the Government from an order of the Registrar under this section.	NA	<ul style="list-style-type: none"> Appeal to the High Court instead of the Government is appreciated. 	NA	NA
	Evidence, etc.	74. (1) If any person is, by reason of infancy, lunacy, or other disability, incapable of making any statement or doing anything required or permitted by or under this Act, the lawful guardian, committee, or manager (if any) of the person subject to the disability, or if there	NA	<ul style="list-style-type: none"> Mentioning the minority is appreciated. 	NA	NA

Part	Chapter	Stated provision in the Patents and Designs Act, 1911	Unchanged	Extension	New inclusion	Drop
		<p>be none, any person appointed by any Court possessing jurisdiction in respect of his property, may make such statement or a statement as nearly corresponding thereto as circumstances permit, and do such thing in the name and on behalf of the person subject to the disability.</p>				

Source: Authors' compilation from various sources

To address the future challenges and to keep pace with the changing global patterns of inventions and creations, some new chapters that are not mentioned in the existing Patents and Designs Act must be included. They are listed in the table below.

Table 7: Further inclusion in the Patents and Designs Act

Topic	Stated provisions in the Patents and Designs Act, 1911	New inclusion
Strong and separate legislation on IP	No mention	<ul style="list-style-type: none"> Separate legislation should be enacted by the government to protect industrial designs, utility models, Geographical Indications (GI), Plant Varieties Protection (PVP), cross-cutting IPRs, trade secrets, and integrated circuit.
Patentable inventions	No mention	<ul style="list-style-type: none"> Mentioning the criteria that are required for granting a patent.
Exclusion from patentability	No mention	<ul style="list-style-type: none"> A definitive and extensive list mentioning which inventions are not patentable.
Foreign applications	No mention	<ul style="list-style-type: none"> Provisions should be included stating the procedure for foreign applicants.
Secrecy of certain inventions	No mention	<ul style="list-style-type: none"> An exclusive chapter should be dedicated to stating the provisions for the secrecy of certain inventions. Secrecy directions relating to inventions for defense purposes, consequences of secrecy, and liabilities of contravention of secrecy should be mentioned clearly.
Maintaining strategic partners for the development of the IP system	No mention	<ul style="list-style-type: none"> Provisions mentioning the strategies for approaching local and international strategic partners for the development of the IP system. Local partners include different relevant ministries such as MoI, MoC, MoCA, etc. On the other hand,

Topic	Stated provisions in the Patents and Designs Act, 1911	New inclusion
		international partners include WIPO, WTO, and other donors.
International recognition	No mention	<ul style="list-style-type: none"> • Bangladesh should amend the Patent Co-operation Treaty, 1970, and the Patents and Designs Act should be made internationally applicable because, in the age of globalization and the advancement of the internet, limited protection for the local market has no effect in a true commercial sense.
Encouraging research	No mention	<ul style="list-style-type: none"> • Detailed provisions with a strategic plan for encouraging research both in the public and private sectors should be included.
Impact study	No mention	<ul style="list-style-type: none"> • Before taking any step regarding the reform of the patent system, a detailed study of the impact of such reform should be carried out.
Parallel import	No mention	<ul style="list-style-type: none"> • This issue is subject to Article 6 of the TRIPS agreement and being a WTO member, Bangladesh has a degree of freedom in choosing the exhaustion of rights regime to apply in the patent field.

Source: Authors' compilation from various sources

5. Conclusion

A detailed review of the Patents and Designs Act, 1911 using a **mixed methodology** has been carried out and some significant findings have been noted down. Some substantial issues of the Act, implementation challenges, enforcement status of the concerned authority, and its relevance to current circumstances and changing global trade patterns have been discussed. The review also compared the patent law of Bangladesh with some of the remarkable successes of South-Asian and South-East Asian countries.

