



Protection of Traditional Knowledge for Sustainable Development Goals: A Legal Analysis in the Context of Bangladesh

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ARTICLE INFO	ABSTRACT
<p>Received date: Sep. 22, 2018</p> <p>Accepted date: Dec. 21, 2018</p>	<p>In present context Sustainable Development Goals (SDGs) cannot be achieved solely depending on the scientific knowledge. The gifts of scientific knowledge are many but the concept of 'sustainable use of resources' is the result of excessive use of modern science. So, for SDGs it is the high time for the States to consider the application and protection of Traditional Knowledge (TK) beside the scientific knowledge. The absence of awareness, inadequate support of national laws as well as non-implementation of international laws, lack of co-operational tendency among the States; hinders the initiatives to protect TK which affects the least developed countries and developing countries. In this study an attempt has been taken to clarify the meaning and nature of TK, to highlight its impact on SDGs, necessity of the protection of TK, existing legal mechanism and ways to protect TK in Bangladesh.</p>

Key words: Laws, Legal protection, Sui generis laws, Sustainable development goals, Traditional knowledge

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1. INTRODUCTION

Knowledge is the key of civilization. It helped the human race to sustain and co-exist century after centuries. In modern context knowledge can be found in various forms and among them the traditional knowledge (TK) and scientific knowledge are of the two forms of knowledge. In contemporary legal framework the later one gets more protection under the umbrella of the intellectual property laws and other laws in comparison to the former one, ignoring its impact on cultivation, healthcare system, climate, biodiversity etc. and collectively on Sustainable Development Goals (SDGs). Moreover, the preservation and

protection of TK should bear more importance as Bangladesh is expected to be graduated from (LDCs) to developing country by 2024 as per the declaration of the UN. During this crucial moment Bangladesh will face different challenges which can be mitigated by the proper application of scientific knowledge as well as traditional knowledge.

1.1 Traditional Knowledge: General Observation

Traditional knowledge (TK) refers to a body of knowledge that is handed over generations after generations of a specific community or a locality. This body of knowledge mainly exist in intangible form. TK is sometimes also named

as local knowledge, folk knowledge or community knowledge etc. Sometimes the term indigenous knowledge is used as a synonymous term of traditional knowledge. Indigenous knowledge refers to a body of knowledge which is a part of traditional knowledge but the holders of the knowledge grasps a distinctive characteristic from the rest of the TK holders. They are the community within a community of the state. There is no specific or worldwide accepted definition of traditional knowledge. However, WIPO has defined TK as followings:

Traditional knowledge (TK) is knowledge, know-how, skills and practices that are developed, sustained and passed on from generation to generation within a community, often forming part of its cultural or spiritual identity [World Intellectual Property Organization (WIPO), 2010].

The meaning of traditional knowledge can be summarised in the light of the opinion of WIPO as followings:

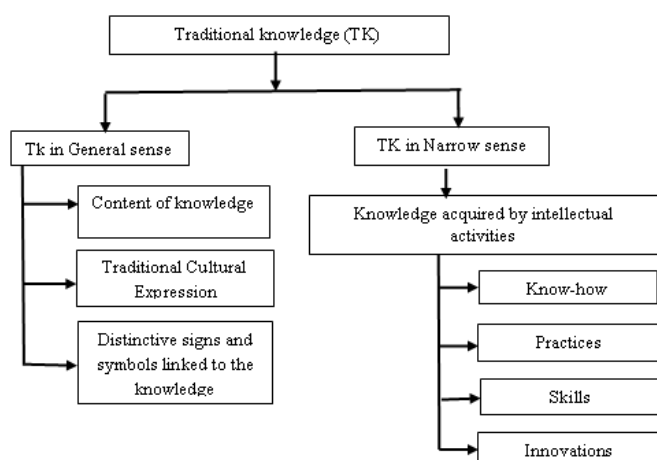


Fig 1: Meaning of Traditional knowledge (WIPO, 2010).

Again, according to WIPO, traditional knowledge is found in different contexts. It can be found in agriculture, scientific, technical, ecological, medicinal sector as well as it is related with biodiversity (WIPO, 2010; 2011).

Though the influence of modern science and technology cannot be ignored, but the local communities mostly depend upon their ancient knowledge related to cultivation or health care etc.

