



DEVELOPING NATIONAL INTELLECTUAL PROPERTY POLICY FOR BANGLADESH

AN ASSESSMENT OF NATIONAL INTELLECTUAL PROPERTY SYSTEM

(DRAFT)

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1. Introduction

1. 1 Brief History of Intellectual Property System in Bangladesh

Bangladesh inherited the legal framework on intellectual property (IP) dating back to the British-India. The Patents, Designs and Trademarks Act of 1883 is the earliest legislation found to protect IP. Subsequently it was repealed and the new Patents and Designs Act was enacted in 1911 and the Trademarks Act in 1940. In 2003, both the Patents and Designs Act, 1911 and the Trademarks Act, 1940 were amended and the Department of Patents, Designs and Trademarks (DPDT) was formed under the Ministry of Industries merging two independently operational offices - the Patent Office and the Trademark Registry Office. In 2008, the Trademarks Ordinance was promulgated and in 2009, the Trademarks Act was enacted.

Copyright system in Bangladesh was originated from the British copyright system and later the copyright ordinance, 1962, an amalgamation of existing different copyright laws was promulgated. This ordinance was administered up to 1999. After that, the Copyright Act, 2000 was enacted in 2000 and was amended in 2005.

In addition, “The Penal Code of Bangladesh” comprises several penal laws against the violations of various intellectual property rights (IPR).

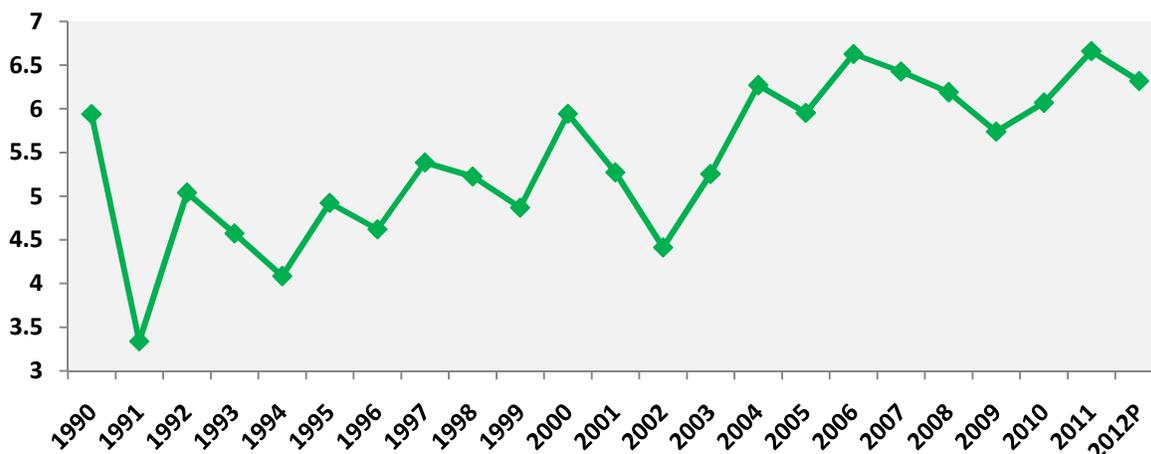
Bangladesh participated in the convention establishing the World Intellectual Property Organization (WIPO) on May 11, 1985. Bangladesh became a member of the Paris Convention for the Protection of Industrial Property in 1991 and of the Berne Convention for the Protection of Literary and Artistic Works in 1999.

Bangladesh is a signatory of the Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement of the World Trade Organization (WTO), which came into force on January 1, 1995. The TRIPS Agreement sets detailed, compulsory 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.

1. 2 Outline of the Present Economic Situation

Over the last four decades, Bangladesh has enhanced her per capita income four-fold, reduced head count poverty by more than half, and is well placed to attain most of the millennium development goals. Bangladesh is one of the few countries which attained noteworthy success in social development with low per capita income. The pace of progress and development has not been smooth during the last four decades. More specifically, the pace of economic growth picked up significantly only in the last decade leading to much faster rate of poverty reduction. Accordingly, the economy has grown 5-6% annually, almost every year since 1996 (Figure1).

Figure 1: GDP growth (annual %)



Among the three broad sectors, 53% of the GDP is generated from the service sector where the shares of agriculture and industry are 18.4% and 28.6%, respectively. But agriculture has the largest share in employed labor force (45%); the share of service and industry in employed labor force are 25% and 30%, respectively.

Table 1: Sectoral Growth Performances

Components	FY10		FY11 ^P		FY12 ^{Target}		FY12 ^E	
	Share	Growth	Share	Growth	Share	Growth	Share	Growth
Agriculture	18.6	5.2	18.4	5.0	17.7	4.5	17.5	2.53
Industry	28.5	6.5	28.6	8.2	29.4	9.6	28.5	9.47
Services	53.0	6.5	53.0	6.6	52.9	6.8	53.9	6.06
Real GDP	100.0	6.1	100.0	6.7	100.0	7.0	100.0	6.32

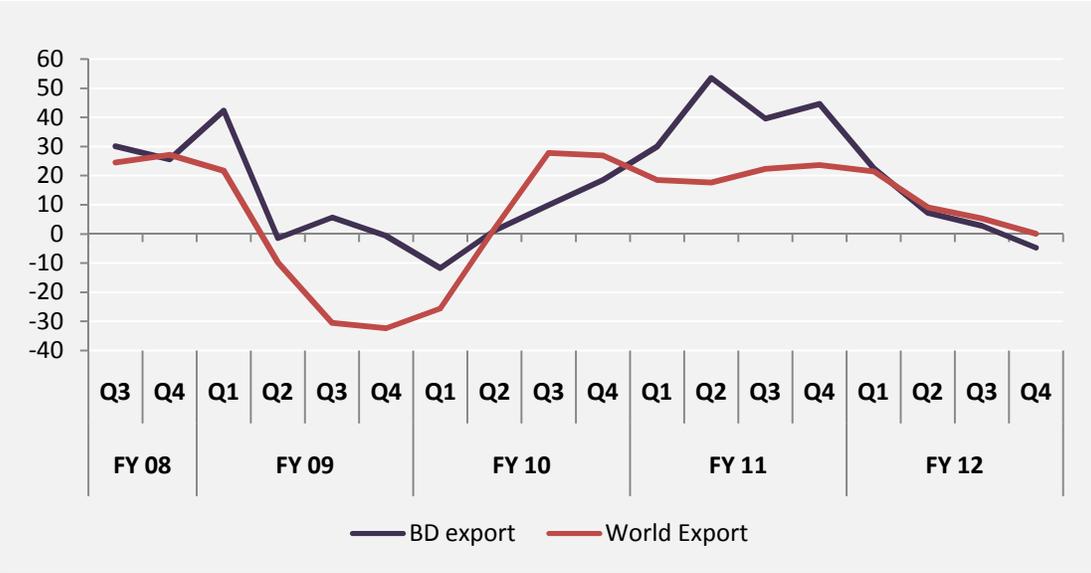
Source: Estimated by Authors from Bangladesh Bureau of Statistics Data

Agricultural sector achieved 5 percent annual growth in the last two fiscal years (FY10 and FY11) reflecting the government’s continuous effort to boost the performance of this sector. Government has taken various support initiatives including better distribution of seeds, fertilizer, and other necessary inputs which have contributed to these positive results. Uninterrupted electricity supply for irrigation at a subsidized rate and higher prices of farm produce including government procurement prices also contributed to agricultural growth.

Bangladesh’s export performance during the global recession was better than the global decline in export value. While global trade in value terms declined by more than 30% at its bottom the decline for Bangladesh was limited to 11.7% at its worst (FY10). As shown in figure 1, the fall in the growth rate of exports in Bangladesh started in the first quarter of 2008, coinciding with the global export decline. However, global trade collapsed much faster than the exports of

Bangladesh. In line with the deleterious experience of the previous episode (i.e. global financial crisis), this time also there are signs of a significant slowdown in global and Bangladesh exports. Growth of Bangladesh exports which was more than 30% between March 2011 and August 2011 fell substantially to about 5% onward September 2011. The declining trend in exports continued for the rest of FY 12, becoming negative on a month-on-month basis throughout the March-June 2012 periods. As a result, overall exports growth slumped to only 6% for FY12.