Our primary **findings** draw attention to the provisions of the Patents and Designs Act, 1911. The provisions are well-thought but in some cases, the lack of coordination among the implementing authorities limits the effectiveness of the Act. On a different note, in some countries, two separate acts prevail for patents and designs respectively. But according to the report of the law commission (2003), it would be convenient for Bangladesh to keep the provisions relating to both patents and designs under a single act as in the present Act. The current Act does not duly address the present changing trade dynamics, increased competition in external trades, COVID-19 recovery issues, 4IR, LDC graduation, 8th Five-Year plan, and the perspective plan 2021-2041. Like most other LDCs, the issues related to IP are often ignored in Bangladesh though the situation is changing gradually. A strong IP regime can assist to enhance innovation, technology diffusion, and development.

Against these findings, we have provided some specific **recommendations** for a proper formulation and efficient implementation of future patents and designs legislation. The provisions of the existing Act must be revisited and tailor-made to be TRIPS compliant as Bangladesh is soon to be graduated from the LDC bracket. Legislations on trade secrets, GI, and layout design of integrated circuits should be enacted. The administrative capacity of DPDT and copyright office is very much vulnerable due to the manual system, and shortage of officers, staff, and experts on IP. Digitalization of the governing authority will help to provide better services within the shortest possible time. The DPDT and the Copyright Office should be merged into a single institution and that can be renamed as “IP Office of Bangladesh”. Mass awareness building initiatives regarding IPRs, e.g., seminars, symposiums, and workshops should be arranged regularly and the academic and training institutions should include copyright and other IPRs in their curricula. The DPDT and copyright offices should work in close collaboration with the highest trade organizations to build a Public-Private Partnership (PPP) in this area. A Public-Private Partnership Council should be set up to increase awareness among the people about the enforcement and importance of IPRs. Bangladesh Government should establish a National Task Force on IP comprising the representatives from the IP experts, police, judicial department, business community, media, customs officers, and other relevant stakeholders whose primary obligation shall be to take care of innovations in the field of science, technology, and IP issues, and to prevent the IPRs violations in Bangladesh. It can also be observed that, while taking the aforesaid actions, the GoB can take the legal and technical aids necessary from the WIPO and WTO.

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Annexure

Team Composition

Name of staff	Area of expertise relevant to the assignment	Designation for this assignment	Assigned tasks or deliverables
Dr. Bazlul Haque Khondker	Economist, Institutional analysis expert, Survey expert, FGD and KII expert	Team Leader	Finalise questionnaire, FGD, and KII checklists, Evaluation, and analysis, Draft synthesizing summary, Draft short summaries Finalizing reports
Dr. Selim Raihan	Economist, Political economy and institutional analysis expert, Survey expert, FGD and KII expert	Co-Team Leader, Trade Expert	Coordinating and monitoring the team, monitoring all the activities performed by the team members, finalizing questionnaire, FGD, and KII checklists, evaluation, and analysis draft synthesizing summary and finalizing reports.
Mahtab Uddin	Policy analysis and evaluation, Survey expert, FGD and KII expert	Policy Analyst	Monitoring all the activities performed by the team members, finalizing questionnaire, FGD and KII checklists, evaluation, and analysis, draft synthesizing summary, and finalizing reports.
Mohammad Golam Sarwar	Legislative consultant, development law practitioner	Legal Expert	Analysing the legal terms and provisions of the study, identifying the possible grounds for alterations, extensions, and exclusion of current legal provisions, and providing legal recommendations.
Recardo Saurav Antor Halder	Data analyst, Survey Experts	Senior Research Associate	Desk review, analysing secondary data, designing questionnaires for KIIs, supervising and conducting FGDs, analysing primary data, and drafting the reports.
Mir Ashrafun Nahar	Data analyst, Survey Experts	Senior Research Associate	Desk review, analysing secondary data, designing survey questionnaires for KIIs, supervising the survey, conducting FGDs, analysing primary data, and drafting the reports.
Zareen Tasnim	Data analyst, Survey Experts	Research Associate	Research and analysis of relevant literature, primary and secondary data, supervising and conducting KIIs and FGDs.
Afia Mubasshira Tiasha	Data collection and Supervision	Research Associate	Desk Review, developing KII questionnaire, assisting in conducting the KIIs, conducting FGDs.



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