Because of its varied appearances, the nature of the traditional knowledge is still debatable. Basically, the main argument related to the legal status of TK and the rights arising from it. Some argue that the TK and holders right may be protected under the umbrella of the intellectual property (IP) laws with necessary modification of the existing laws. The reason behind such opinion is IP laws ensure the holders to enjoy monopoly right which include bundle of rights and also right to exclude others in case of enjoyment. On the other hand, some argue that these knowledges maybe protected by 'Sui generis' legal mechanism. Again, some suggest that the protecting

mechanism should be prepared with the combination of both 'hard law' and 'soft law'. Though there are various theories and arguments, but the concept of the protection of TK is still remaining in the shadow. So, the prime concern at this moment is to determine the actual nature of TK and to ensure legal protection.

1.2 Sustainable Development Goals (SDGs)

The journey of SDGs began by the establishment of the millennium Development goals by following Millennium Summit of the United Nations in 2000. The MDG contained eight international development goals for the year 2015. Those goals were considered as the first ever global blueprint for fighting poverty (Bdnews24, 2015). The newly introduced goals of SDGs are the developed version of MDG's. SDG's contains 17 goals and total numbers of targets are 169.

The main characteristic of SDG's is that its framework is applicable for all nations (which was absent in MDGs), that is what make it more unique and appreciable. The new goals are titled as "bold, ambitious and innovative package" by the foreign minister Abul Hassan Mahmood Ali (Bdnews24, 2015). It is considered that the newly developed goals are far better than MDG's (Clarke, 2015).

1.3 Existence of Traditional knowledge (TK) in Bangladesh

Recently news was published by the Daily Prothom Alo that two farmers of Bangladesh have innovate different species of paddy and they are even teaching the innovative process to other farmers (Prothom Alo, 2018). It is to be noted that, those two farmers didn't take any institutional training but it is their traditional knowledge of cultivation which help them to succeed. According to the renowned scientists these types of experiments help the local species of paddy to co-exists with other different foreign species (Prothom Alo, 2018). It is one example of success story, but there are so many people around the country who are using the knowledge and creating success stories. The influence of TK is also visible in the healthcare system of Bangladesh. Most of the people of this country still rely upon the traditional medicines which are available in different forms. According to Banglapedia:

Traditional medicines include the use of both material and non-material components. The material components invariably comprise parts or organs of plants and their products. They also consist of animal organs, minerals and other natural substances. The non-material components, which constitute important items of religious and spiritual medicines, include torture, charms, magic, incantations, religious verses, amulets and rituals like sacrifices, appeasement of evil spirits, etc. (Banglapedia, 2015).

However, the recognised forms of traditional medicine are Ayurvedic and Unani medicines. The history of Ayurvedic and Unani medicine practices are firm rooted in Bangladesh

and approximately 70 to 75% people of the country depend on traditional medicine for the management of their health



Fig 3: Charts of 17 Sustainable Development Goals [United Nations Educational Scientific and Cultural Organization (UNESCO), n.d.].

problems (Banglapedia, 2015). Again, Bangladesh is very rich in biodiversity because of its geographical position. It is not only rich in natural resources but also in biological resources available on both land and water. The present Government has taken ‘Blue economy’ policy with an aim to proper and sustainable utilization of the resources. This policy is expected to create an environment for working with respect to the resources as well as marine transport. In the words of the Secretary of MOFA,

The Blue Economy approach is founded upon the assessment and incorporation of the real value of the natural (blue) capital into all aspects of economic activity (conceptualisation, planning, infrastructure development, trade, travel, renewable resource exploitation, energy production/consumption) (Alam, 2017).