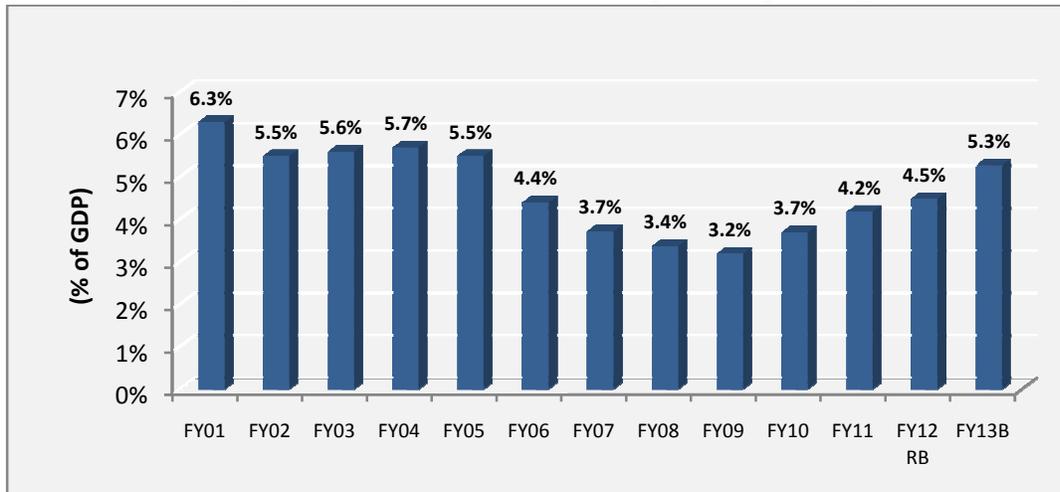
Figure 2: Growth in Exports FY 2008-FY2012



Source: Bangladesh Bank and IMF

Between FY01 and FY08, the size of the Annual Development Program declined by half in relation to GDP (figure 3). The long-term decline in ADP spending is attributable to two factors. First, the Government’s limited administrative capacity in implementing the ADP projects even when resources are made available. Second, limited availability of public sector domestic resources, coupled with declining foreign financing for projects, also constrained the size of the ADP in the budget.

Figure 3: Trend in Public Development Spending (% of GDP)



Source: Implementation Monitoring and Evaluation Division (IMED), Ministry of Planning

Some progress was made in arresting this declining trend of ADP and a slow recovery in ADP as a percent of GDP happened since the FY09 national budget. This has been the result of both an increase in the allocation for ADP in the budgets and an improvement in ADP implementation relative to ADP allocation. Nevertheless, implementation problems remain serious and re-emerged in FY12. Some key factors have contributed to the unsatisfactory implementation of ADP include: (i) lengthy procurement procedure; (ii) inadequate capacity of implementing agencies, (iii) land procurement problems and (iv) lack of proper monitoring of the agencies implementing the ADP.

Bangladesh has made commendable progress with respect to eradication of poverty and hunger where the percent of population living below the poverty line went down from more than 80 percent in early 1970s to 31.5 percent in 2010 (Table 2). However, Bangladesh still face the reality that 46.8 million of its population live in poverty

Table 2: Headcount Poverty Rate (%)

Year	Rural	Urban	National
1973-74	82.9	81.4	
1981-82	73.8	66.0	
1991-92	61.2	44.9	58.8
1995-96	55.2	29.4	51.0
2000	52.3	35.2	48.9
2005	43.8	28.4	40.0
2010	35.2	21.3	31.5

Source: Different HES, HIES

Sustained growth rate of around 6% per annum, along with increased protection of the vulnerable community with social safety net programs, the country has progressed well in terms of attaining its target of 22.5% poverty headcount ratio in 2015. According to MDG Progress

Report 2011 of the Planning Commission, inclusive pattern of growth, gradual transformation in sectoral composition of GDP, sustained improvement in various human development indices-all have contributed towards this fight against poverty.

Bangladesh showed also achieved major progress in social development. Net enrollment in primary education is currently 91.9%. Between 1990 and 2010, life expectancy rose by 10 years, from 59 to 69. In the same period, infant mortality rate reduced from 96.5 to 36.7 per thousand live births. Overall, according to the 2010 data, the HDI for Bangladesh was 0.469 with a rank of 129 out of 168 countries and the GINI index is 32.12.

2. Assessment of Current National IP System

2.1 Methodology - Baseline Survey

To develop a national IP strategy a realistic assessment of the country's current IP system is absolutely crucial. Under the guideline of the WIPO a baseline survey was conducted for this purpose. A comprehensive questionnaire, designed by the WIPO, was provided in order to collect the data on current IP system.

The questions are grouped in seven clusters that relate to different sectors in society and the economy. These seven cluster categories are –

- I. Administration and management of IP.
- II. Generation of IP by universities, research organizations, business, industry, SMEs and individuals.
- III. Commercialization of IP and technology transfer by universities, research organizations, business, industry, SMEs and individuals.
- IV. Copyright and copyright industries.
- V. Plant variety rights and seed industries.
- VI. Enforcement of IP rights.
- VII. IP and public policy.

This ensures collecting and analyzing the data on current IP system would facilitate the followings –

- I. Identifying strengths and weaknesses, opportunities and threats (SWOT) in relation to IP development and IP asset management;
- II. Identifying the strategic IP targets and needs with a view to formulating a national IP strategy that is in line with the country's national development priorities and goals;
- III. Identifying the key stakeholders who will be required to participate in the development and implementation of the strategy.

Following the WIPO guideline, the sample of the respondents includes national IP office officials, IP lawyers, industry officials, NGO promoting IP awareness, and academics. The survey was conducted mostly through face-to-face interviews and emails. The list of the survey respondents is attached to the Annex section of the paper. Unfortunately, the lack of correspondence and the lack of thorough knowledge on the subject matter generated a small sample. Therefore, in complement of gathering information from the survey, data were also collected from the secondary sources for a proper assessment of the national IP system.

The current status of different IP related sectors depicted from both primary and secondary data are presented as following.

2.2 Current state of IP Administration

In Bangladesh Intellectual Property (IP) is administered by two separate ministries. The two offices responsible for IP matters in these two ministries are –

- I. The Department of Patents, Designs and Trade Marks (DPDT) under the Ministry of Industries (MOI). Industrial Property matters are administered by this department. The DPDT is affiliated to the World Intellectual Property Organization (WIPO).
- II. The Copyright Office under the Ministry of Cultural Affairs (MOCA). Matters related to Copyrights and related rights are administered by this office. The Copyright Office continues receive support from the WTO, WIPO, and UNESCO for enriching its copyright system.

2.2.1 Department of Patents, Designs and Trade Marks (DPDT) –

Organizational Framework: The Registrar is the head of the department. Four Deputy Registrar are assigned in 4 wings -

- I. Patents and Designs
- II. Trade Marks
- III. WTO and International
- IV. Administration and Finance

A team of Assistant Registrar(s), Examiners and Staff is formed under the leadership of each Registrar.

At present the head of the department and other senior employees are appointed by the Ministry of Public Administration. But the general rule is Public Service Commission (PSC) will employ the examiners at the initial level in the department. And gradually those examiners will be promoted to the higher ranked posts and consequently one of them will occupy the post of the Registrar. But the problem is most of the examiners do not stay long enough in this department to achieve that post of the Registrar.

Funding: DPDT is funded by the Government of the Bangladesh. The revenue it earns from the application fees and other charges are considered as Government Revenue and the DPDT cannot use any fraction of its income. The government provides expenditure of DPDT and takes back the earning of DPDT. So it does not retain any operating surplus.

The DPDT is audited by the Local and Revenue Audit Directorate. And the audit findings are partially published in the Annual Report of the MOI.

Key Functions: The basic functions of DPDT is mostly limited to the following –

Patents and Designs Wing:

- I. To grant patents for inventions and innovations and maintained it.
- II. To assist technologists and entrepreneurs for technology transfer.
- III. To give registration for industrial designs.
- IV. To assist law enforcing agencies for counterfeit and infringe products.
- V. Contribute in products for its developments.
- VI. To create awareness to local manufacturers and business organizations.
- VII. To give support in manufactures and industrial developments.
- VIII. To assist in foreign investment through patent information.
- IX. To assist research and development activities of universities and other research Organizations through patent system.