In this regard the importance of TK cannot be ignored. For the better result the Government should apply both the scientific knowledge as well as the ancient form of knowledge. The artisanal works of Bangladesh are highly praised is international arena. Artisanal works includes works relating to handicrafts, wood works, pottery, leather works, metal works etc. Recently Bangladesh has got GI for Jamdani. Jamdani is one of a variety of Muslin, which was included on UNESCO Representative List of Intangible Cultural Heritage of Humanity in 2013 (Haider, 2014). The Shital Pati of Sylhet was recognized by UNESCO as cultural heritage and included in the UNESCO's representative list of

the Intangible Cultural Heritage of Humanity in 2017. About

crafts items and Shital Pati is one of them (Daily Star, 2017). Moreover, this country is highly enriched and cherished for its rich folklore and cultural heritage. Mainly, folklore paves the way of expression of the culture of a country or society and which includes epic, stories, music, dance, legends, oral history, proverbs, jokes, tales, songs, myths, riddles, popular belief, custom, tradition and over all cultural reflection of a country (Maswod, 2015). It is to be noted here that traditional knowledge as well as traditional cultural heritage are also the part of the folklore and those epics, stories, riddles etc. form a strong base for traditional knowledge. From farming to medicine or be it an observation on climate, the local community of this country largely depends on those songs, proverbs, tales, riddles, etc.

The ethnic communities or indigenous people of this country also have a great contribution to enrich the folklore of the country (Maswod, 2015). These ethnic groups as well as the local communities possesses special knowledge regarding cultivation, medicinal plants, soil texture and sustainable utilization of resources without jeopardizing the balance among the valuable resources and thus helps to conserve them for the future generations. The people of this country not only nurture that traditional knowledge but also adopted the new form of knowledge, the scientific knowledge. The modern technology brings everything to our door within a blinking of eyes but by damaging the valuable resources of the country. Application of modern science without bridging it with traditional knowledge, results in greater imbalance. Because:

Traditional knowledge provides the basis for many aspects of everyday life and occupation, like (i) agriculture and animal husbandry (ii) preparation, conservation and distribution of food (iii) hunting, fishing and gathering (iv) location, collection and storage of water (v) coping with disease and injury (vi) interpretation of weather and climatic phenomena (vii) making of clothes and tools (viii) construction and maintenance of shelter (ix) management of ecological relations of society and nature (x) study of land and sea (xi) adjustment to environmental and social change (Thakuria, 2014).

1.4 Impact of Traditional Knowledge on SDGs

In a writing the Director General of the Intellectual Property Association of Bangladesh (IPAB) said that, because of IP violations, the Government is losing more than 7,000 crore BDT revenue every year (Rahman, 2017). Here if we consider the violation of rights regarding TK, the amount will be more. Taking account of the 17 goals, each of them has a connection directly or indirectly with traditional knowledge, as its scope covers three different areas. Figure 2, 3 and 4 directly show us the relationship between TK and SDGs. To be more precise, from cultivation to health care or innovation, technology to economic growth, TK has an impact. Even TK has a close relationship with biodiversity and climate change. So, to achieve those goals, the importance of traditional knowledge cannot be ignored.

1.5 Objectives

Considering the impact of Traditional Knowledge on SDGs, the study aims to highlight the importance of the protection of Traditional Knowledge and to examine the existing legal mechanism for determining the scope of the protection of it. Furthermore, the study also aims to analyse present situation for suggesting possible ways to protect Traditional Knowledge.

2. International Concern towards Traditional Knowledge

The concept of protecting traditional knowledge can be found in many international instruments. The Universal Declaration of Human Rights is one of the landmark instruments where article 17 ensures the right to property. Article 27(1) ensures that

“Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits” (United Nations, 1984).

Then again article 27(2) guarantee “the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author” (United Nations, 1948). So, article 27 deals with a matter similar to IP rights as well as rights related to TK. The United Nations Declaration on Rights of Indigenous Peoples (UNDRIP) adopted by the General Assembly in 2007. Article 5 of UNDRIP ensures the right to maintain and their diverse political, legal, economic, social and cultural establishments (UNDRIP, 2007). Again, article 8 asserts that indigenous peoples cannot be subject to destruction of their culture and also States shall take effective measurement to protect their rights, lands, and resources (UNDRIP, 2007).

Article 24 states that the indigenous people have right to their traditional medicines and to maintain their health practices, including the conservation of their vital medicinal plants, animals and minerals and article 25 emphasizes that they have the right to maintain their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used lands, territories, waters and coastal seas and other resources and to uphold their responsibilities to future generations in this regard (UNDRIP, 2007). Article 28 signifies the right to redress is case of confiscation, damage etc. and article 29 redresses the provision regarding preservation and conservation of environment and resources (UNDRIP, 2007). The most important article relating to TK is article 31 which guaranteed

.....the right to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions, as well as the manifestations of their sciences, technologies and cultures, including human and genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs, sports and traditional games and visual and performing arts (UNDRIP, 2007).