Trademarks Wing:

- I. To deal with local and foreign applications for trademarks registration.
- II. Maintaining index card alphabetically indicating the class of the product.
- III. Examine the trademarks applications after sought out the similar and dissimilar marks.
- IV. To accept or refuse the registration of trademarks.
- V. Publish the approved trademarks is trademark journal.
- VI. Conduct the opposition and rectification cases for disputed marks and its settlement.
- VII. Amend the trademark application and the register after hearing.
- VIII. Issue trademark certificate.
- IX. Issue renewal certificate.
- X. The activities like assignment, transmission, change of description of the proprietor after registration.
- XI. Disseminate trademark related information to manufacturers and businessmen.
- XII. Maintained, supervision and maintenance of records and the register.
- XIII. To give advice and any assistance to Government in forming related rules and laws.
- XIV. To ensure ownership.
- XV. To comply the international agreement like TRIPs, Paris Convention etc.

Staffing and Human Resource Development: The DPDT cannot recruit staffs according to its need. The following table shows the inadequacy of the staffs in different divisions

Divisions	Available position for examiners	Positions filled up
Patent Division	10	2
Trademarks Division	12	6
Designs Division	2	0

In order to develop the skills of personnel 7 officials were sent abroad for training, 16 staffs and 7 officials were internally trained and 20 more staffs were trained from BIM from the year 2010 to 2011. This is not enough to meet up the need for examiners with specialized knowledge on different branches of science, especially to check the novelty of a Patent application. Even if PSC is able to recruit some skilled persons they showed a lack of interest to continue working in the DPDT. There is also no plan for need based training programs either for short term or long term.

Formal and Substantive Examination: The national IP office undertakes three types examinations which are designed to check the following three aspects of a patent right –

- I. Novelty
- II. Inventive Step
- III. Industrial Application

The DPDT follows a first come first served policy. That is, if two parties asked for the same IP right then the party applied earlier would be considered first. National IP databases from different countries and the international database set up by the WIPO are used to check the novelty and decide on the invention step of an application. For being an LDC, the DPDT can use these databases for free.

Automation and Modernization: The following measures have been undertaken regarding the automation and modernization of the DPDT

- I. Granting of Patents system of the Department has been partially automated under a project titled” Nationally Focused Action Plan (NFAP) for the Government of Bangladesh for Modernization of Patent Office “with the technical and financial assistance of WIPO.
- II. Registration of Trademarks system has also been partially automated under a separate project titled “Modernization and strengthening of Intellectual Property administration in Bangladesh” with the technical and financial assistance of WIPO.
- III. Currently, a project under the title “Intellectual Property Rights (IPR) Project” with the technical and financial assistance from EC and WIPO is being implemented. Implementation of the project will ensure better service to public and private sector, industrialists and R&D institutes.
- IV. An automated database of granted patents, registered designs and trademarks is underway that will help to enhance the IP activity in Bangladesh.
- V. Establishment of Bangladesh Intellectual Property Organization (BIPO), bringing all IP related offices under one umbrella organization is in progress.

The DPDT publishes the documents and information about the patent, trademark and design applications in the Bangladesh Gazette. The Trademark Journal is also used to disseminate the information on IP applications.

The IP registration has the scope automation. Although the necessary application forms can be downloaded from the DPDT website, it is not possible to carry out the electronic transaction. The required amount has to be paid through pay-orders. Besides, the DPDT has no other regional offices across the county except the Trademark office in Chittagong.

Communication Issues: The main mechanism used by the national IP office for communicating with the users of IP system is Letter by Post. Phone Service is also frequently used. For the public consultation on the impact of IP rights generally the print media is used.

IP application and Grants: The following table shows the number of received and approved IP application in 2009

IP Application	Received by the DPDT			Approved by the DPDT		
	Domestic	Foreign	Total	Domestic	Foreign	Total
Design	954	38	992	376	18	394
Patent	55	275	330	28	103	131
Trademark	7445	1861	9306	-	-	-

Till now not a single domestic firm has applied for IP protection in abroad. But it is expected that in the near future the team of the scientists, who discovered the genetic form of papaya tree, jute tree, fungus etc., may ask for international IP protection.

Almost 7000 patent applications and 6000 designs applications are pending right now. The trademark division received 1, 44,706 trademark applications from 1971 to 2009. Among them 80,503 applications were pending.

National Laws on IP:

- I. **Patent:** The Patents and Designs Act, 1911- according to this act the right provides 16 years of protections.

WIPO has expressed their opinion about the English draft of the new Patent Act, 2011. The Law Consultants of the IPR project tested the draft to see whether it fulfills the conditions of TRIPS and whether it is applicable in our country. In the Inter Ministry Meeting the Bangla and English version will be finalized after taking the opinions from the stakeholders.

- II. **Trade Marks:** The Trade Marks Act, 2009- Registration provides 7 years of protection. But after every 10years it can be renewed on payment the renewal fees.

The ministry of Law has almost finished vetting the new Trade Marks Rules, 2011.

- III. **Copyright:** The Copyrights Act, 2000 (amended in 2005) - Copyrights exists 60 years after the death of the copyright owner.

- IV. **Industrial Design:** The Patents and Designs Act, 1911- protection is provided for 5years. Right can be renewed after every 5years for twice.
A project is going on to modernize the Design Act. Now the Law Consultants employed by the **Intellectual Property Rights Project (IPR Project)** are checking the Draft Design Act 2011 to see whether the new act will be favorable for our country and if the new act will be compliant with TRIPS.
- V. **Integrated Circuit:** The Law Consultants are trying to make a draft for the Layout Design (Topographies) Integrated Circuit Law, 2011.
- VI. **Geographical Indication:** The draft of the Geographical Indication Law was uploaded in the website to get the response from the stakeholders. After their response, the draft will be sent to Ministry of Law for vetting.
- VII. **Utility Model:** The Law Consultants of the IPR project are trying to make a Draft Utility Model Law, 2011 according to the conditions of TRIPS and the interest of our country.
- VIII. **Trade Secret or Undisclosed Information:** the law consultants are working to prepare a draft for Protection of Undisclosed Information Law.

IP Tribunal: The Registrar of the DPDT acts as a tribunal. One or two Assistant Registrar can be appointed by the registrar in the tribunal. If an IP right is opposed in the tribunal the Registrar or the Assistant Registrar, whoever acting as the judge, will pronounce the judgment based on the hearing between both the parties. Any appeal against the decision of the tribunal lies to the High Court having jurisdiction.

Compliance with TRIPS and other International Agreements, Treaties and Protocols: IP laws are in compliance with TRIPS.

Bangladesh is currently party to the following agreements, bodies, treaties and protocols –

- I. Convention establishing the World Intellectual Property Organization (WIPO) - May 11, 1985
- II. The Paris Convention for the Protection of Industrial Property -March 3, 1991
- III. Berne Convention for Protection of Literarily and Artistic Works –May 4, 1999
- IV. Universal Copyright Convention -May 5, 1975
- V. The GATT & TRIPs (WTO Agreement) -April 15, 1994. Our country is also a signatory of several WTO treaties and agreements.

Bangladesh is not a party to the **Patent Cooperation Treaty (PCT)**.DPDT has sent a proposal to the government to seek permission to join PCT. That proposal is awaiting the approval of the Foreign Ministry right now. As soon as foreign ministry approves the proposal Bangladesh will apply to join this treaty.

2.2.2 Copyright Office –

Organizational Framework: Copyright Office is a quasi-judicial organization. The activities of the office are being governed by the Copyright Act, 2000 (amended in 2005). The Registrar of Copyright is head of the office.

The copyright board consists of a chairman and not less than two or more than six members. The chairman of the board is either a present or former judge or a civil servant having the status of Additional Secretary or a lawyer having the qualification to become a judge of the High Court Division.

Key Functions: Registration of copyright under the Copyright Act is voluntary and not obligatory. The certificate issued by the registrar of copyright constitutes prima-facie evidence of ownership of copyright. Registration process in the office is manual not automated.

The copyright board acts as an appellate authority and is deemed to be civil court. The board hears the appeal submitted before it by an affected person for infringement of copyright. The judgment of the board is appeal able to higher courts.

Staffing and Human Resources Development Plan: At present 27 employees are working at the Copyright Office against a total of 49 sanctioned positions. To improve the overall situation recently 14 new staffs were recruited through a process of written examination and viva voce. In addition, 29 new positions were created including the post of civil servant i.e. Deputy Registrar and Assistant Registrar.

No extensive skill or training program on copyright is available at any government training institutions. Seniors offices of the Copyright Office i.e. Registrar, Deputy Registrar provide some internal trainings for the staffs. Seminars regarding IP, copyright, copyright law are organized and participated to raise the awareness level.

National cultural policy: National Cultural Policy, 2006 was declared to promote and protect the national culture and the cultural heritage. Objectives of the National Cultural Policy are as following –

- I. By following the traditional cultures, to maintain the existence of all the communities in Bangladesh along with having their religious believes.
- II. To combine the cultural works with the entire financial development.
- III. To maintain the cultural development between the ethnic communities, & keep a good relation between them.
- IV. Accept the good things in the culture & stop the bad things

The Ministry of Cultural Affairs (MOCA) and the organizations under the ministry are responsible for the implementation. The list of the organizations under the MOCA is –

- I. Bangla Academy
- II. Bangladesh Shilpakala Academy
- III. Bangladesh National Museum
- IV. Bangladesh Folk Arts and Crafts Foundation, Sonargaon

- V. Copyright Office
- VI. Department of Archaeology
- VII. Nazrul Institute
- VIII. Department of Public Libraries
- IX. National Book Center
- X. Cox's Bazar Cultural Center

Promoting the creative industry: On May 2012 Bangladesh adopted 'Dhaka Declaration on the Diversity of Cultural Expressions' that includes the policy objective of promoting cultural and creative industries by recognizing the importance of intellectual property rights in sustaining those involved in cultural creativity.

Collective management organizations: The formation of Collective Management Organizations is included in the Action Plan that is submitted to the Ministry of Cultural Affairs for implementation.

Economic impact of copyright and related industries: No study was found assessing the economic impact of copyright and related industries at the time of writing this report.

Traditional knowledge (TK) and folklore: Bangladesh is yet to have any legal framework or administrative mechanism for the protection of TK and folklore and to obtain benefit from their commercialization. The Ministry of Cultural Affairs and its affiliated organizations have limited operations to preserve and promote TK and folklore.

IP and information and communication technology (ICT): The ICT sector of Bangladesh has started growing after 2000 due to some favorable policies of the government. In December 2011, a separate Ministry, Ministry of Information & Communication Technology has been created to 'give more thrust for the ICT sector'. ICT has been included in the Allocation of Business of the Ministry, and Bangladesh High-Tech Park Authority Act-2010 has been approved. In addition, the Information and Communication Technology Act and ICT Policy-2009 were formulated and Copyright Act-2000 was amended to protect copyrights of locally designed software. High-Tech Park Authority and Controller of Certifying Authority have been established under the law. But Bangladesh has a long way to go establishing a strong ICT sector with effective utilization of IP in development of ICT sector.

Bangladesh has great potential in the market of computer software. Software is protected by copyright as literary work specified in section 2(46) of the Copyright Act, 2000. The software market is hugely hampered by piracy due to lack of effective optical disc regulation and enforcement of existing copyright regulation.

2.3 Current state of IP Enforcement

IP enforcement laws:

Trademarks - The Trademarks Act, 2009 gives the scope to protect the services under International Classes 34-45. The said Act has a clause (109) authorizing the

customs officials to call for records and disclose the source of importing items prohibited under the Customs Act, 1969, Section 15(d)(e) & (f).

Remedies are available under the following provisions:-

The Trademarks Act, 2009

Chapter X: Offenses, Penalties and Procedure

Sections 73 - 91 of the Trademarks Act, 2009 are the relevant provisions for criminal proceeding for trademarks right violation in Bangladesh. If anybody commits offense as described in items (a) to (g) in Section 73 shall be liable for the first offense to pay penalty of Tk. 200,000 with sentence of two years and Tk. 300,000 and three years sentence for the second offense. The other sections are also open depending on the nature of violations.

The Customs Act [IV of 1969],

Chapter IV. Prohibition and Restriction of Importation and Exportation.

Section-15. Prohibitions. No goods specified in the following clauses shall be brought, whether by air or land or sea, in to Bangladesh:-

(d) Goods having applied thereto a counterfeit trademark within the meaning of Bangladesh Penal Code or a false trade description within the meaning of the Merchandise Marks Act.

Section 17 - Detention and confiscation of goods imported in breach of Section 15 or Section 16. Where any goods are imported into or attempted to be exported out of Bangladesh in violation of the provisions of Section 15 - such goods shall, without prejudice to any other penalty to which the offender may be liable under this Act, or any other law, but subject to rules, be liable to seizure and confiscation.

Copyrights - Copyrights are protected for original intellectual work of literature, art, music, software, etc. under the copyrights Act – 2000 (Amended in 2005). Copyright exist up to 60 years after the death of copyright owner.

There are three kinds of remedies against infringement of copyright, namely:

1. Civil remedies - Civil suits provide remedy for claiming compensation for infringement of copyright and loss of profits as well. The owner of the copyright can bring civil action in which reliefs such as Anton Pillar Order (Search Order) injunction, accounts and damages can be sought. A suit or other civil proceedings relating to infringement of copyright is to be filed in the Court of District Judge, within whose jurisdiction the plaintiff resides or carries on business or where the cause of action arose irrespective of the place of residence or place of business of the defendant

2. Criminal remedies - Criminal remedies provides for the imprisonment of the accused or imposition of fine or both, seizure of infringing copies etc. Criminal proceedings are available in order to punish the persons who have violated the copyright law. The infringement of copyright is a cognizable offence and is punishable with imprisonment for a period extending from six months to four

years and a fine ranging from Tk. 50,000/- to Tk. 2,00,000/-. The Act also provides for seizure of infringing copies and confiscation of all duplicating equipments used for manufacturing counterfeit copies. However, if the court is satisfied that infringement is committed without having an intention for profit or non-commercial purpose, the court may give lesser punishment, which may be imprisonment for less than six months and fine for less than 50, 000 taka. However, in case of piracy of computer programs, the amount of fine is extended by an amendment to the Copyright Act on May 18, 2005, which is now minimum Tk 1, 00000 and maximum Tk. 4, 00000, if it is committed for commercial purpose. However, in case of mere use of infringing copy or if the court is satisfied that it is committed for non-commercial purpose; the court may impose lesser punishment and lesser fine as well.

3. Administrative remedies - Administrative remedies consist of moving to the Registrar of copyrights to ban the import of infringing copies into Bangladesh, when the infringement is by way of such importation and the delivery of the confiscated infringing copies to the owner of the copyright.

Patents- Under the Patents and Designs Act,1911 the remedy is available in form of injunction, delivering up of infringed patented product, damages for an account of the profits. Besides, certain acts of infringement have been made punishable offences to be judged by criminal courts.

Designs- the Patents and Designs Act, 1911 provides civil remedies for the infringement of the copyright of a registered design.

Scope of IP enforcement laws: Irrespective of the format, the following judicial and administrative procedures/remedies are included in various IP enforcement laws:

- a. Jurisdiction courts to handle cases of IP infringement;
- b. IP right holders have standing, can be legally represented in court, have a mandatory obligation to appear in court in order to claim their civil rights;
- c. Judicial authority to order relevant parties to produce evidence;
- d. Means to identify and protect confidential information brought forward as evidence;
- e. Remedies (e.g., injunctions and any compensation for damages that may be ordered);

IP enforcement agency: There are several law agencies that deal with the enforcement of IP laws.

Different Government agencies are empowered to take effective action under different provisions of the law. The present functional agencies are –the DPDT, the Copyright Office, Mobile Courts, Rapid Action Battalion (RAB) and the local Police. The agencies are working under different teams in different areas.