International Labour Organization Convention and the International Covenant on Economic, Social and Cultural Rights are other examples of the recognition of TK in international context. The convention on Biodiversity and Nagoya Protocol provided a strong mechanism to protect TK. Here Community knowledge holders right has been made the subject of the protection. According to article 8(j) of CBD every state party shall:

..... respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge innovations and practices (Convention on Biological Diversity, 1992).

This provision of CBD recognizes the involvement of indigenous and local people as well as sharing their knowledge with prior consent and approval of the people. Article 15 deals with ‘access to genetic resources’ with condition of mutual understanding of the contracting States. Article 16 of the convention provides rules regarding ‘access to and transfer of technology’ where mutual understandings of the parties are necessary. In case of exchange of information, it is provided that the states shall facilitate exchange of information “relevant to the conservation and sustainable use of biological diversity, taking into account the special needs of developing countries” (Convention on Biological Diversity, 1992). The Trade-Related Aspects of Intellectual Property Rights (TRIPS) - 1994 under the WTO, granted the rights to the members to exclude works from patentability where it relates to (a) diagnostic,

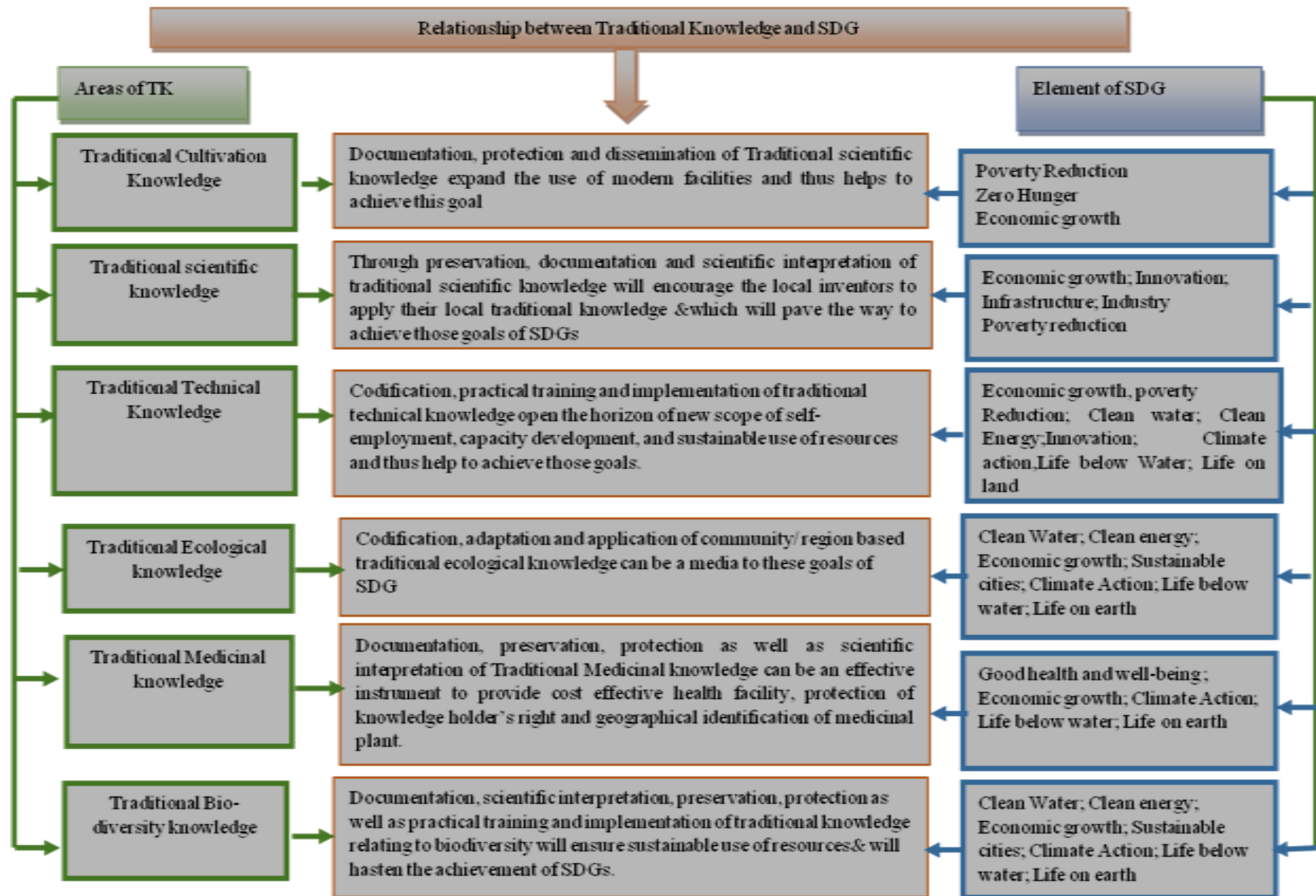


Fig 4: Impact of traditional knowledge on SDGs.

therapeutic and surgical methods for the treatment of humans or animals and (b) plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes. It is to be noted here that this article emphasizes on the “importance of enforcing intellectual property rights to grant justice to the multinationals to ensure equal treatment but the knowledge of the indigenous people which is being misused has been totally ignored” (Ragavan, 2001). Later an initiative was taken to protect TK by proposing to build a relation between TRIPS agreement and UN Convention on Biological Diversity. It is known as the Doha Declaration 2001. According to the paragraph 19 of the Doha Declaration, 2001 “the TRIPS Council should look at the relationship between the TRIPS Agreement and the UN Convention on Biological Diversity, the protection of traditional knowledge and folklore” (World Trade Organization [WTO], 2001). The International Union for the Protection of New Varieties of Plants (UPOV) is an organization working for the protection of the new varieties of plants. This organization was established by the UPOV Convention and the mission of this organization is “to provide and promote an effective system of plant variety protection, with the aim of encouraging the development of new varieties of plants, for the benefit of society” (International Union for the Protection of New Varieties of Plants, 