Border measures: Customs officers normally deal with the tax receiving part. If the tax of the goods are not illegal according to the law of Bangladesh and the tax is paid perfectly, then the customs officers cannot seize goods generally because they do not have adequate knowledge about trade mark or such things. They do not have much to do with the matter whether the goods are real or pirated. If the good is a tax-paid legal good in Bangladesh, then the customs officers actually cannot help much.

The authorities that deal with this problem do not get information about the pirated or counterfeit goods till the goods come into the market. When these goods come into market and somehow doubted to violate IP laws, then police and other concerned authorities become aware. It has to be informed to the police station. Then the police will investigate the case. If the allegation is proved, then the goods will be seized and a regular case will be filed.

In Bangladesh, a small number of products are being seized. 80% of them are food items. Generally food items have expire date. So these items are kept in a place after being seized and after the expired date they got rotten or become of no use. Other items are gathered in a place and they are just kept there for years and years. These items can be used as evidences. They are not generally destroyed.

The right holder himself can take initiative and file a case at the police station if any of his trade mark, patent or copyright is violated. This case can be civil or criminal depending on the kind of violation.

Customs officers can take action if they are informed by the police after filing a case.

IP enforcement courts: There is actually no specialized IP enforcement court. But Tribunal Court is formed consisting of the higher officials of the Department of Patent, Design & Trade Mark. Primarily these IP violation cases are handled by them. These cases are called opposition cases.

Journals are published on the trade mark or other IP related things. These journals are open for concerned people for 2 months. If any IP violation matter is seen in these journals then the concerned person or organizations have to file case in the tribunal court. Then this court primarily watches out the matters regarding the goods to be seized and all that. Usually the tribunal court at first and the regular court deals with prosecutions related to goods seizures.

According to law during a case 3 dates can be taken from the court. There is also time limit for completing the legal proceedings depending upon the type of case. But this timescale or limit cannot be applied most of the time.

In IP laws it has been said that if any product or thing sounds like infringement, looks like infringement, taste or feel like infringement, then that product or thing itself is an evidence of IP violation. Rules of imposition of fines depend upon various cases as the law is not strictly maintained.

If the goods are seized within the borders of the country the right holder has to report it at the police station and then the police will take care of the case according to the report of the right holder.

IP enforcement officers (lawyers, judges and police): There is no specific training program for the lawyers and judges dealing with IP-related matters. They have to improve their skills by practicing. Various institutions that work on IP laws sometimes arrange short training programs for them.

To deal with the IP cases, at first some high officials of Department of Patent, Design & Trade Mark are appointed as the judges of special tribunal court. When these cases go to the regular courts, regular judges deal with them. There is no specific difference between judges dealing with IP cases and those dealing with competition cases.

Civil disputes: Both the tribunal court and the regular courts dealing with civil or criminal cases hear cases related to the challenging decisions made by the national IP office. Usually, cases in which a person's IP violation act can cause loss to another person's business, that means the cases that affect people's business or such matter, are heard in the civil courts. Regular professionals who have knowledge of IP laws can act on behalf of clients in court.

Government agencies notify the defendant(s) that legal action is being taken by sending legal notice. Generally Ministry of Industry and Ministry of Cultural Affairs are responsible for ordering the disclosure of third party involvement in infringement.

According to law there is some applicable timescales depending upon the kinds of the cases. But generally it takes a lot of time for legal proceedings.

Different levels of damages/costs are there in the law. But very few of them are maintained in Bangladesh. Many IP violated things are used by the people not only because they are willing to use them but also for their non-affordability. People cannot buy things by their actual price as the prices are really high. So the laws are a little relaxed. Again estimating the cost of the damage is really tough. People buy pirated things despite knowing the truth because the real goods are so expensive that those are unreachable to them. Appeals can be made to the same authority as regular cases.

Counterfeiting and piracy cases are dealt like the other civil or criminal cases unless the case is very sensitive.

Educating the public/consumers, and creating awareness: Very few attempts are seen educating the public/consumers and creating awareness of the dangers/the impact of counterfeit and pirated goods -On the IP day, "Nokol ponyo borjon korun" (Discard the counterfeited

products) slogan is seen to be said to make people aware. Sometimes concert or other social programs are organized to make the public/consumers aware. Renowned cultural personalities take part in these actions. These types of programs are not organized in an adequate number. So, most of the times, these have little effect on public. Although no particular statistics are available, the counterfeit and pirated goods have a real negative effect on the economy because the country is deprived of the tax of those types of goods.

2.4 Generation and Commercialization of IP

Science technology and innovation (STI) policy:

The Sixth Five Year Plan (SFYP) of Bangladesh recognizes the importance of knowledge based economy for higher productivity. The major objectives of the Sixth Five Year Plan in the field of science and technology are as follows:

1. Development of new sustainable technologies and industrial processes for production and preservation of products for poverty alleviation and income generation by environmentally sound and appropriate biotechnology.
2. Development of nuclear service related infrastructure such as development of nuclear facility, improvement of health services, transfer of nuclear technology as well as service delivery to various end users including environment and human resource development.
3. Development of technologies specially required for the capital goods sector and large industrial enterprises and improvement of appropriate traditional and indigenous technologies for small enterprises in both rural and urban areas.
4. Upgradation of research organizations involved in the field of science and technology and attempt to make Bangladesh into a knowledge-based modern state through use of indigenous technology and innovations.
5. Strengthening R&D programs of existing organizations of the Ministry of Science and ICT through dissemination of modern scientific and technical know-how.
6. Strengthening of the institutional and human development activities in the country through development of improved science and technological knowledge.
7. Development of new and renewable sources of energy and their dissemination for the end users.
8. Providing education, research and training in marine science and utilization of the knowledge for invention and exploration of marine resources and protection of marine environment.

The Ministry of Science and Information and Communication Technology (MOSICT) is the key government agency for science and technology development. The ministry has seven agencies under its umbrella – Bangladesh Atomic Energy Commission (BAEC), Bangladesh Council for Scientific and Industrial Research (BCSIR), Bangladesh Computer Council (BCC), National Museum of Science and Technology (NMST), Bangladesh National Scientific and Technical Documentation Centre (BANSDOC), Bangabandhu Sheikh Mujibur Rahman Novo Theatre and National Institute of Biotechnology (NIB). Among these, BCC deals with ICT and all other agencies are related to S&T.

Besides these, other institutions like Bangladesh Academy of Science (BAS), Bangladesh Agricultural Research Council (BARC), Bangladesh Medical Development Council (BMDC) are contributing in the development of the science and technology.

Vision 2021 stipulates that Bangladesh will attain middle income status by 2021. In order to fulfill this vision the manufacturing sector would play a central role. At present, 53% of the GDP is generated from the service sector where the shares of agriculture and industry are 18.4% and 28.6%, respectively. The SFYP recognizes that in a labor surplus country like Bangladesh small and medium enterprises (SMEs) can play a substantial role in providing the impetus to the development of a modern manufacturing sector and in job creation outside of agriculture and informal services. The SFYP recommends including programs for providing special technical and financial support to innovators to set up enterprises, specifically for SMEs through the establishment of technology business incubators (TBIs), S&T interventions for innovation in process/product/packaging for manufacturing of demand-driven consumer products/ancillaries and promoting rural technology.

The National science and technology policy (NSTP) 2011 advocates setting up a National Centre for Technology Development and Transfer (NCTDT) that would play a crucial part for SMEs to serve as a focal point to provide information, training, consultancy and extension services in respect of technology transfer. The initial efforts in such directions may be made through the formation of an Inter-ministerial Consultative Committee on Technology Transfer constituted by the National Committee on Science and Technology (NCST).

The NSTP is designed to encourage research and innovation in areas of relevance for the economy and society, particularly by promoting close and productive interactions between private and public institutions in science & technology utilizing the following measures -

- I. Planning, Coordinate and Monitoring of all Research and Development work concerning science and technology in the country.
- II. Establishment an Engineering Research Council to provide vital link in the commercialization of research results and in acquisition, adoption and adaptation of imported technology.