1961). The Berne Convention mainly relate with the literary and artistic works. The Universal Copyright Convention which focuses on the role of UNESCO in protection of copyright, lost its significance due to the introduction of TRIPS Agreement (Maswod, 2015). International Treaty on Plant Genetic Resources for Food and Agriculture was adopted by FAO of the UN in the 31 session of the conference in 2001. Bangladesh ratified it on 14th November in 2003 and which become effective on 29 June 2004. UNESCO is also working on the protection of TK which falls under the concept of copyright. Another UN organization like WIPO is working for the protection of traditional knowledge. It is working to extent the IP mechanism to protect TK. The Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC) of WIPO was established on 2000 by the member States and now it is considered as a platform for the protection and conservation of the TK through IP laws (Simeone, 2004). WIPO is working on traditional knowledge from three different but related perspectives. Those are (WIPO, 2010; 2011; 2017):

- a) Traditional knowledge in the strict sense (technical know-how, practices, skills, and innovations related to, say, biodiversity, agriculture or health);
- b) Traditional cultural expressions/expressions of folklore (cultural manifestations such as music, art, designs, symbols and performances); and

- c) Genetic resources (genetic material of actual or potential value found in plants, animals and micro-organisms).

Furthermore, WIPO has also considered the impact of TK on SDGs and for that it is now working to protect TK from two perspectives: the Defensive protection system and the Positive protection system by extending IP Laws. The Defensive protection system contains a set of strategies to protect TK against the third parties who may gain illegitimate or unfounded IP right (WIPO, 2010; 2011; 2017). On the other hand, two aspects of positive protection of TK by IP rights are being explored, those are: preventing unauthorized use of TK and active exploitation of TK by the originating community itself (WIPO, 2010; 2011; 2017).

Beside WIPO, UNESCO and WTO, there are some regional international organizations like, the European Patent Office (EPO), the African Intellectual Property Organization (OAPI), the African Regional Industrial Property Organization (ARIPO) etc. A conference held in December, 2013 in Cape Town, South Africa where the representatives of the World Intellectual Property Organization, ARIPO and OAPI were present at the event (New, 2014). In this conference the participants discussed about the importance of protection of Traditional Knowledge through proper documentation of TK, IP rights and public interests. Though these international and regional organizations are taking different initiatives but these seem to be insufficient due to the aggression of globalization and competition among the multinational companies.

3. National Laws to Protect Traditional Knowledge

As traditional knowledge relates with different sectors like agriculture, human wellbeing and healthcare, livelihood, biodiversity, climate change, etc. it is not possible to protect traditional knowledge under the umbrella of one law. The constitution of the People's Republic of Bangladesh provides different provisions regarding the protection of traditional knowledge. According to article 23 “The State shall adopt measures to conserve the cultural traditions and heritage of the people, and so to foster and improve the national language, literature and the arts that all sections of the people are afforded the opportunity to contribute towards and to participate in the enrichment of the national culture”(Constitution, Article 23). This provision signifies the consideration of traditional knowledge for the purpose of developing of the culture and arts of Bangladesh. Article 23A of the constitution provides provision regarding the measurement “to protect and develop the unique local culture and tradition of the tribes, minor races, ethnic sects and communities” (Constitution, Article 23A). Through this provision protection of TK is ensured that originated from the indigenous peoples of Bangladesh who lives in “the Chittagong Hill Tracts, Sylhet Division, Rajshahi Division and Mymensingh District” (Banu, 2012). Article 16 signifies on bringing agricultural revolution and rural development. The protection of public health is provided under article 18. Here the contributions of the traditional medicine should not

be forgotten. Protection of environment and biodiversity is given under article 18A.

Among the existing intellectual property laws The Patent and Design Act, 1911 provides the safeguards against the violation of patent right relating to invention. But the applicability of this Act is very limited in case of TK. Because any act relating to prior art cannot get protection under the Patent laws as non-obviousness is absent in such case. Here necessary amendment or modification required to extend the applicability of the Act for the protection of TK. In case of different valuable literature or artistic works that are related with TK, may be protected under the Copyright Act, 2000 but not under the title of TK. The Trademark Act, 2009 also has no application on protecting TK. After the passing of the Geographical Indication of Goods (Registration and Protection) Act, 2013 of Bangladesh, a little hope has arisen in case of protection of TK. The new Act can provide necessary protection for different resources like crafts, medicinal plants, agricultural products etc. and thus help in economic and social development. So, GI is close to traditional knowledge and know-how as it focuses on old and local creativities and skills of the community (Rahman, 2014).

4. Sui generis Laws Regarding Traditional Knowledge in Bangladesh

Sui generis is a Latin term which means unique or distinctive or special. So, Sui generis legal mechanism means a unique or special legal instrument which would deal with only traditional knowledge. Considering the significance of preserving biodiversity and its effect on climate change, Bangladesh signed the Convention on Biodiversity on 5th June 1992 and Cartagena Protocol on 5th February, 2004. Bangladesh also signed the Nagoya Protocol in 2010. As a member of CBD, Bangladesh has passed Bangladesh Biodiversity Act, 2017 which relates with the concept of Sui generis mechanism. The newly enacted Bangladesh Biodiversity Act, 2017 provide provisions regarding biodiversity, sustainable use of its elements, benefits and equitable sharing in case of access for the resources relating to biodiversity etc. This Act also provides provisions regarding the formation and functions of the National Committee for Biodiversity. According to the provisions of the Act, from sustainable use of biodiversity to equitable sharing of benefits, everything will be controlled by the National Committee for Biodiversity. Under this Act the traditional knowledge of the indigenous people is protected but in limited sense. Because the benefits will be enjoyed solely by the State and the question regarding the indigenous peoples right over the indigenous traditional knowledge remains in the same status. In case of formation of the National Committee for Biodiversity, the representatives of the indigenous people are not included as a member of the committee. On 29 September of 1998 a draft was proposed by the National Committee on Plant Genetic Resources drafted an Act which titled as Biodiversity and Community Knowledge Protection Act, 1998. Under this Act the rights

of the communities relating to knowledge were proposed to be protected under several provisions of the Act. Several time the Plant Varieties and Farmers Right Act, 1998 was re-drafted. In 2013, a draft of Plant Varieties and Farmers Right Act 2013 (Department of Agricultural Extension, 2013) was again drafted where meaning of TK, benefit sharing, farmer etc. was defined. The draft Act also provides rules regarding the protected varieties, farmers rights, gene bank, punishment for violation of the rules etc. But it is a matter of great sorrow that the Biodiversity and Community Knowledge Protection Act, 1998 and the Plant Varieties and Farmers Right Act, 2013 are not passed yet. Still now there is no effective progress to pass this Act finally.