- III. Selection of the problems where solutions are likely to have a significant impact on the economic and socio-cultural development of the country through –
 - Strategic planning for individual R&D institution and institutional sustainability
 - Promotion of research and strengthening the competence and capability of research institutions including the universities
 - Capacity enhancement
 - Availability of Multi-disciplinary Manpower for Goal-Oriented Research
 - Review Mechanism for accountability in R & D organizations
- IV. Establishment of new organization & center of excellence for dealing with field of new and emerging science & technologies such as ICT, biotechnology, materials science.
- V. Providing science education ensuring the employment opportunities of science graduates, initiating meaningful Ph.D. Programs, developing the infrastructure for specialized subjects like biotechnology and genetic engineering, nanotechnology, energy production & management and IT
- VI. Improvement of standard of scientific knowledge at all levels from the school to the university
- VII. Training of personnel and specialized scientific technological staff in the research institutions/laboratories and industrial establishments
- VIII. Ensure suitable environment for scientific and technological research
- IX. Creation of scientific awareness among the general masses of people through popularization of science and technology and encouraging innovative activities, especially among the younger generation through media and information.

The NSTP also recognizes the importance to establish an Intellectual Property Rights (IPR) Regime that maximizes the incentives for the generation and protection of intellectual property by all types of inventors. Therefore, the policy advises as following –

- (i) The intellectual property right (IPRs) in all its manifestations such as Trade Related aspects of IPR (TRIPs), Patent/Copy right, etc. will have to be properly taken into account in pursuing any scientific and technological R&D pursuit;
- (ii) Scientists and technologists should patent their products, processes and important research findings that have commercial potentials;
- (iii) The Government will take appropriate measures to prevent bio-piracy and patent important resources related to national bio-diversity;
- (iv) While encouraging use of traditional knowledge in its all manifestations, adequate legal procedures will be developed to protect IPR's related to our biodiversity;

- (v) Legal provisions on protection of IPR in case of indigenous resources, traditional community knowledge, products and processes and also those of others should be updated and enforced.
- (vi) Traditional medicinal plants, herbs, shrubss will have to be protected from bio piracy through proper documentation.
- (vii) IPR should be introduced as a part of the curricula at the university level;

Promoting Innovation and Patenting in Industry: There are no advisory services about the creation and use of IP provided by the government. Sometimes the Government sends letters to business firms asking them to send a representative for attending some IP related seminars. But such invitations are very few.

DPDT always publish the news of any new IP right grant in the National Gazette. But there is no convenient database from where businesses can get information. DPDT is in the process of creating a national information center by digitizing all the information.

Institutional IP policies: IP policy is an important tool for promoting the generation, protection and commercialization of IP in universities and research organizations. Bangladesh recognizes the need of institutional IP policies. However, the progress is hindered due to following constraints –

- Need for institutional autonomy
- Lack of proper incentives
- Lack of training
- Inadequate fellowships
- Lack of professionalism
- Inadequate facilities
- Lack of patronage for popularizing science
- Lack of research funding
- Inadequate research and laboratory facilities
- Lack of promoting success in R&D
- Inadequate international and regional collaboration

Observing the situation the SFYP adopts the Science and Technology Agenda consist of -

1. Appropriate R&D agenda in line with national development aspirations;
2. Appropriate institutional system for managing R&D;
3. Appropriate HRD for Science and Technology;
4. Appropriate resource allocation for accomplishment of the agenda.

Besides the SFYP provides a thorough approach for institutional reform, human resource development in science and technology that would facilitate developing institutional IP policy.

Funding of research and development (R&D): At present, Bangladesh has more than sixty R&D institutions and supporting facilities administered by research councils, Development Agencies, Government Departments, Non-Governmental organizations and educational institutions. However, coordination among them is inadequate. Often no specific targets are set, no monitoring and control measures exist and not enough consideration is given to the development of marketable products from these endeavors.

Official figures for investment in R&D are not available. Therefore, it is hard to assess the sector-wise contribution of R&D activities in GDP. In one study V.V. Krishna estimated that in 2004-05 the R&D expenditures as percentage of GDP was 0.027. However, according to a broader definition of ‘knowledge economy’ the estimated share is about 2.3 percent (Table 3).

Table 3: Revised Sectoral ADP Allocation FY2012

(Billion Taka Unless Otherwise Specified)

SFYF Sectors	Revised ADP	SFYF Public Investment	Difference	% Change
Agriculture, Water Resources & Rural Development (+ Environment and Disaster Management)	89.9	66.0	23.9	27
Manufacturing	9.7	8.1	1.6	16
Energy	79.5	85.8	-6.4	-8
Transport Sector	70.7	76.9	-6.2	-9
Urban Sector	42.0	100.8	-58.9	-140
Knowledge Economy	2.3	5.2	-2.9	-130
Education, Religious Affairs, Sports and Culture, and Labor and Manpower	51.1	71.6	-20.5	-40
Health Sector	33.9	45.0	-11.1	-33
Social Protection	3.3	5.0	-1.7	-53
Environment and Disaster Management	0.0	0.0	0.0	
Public Administration and others	9.8	42.1	-32.2	-328
Total	392.0	506.4	-114.4	-29

Source: GED, Planning Commission.

Note: (i) Environment and Disaster Management has been grouped with Agriculture and Water Resources. (ii) RADP allocations do not include block allocations by Honorable Planning Minister. (iii) Estimated SFYF public investment composed of ADP as well as investment usually undertaken by ministries and hence size of public investment is larger than the ADP size.

National innovation system: The concept of a national innovation system rests on the premise that understanding the linkages among private enterprises, universities, research institutes, think tanks, consulting firms, and others. The innovative performance of a country depends to a large extent on how these actors relate to each other as elements of a broader system. In Bangladesh, linkages and networking between the industry and R&D organizations have been very poor. There has also been a lack of effort on the part of government science institutions and enterprises to absorb and adapt technologies.

In the NSTP effective public-private sector collaboration in R&D is encouraged and the needs and priorities of the private sector should also be reflected in the S&T programs. These would improve the inter-institute linkages. The NSTP also points out that access to scientific knowledge, an effective mechanism for exchanging of knowledge, experience and expertise with need to be improved for better innovation system.

Technology and IP information Services: Even though IP databases are available business firms are unlikely to use them. Most of them hire IP Law firms for dealing with IP rights. IP filing is not digitized and available online.

IP awareness and outreach programs: The general level of IP awareness in the country is feeble, but it is improving gradually - especially in business sector. General citizens hardly know anything about IP. Print and social media are playing a vital role to improve the knowledge of IP. But massive campaigning is necessary to improve the awareness among the people, specially creating specified awareness programs for different types of people (e.g. students, rural people, government officials, etc.). Generally people think the main advantage of IP protection would be to ensure the right of creative people; on the other hand, the main disadvantage would be people have to buy the original products with higher prices.

Till now no evaluation exercise or strategy has been undertaken throughout the country for enhancing IP awareness.

Valuation of IP Assets: Mechanism for assessing the value of IP assets is available but most people don't know how they are used. There are few experts on IP evaluations. Industries only evaluate their IP asset if they feel it is required.

Financing the Commercialization of IP Assets:

Financial products—Bank loans are available. If the IP is assumed to have a good industrial application and if the IP has a good market demand then definitely IP will play an important part in the decision making process.

Collateral – IP objects can be regarded as financial collateral. But such a case is very rare in Bangladesh. If the IP object is valuable enough then banks may regard them as financial collateral.

2.5 Plant Variety Rights and Seed Industries

Plant variety protection: Bangladesh is a party to Convention on Biological Diversity (CBD). The country has also signed International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) and is a WTO member. Domestic preparations to devise national laws are underway. The draft laws on biodiversity protection and plant variety protection (PVP) are pending for approval.

Two different committees constituted by the Ministry of Agriculture prepared these drafts. While the first Committee submitted two separate but inter-linked drafts on Biodiversity and Community Knowledge Protection Act and Plant Varieties Act of Bangladesh in 1998, the second Committee submitted another draft on PVP in 2003.

The 1998 PVP draft regulates the commercial transaction of plant varieties including new plant varieties. Its provisions are to be interpreted in the context of the draft Biodiversity Act. In contrast with the 1998 PVP draft that referred to the obligation under CBD the 2003 PVP draft seeks to fulfill the obligation under Article 27.3 (b) of TRIPs. [<http://www.worldtradereview.com/news.asp?pType=N&iType=A&iID=121&siD=14&nID=24888>]

Agricultural policy: The National Agriculture Policy (NAP) was adapted in April 1999. The overall objective of the policy is to make the nation self-sufficient in food through increasing production of all crops including cereals and ensure a dependable food security system for all. The Ministry of Agriculture (MOA) is responsible for the implementation of this policy.

In addition to the NAP, a National Seed Policy (NSP) is adapted in 1993, in order to make the best quality seeds of improved varieties of crops conveniently and efficiently available to farmers with a view to increasing crop production, farmer's productivity, per capita farm income and export earnings.

Genetic resources and products: The draft Biodiversity and Community Knowledge Protection Act, 1998 was proposed by the National Committee on Plant Genetic Resources with the following objectives –

- a) To protect the sovereign rights of the Communities that have knowledge of biodiversity, and have managed, maintained, conserved, reproduced and enhanced biodiversity, genetic resources and traditional knowledge, culture and various forms of practice related to these resources and which are always held in common.
- b) to create the legal and institutional environment so that the Communities, realizing the full potential of its benefits, can contribute and continue enhancing biodiversity through innovation, cultural internalization and expressions for a qualitatively rich and sustainable and life.
- c) to strengthen the informal knowledge system and the collective innovation of the Communities that prohibit claim for private ownership, private intellectual property rights or privileges that do not exist now, and that are against the moral, intellectual and cultural values of the Communities.

Geographical indications: The draft of Geographical Indication Act 2011 prepared by the Ministry of Industries is under process of finalization.

Commercialization of plant variety rights: In Bangladesh, plant breeding and variety development is primarily conducted by the seven public research institutions associated with the National Agricultural Research System (NARS) - both independently and in collaboration with

international ARIs. Bangladesh Rice Research Institute has collaboration with International Rice Research Institute and has released 52 rice varieties. The Seed Policy of 1993 and Seed Rules 1998 help increasing private sector participation in seed production through multiplication of seeds and imports.

3. IP and Public Policy relevant to national development priorities

3.1 Long-Term Vision for National Development

The Government has formulated the first-ever long-term **Perspective Plan 2010-2021** consistent with the Vision 2021 articulating its commitment to build a happy and prosperous Bangladesh. The overarching goal of the Perspective Plan is to accelerate national development process that embodies a shared view of all citizens and a dream supported by will and action to transform it into reality. The fundamental objective of the Plan is poverty eradication through attainment of higher growth rates as well as achieving middle income country status in real terms by 2021, the Golden Jubilee Year of national independence. It envisioned equitable and inclusive growth process where poverty will be at its lowest level and regional disparities in development will be removed. [Bangladesh Economic Review 2011]

The objectives of the Perspective Plan in outline for a *Transformed Bangladesh* by 2021 are:

- Elimination of illiteracy as soon as possible after 2014.
- Attainment of 100 percent enrollment with gender parity and specific steps in addressing the dropout problem, particularly of the girl children.
- Expansion and diversification of the industrial sector for enlarging the share of the secondary/industrial sector to 35 per cent of GDP and for employment generation.
- Reduction of unemployment rate to 15 percent.
- Decrease in the number of people below poverty line to 25 million i.e. to 15 percent.
- Ensure per capita energy consumption rising to 600 kwh.
- Raising per capita income to US \$ 2000
- Strengthening information technology towards a digital Bangladesh.
- Preservation, conservation, and restoration of all the historical monument/mass graves of martyred war veterans.
- Protection and enhancement of the environment, effectively meeting the challenges arising from the intensifying climate change and addressing other environmental degradation issues.

The following are the key sectors identified where IP could be used effectively to achieve the goal –

- Agriculture
- Education
- Industry
- Energy
- ICT

- Health

3.2 National Policies for Identified Sectors and IP

Agriculture

National Agricultural Policy was adapted by the Ministry of Agriculture in 1999. The overall objective of the National Agriculture Policy is to make the nation self-sufficient in food through increasing production of all crops including cereals and ensure a dependable food security system for all. The key targets of the Perspective Plan (2010-2021) regarding agriculture are to ensure a minimum of 2,122 k.cal/person/day of food for all poor people and standard nutritional food to at least 85 per cent of the population by 2021 and achieve self sufficiency in food by 2012.

In order to achieve these goals, IP utilization could be considered implementing the following strategies–

- Achievement of self-sufficiency in the production of rice.
- Diversification of agricultural crops by adopting a system based on dissemination of information on agro-ecological zoning to identify areas suitable for different crops.
- R&D for productivity increase yielding up to 20 per cent higher production of hybrid rice through technological progress, stress tolerant varieties (salt, submergence and drought tolerance for rice as well as heat tolerance for wheat) will be developed.
- Exploring reduction in yield gap for existing technologies and better seeds, efficient management of seed beds and adoption of the System of Rice Intensification (SRI), involving young seedlings, one seedling per hill, larger spacing, alternate wet and dry irrigation, use of compost/farm yard manure and direct seedling.

Education

The National Education Policy was adapted in 2010 by the Ministry of Education. The primary objectives of this policy are “directed toward the cultivation of human values.” One of the key target of the Perspective Plan (2010-2021) is to ensure 100 per cent net enrolment at primary level as soon as possible after 2010, provide free tuition to degree level as soon as possible after 2013, attain full literacy as soon as possible after 2014, and ensure that Bangladesh is known as a country of educated people with skills in information technology.

The following strategies could be considered for IP utilization –

- Integration of technology in teaching learning process, teacher development process, and skills development.
- Promoting science and technology to (a) create a generation highly educated in science and technology; (b) encourage Research and Development in government and

privatesector and increase the share of GDP spent on R&D; (c) establish science and technology parks;and (d) spread awareness of vocational education for work at home and abroad.

Industry

The Ministry of Industries announced the new Industrial Policy in 2010. The overall objective of the Industrial Policy 2010 will be to provide a policy and institutional framework that will help achieve economic growth through industrialization, create employment opportunities on a long and sustained basis, and improve the standard of living in line with the vision laid out in the policy. The Perspective Plan (2010-2021) targets to change the sector-wise composition of output with the 40% share of industry and reduce the unemployment rate to 15 per cent and the share of industry in employment to 25 per cent in 2021.

The effective use of IP can be pursued in following strategies –

- SME-based industrialization that will be labor-intensive,decentralized in terms of location, users of indigenous raw materials, low inputs and will be serviced byadequate human resources and technology adoption/adaptation and transfer.
- Making best use of thepreferential market access treatment offered to Bangladesh as an LDC.
- Strengthening the textile sub-sector in terms ofhigher productivity, quality and product diversification.
- Policy support and promotional initiatives to realize emergingopportunities in new thrust sectors in the Industrial Policy 2010, including ICT-based sectors, food, beverages, light engineering, cement, high-end readymade garments, pharmaceuticals, ship-building and others. Export incentives such asbonded warehouse facilities, duty drawback and institutional – infrastructural support in theform of establishment of industrial park, dedicated private sector EPZs and SEZs to stimulate their growth.
- Encouraging FDI through various policy incentives to stimulate access to technologyand frontier know-how, to access global market opportunities and take advantage of thegrowing regional market.
- Adequate support to service-sector based industries such as ICT based industries, providing credible standardization and certificationmechanism of international standard will be established.
- Developing diversified jute products throughappropriate use of technology, developing different product mix of jute and other natural fibers and strengthening Bangladesh Jute Research Institute (BJRI) in this regard.

Energy

The Perspective Plan (2010-2012) aims for energy security and electricity for all by 2021. One of the key targets of the plan is to generate 8,500 megawatts of electricity by 2013, which will increase to 11,500 megawatts in 2015, and make provisions to meet the expected demand for power of 20,000 megawatts in 2021. The use of IP could be explored in following strategies -

- Private sector involvement in electricity generation shall take account of the cost price aspect in relation to the public sector.
- Use of coal, if necessary imported coal, in the energy mix in the short and medium term and exploring nuclear energy.
- Energy conservation.
- Pragmatic approach for exploration, production and utilization of natural gas and accordingly implement short, medium, and long term programs.

ICT

The National ICT Policy 2009 has expressed its vision in terms of expansion of information and communication technology and its huge potential in establishing a transparent, committed and accountable government, to ensuring the development of skilled manpower, to improving social justice, to managing public services through private-public partnerships, and to raising Bangladesh' status to a middle income country by 2021.

The National ICT Policy 2009 has produced a detailed and time-bound action plan of 306 activities. These are to be implemented in the short-term, medium-term (5 years) and long-term (10 years). The following strategic goals based on, the ICT policy and the participatory national level consultation could exploit effective IP solutions –

- Facilitate quality education for disadvantaged sections of the population, including marginalized women/girls and men/boys, by innovative application of ICT technologies.
- Introduce and strengthen bio-technological research for increased crop production.
- Increase power generation substantially by use of nuclear energy, which will also help boost industrial growth.
- Generate employment by making ICT literacy available particularly to young men and women in disadvantaged parts of the country.
- Create a centre of excellence in science and technological research to develop solutions to technological challenges and reduce dependence on foreign experts.
- Reformulate science and technology policies in the context of revolutionary developments in ICT and bio-technology, with a particular focus on poverty reduction strategies.

- Give appropriate importance to indigenous technology and inspire local technology through appropriate import and export policies.
- Make serious efforts to develop technologies for community housing in coastal areas.
- Establish Bangladesh as a business process outsourcing destination.
- Ensure universal connectivity, for which the Universal Service Fund may also be used.
- Promote new technologies, value added services, content generation and promote/facilitate content service providers.
- Promote soft-term loans for young and fresh entrepreneurs and promote self employment initiatives.

Health

National Health Policy, 2011 aims to ensure healthcare for all. Bangladesh, over the last twenty years, has shown major progress regarding life expectancy, maternal mortality and infant mortality. To continue the improvement in the health sector the Perspective Plan (2010-2012) set the targets to -

- Eliminate all contagious diseases and increase life expectancy to 70 years by 2021;
- Reduce maternal mortality to 1.5 per cent, raise the use of birth control methods to 80 per cent, and bring down infant mortality to 15 per thousand live births by 2021.

The IP driven strategies to achieve these targets are as following –

- The quality of medical education should be improved.
- Bio-technology, tele-medicine, training institutions especially for nurses and medical technologists can be expanded.
- Efficiency in the use of health sector resources should be improved.

4. Developing National Intellectual Property Policy for Bangladesh

A national IP policy (NIPP) is a useful device that facilitates effective creation, development and management of IP. A NIPP ensures the protection, development and utilization of an IP by its inventor. In Bangladesh, synchronization between IP institutions and enforcing agencies does not exist due to the absence of a NIPP. In general, the objectives of NIPP are –

- Develop clear vision of the government on IP issues;
- Encourage creation and innovation;
- Protect creation and innovation;
- Commercialize creation and innovation;
- Establish linkage between domestic innovation and market;
- Develop technological base;
- Make room for transfer appropriate technology;
- Improve efficiency and transparency in the IP Institutions;
- Participate effectively in the bi-lateral, regional or multilateral negotiations related to IP issues;
- Create IP environment.

Bangladesh is in the first stage of formulating a NIPP. The responsible agents for the formulation are the Ministry of Industries (MOI), the Ministry of Cultural Affairs (MOCA) and the Ministry of Science and Technology (MOST), with support of the WIPO, the Ministry of Commerce (MOC), the DPDT, and the Copyright Office.

The following assessment matrix presents key challenges, strategic issues, priorities, and recommendations regarding different IP related issues.

IP Issues	Key challenges	Strategic Issues	Priorities	Recommendations
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IP Issues	Key challenges	Strategic Issues	Priorities	Recommendations
<p>IP Administration DPDT Copyright Office</p>	<ul style="list-style-type: none"> • Outdated and insufficient IP laws and regulations for patents and designs; • Absence of laws and regulations dealing Trade secret, Integrated circuit, Geographical indication, Traditional knowledge, folklore, Utility model, Breeders' rights/plant variety; • Inadequate staffs with limited technical knowledge and IP expertise 	<ul style="list-style-type: none"> • Amendment of the existing laws ; • Formulate new laws related to utility models, GI, and trade secret etc.; • Approaching local and international strategic partners for the development of IP system. <p>Local partners – ministries (MOI, MOCA, MOC)</p> <p>International partners – WIPO, WTO, and other donors.</p>	<ul style="list-style-type: none"> • Upgrading the IP infrastructure; • Modernizing the IP laws; • Automation of the office activities; • Developing the human resources; • Establishing the link between the researchers and the industries; • Creation, protection and utilization of IP resources for sustainable development of the country. 	<ul style="list-style-type: none"> • Immediate employment of skilled manpower; • Improvement of IP infrastructure ; • Full automation system of the IP offices for better services; • Building a digital database; • Establishment of separate IP office at the allotted 0.21 acre land.
<p>IP Law Enforcement</p>	<ul style="list-style-type: none"> • Weak IP enforcement; • Limited knowledge and skills among the law enforcing agencies; • Absence of collective management organizations; • Limited knowledge and information about IP issues among public and private stakeholders; • Limited number of private IP institutions 	<ul style="list-style-type: none"> • Ensuring better enforcement of IP rights through appropriate legal, institutional and administrative supports 	<ul style="list-style-type: none"> • Establishing linkages between IP institutions and law enforcing agencies; • Formation of collective management organizations. 	<ul style="list-style-type: none"> • Organization of specialized IP training programs for the police, judiciary and customs; • Systematic and specialized training programs for raising awareness; • Ensuring royalty payments to IP right holders
<p>IP Generation and Commercialization</p>	<ul style="list-style-type: none"> • Absence of effective technological base; • Limited scope of R&D in both public and private sector; • No linkage between R&D and industries; 	<ul style="list-style-type: none"> • Coordination of different sectors (agriculture, health, education) for innovation and commercialization of IP; 	<ul style="list-style-type: none"> • IPR protection through strict enforcement of IP laws; • Establishing National Science and Technology (S&T) Park; 	<ul style="list-style-type: none"> • Encouraging R &D both at the public and private sectors; • Increasing fund for researches & researchers; • Strengthening the public universities'

IP Issues	Key challenges	Strategic Issues	Priorities	Recommendations
	<ul style="list-style-type: none"> • Inadequate research funding; • IP registration is time consuming and costly; • Limited scope for IP education 	<ul style="list-style-type: none"> • Allocation of adequate funds for promotion of technological development. 	<ul style="list-style-type: none"> • Public Private Partnership for the development of S&T; • Inclusion of IP Curricula 	research facilities; <ul style="list-style-type: none"> • Linking local innovators with business; • Financing IP based businesses; • Increasing IP education and widely publicizing IP literature

5. Concluding Remarks

The government of Bangladesh recognizes that an important source of growth would be enhanced productivity via skill development and innovations and is moving forward to formulate a nation IP policy to ensure the protection and utilization of IP for the development of ‘knowledge economy’. This paper attempts to assess the current status of the national IP system and finds a number of obstacles on the way of IP driven development. Recommendations are made to eradicate the IP-system constraints hence, would serve as an input to develop the national IP policy.

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ANNEX

The list of survey respondents

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2. Mr. Farhad Hossain Khan; Assistant Registrar, Patent, DPDT, MOI
3. Zahiruddin Ahmed, Attorney at Law, Bangladesh Intellectual Property Lawyers' Office (BIPLO)
4. Md. Delwar Hossain, Advocate, BIPLO
5. Bipasha Matin, General Secretary, Build Better Bangladesh
6. Masood Nizam, General Manager – Operations, Apex Adelchi Footwear Limited
8. Syeed Nasim Manzoor, Managing Director, Apex Adelchi Footwear Limited
9. Mr. Nurul Karim; Manager, Romania Food and Beverage Ltd., Bengal Group of Companies
10. Ms. Amina Khatun, Program Manager, Intellectual Property Association of Bangladesh (IPAB)
11. Barrister Tanjib-ul-Alam, Dhaka, Bangladesh
12. Dr. Selim Raihan, Associate Professor, Department of Economics, Dhaka University
13. Dr. Nazneen Ahmed, Senior Research Fellow, Bangladesh Institute of Development Studies