5. Organizations Working for the Protection of Traditional Knowledge in Bangladesh

There are several organizations who are working for the protection of TK in Bangladesh. Bangladesh Resource Centre for Indigenous Knowledge (BARCIK) is working to promote and protect indigenous knowledge as well as traditional knowledge. In 2016 this organization took a technical strategy aiming to run for ten years where research works and development initiatives will take place considering both biodiversity and SDGs (BRCIK, 2017). Bangla Academy, National Museum, National Archives and Libraries, Bangladesh Shilpakala Academy etc. are working to spread the rich folk and cultural traditions of Bangladesh. The Folk Arts and Crafts Foundation, Bangladesh Cultural and Heritage Foundation are also involved in such actions. The Tribal Cultural Institution Act, 2010 proposed to establish seven tribal cultural institutions and many more if the government thinks necessary. At present the Cox's Bazar Cultural Centre, Tribal Cultural institute Rangamati, Tribal Cultural Institute Bandarban, Tribal Cultural Academy, Birishiri are functioning but due to lack of priorities and willingness of the higher authority these are functioning like a toothless tiger. The IP related organizations like the Copyright Office is working to collect and preserve folklore materials. On the other hand, the Department of Patent, Design and Trademark cannot play a vital because of the rigidity of IP laws. The Intellectual Property Association of Bangladesh is working to promote and protect IP rights throughout the country. Recently the organization is running the project titled as Intellectual Property Digitalization in Bangladesh (IPDB) with an aim to provide six types of services (Intellectual Property Association of Bangladesh, 2014). This project is introduced to fight infringement relating to IP rights and help the country to achieve SDGs through ensuring economic growth and advancement. Other organizations like Bangladesh Agricultural Research Institute, Bangladesh Rice Research Institute, Bangladesh Jute Research Institute, Bangladesh Seed foundation, National Committee on Plant Genetic Resources, Bangladesh Unani and Ayurvedic Board etc. are also working for the protection of TK existed in various forms.

6. Some Major Issues relating to Traditional Knowledge and SDGs

The protection of TK is subject to some important issues that Bangladesh need to consider for promoting and strengthening the laws relating to TK. These issues are also necessary for achieving SDGs. Those issues are sum up below:

6.1 Bioprospecting and Biopiracy

Bioprospecting means scientifically searching or exploring in the nature to collect biological extract and genetic information from different plants and animals with objective to develop products related to pharmaceuticals, agriculture, cosmetics etc. Sometimes the developed countries encroach the rights of the local people or indigenous people of the LDCs or developing countries in search and commits Bio piracy. This could take place because the LDCs or developing countries does not have proper legal mechanism to prevent such encroachment. There are several cases where bio piracy took place against India like the Neem Case, Tumeric Case, Basmati rice Case etc. In the Neem Case (Chouhan, 2012) it was found that without recognising the Neem's ancient tradition and practice, there were 12 patent cases granted in US. The Ayahuasca case of the indigenous tribes of the Amazon rain forest, the Maca case etc. are the example of the bio piracy (Biopiracy in the Amazon, 2014). Biopiracy not only affects the rights of the aggrieved party but also deprive the State from rightful earnings which affect the economic growth of the country. Though there are provisions regarding bio prospecting, commercial exploitation, equitable sharing, In-situ and Ex-situ conservation etc. under the Bangladesh Biodiversity Act, 2017 but the question as to the right of the indigenous people still remains unsolved.

6.2 Community Knowledge and Indigenous Knowledge

Until and unless the indigenous knowledge is secured the community knowledge cannot be secured. Because, these knowledges are the part of the Tk. The cultural traditions and practices are the source of tourism and earnings of many countries. Again, indigenous communities are the key holder of the ancient knowledge which enables them to use the resources sustainably and preserve the rest for the next generations. The indigenous farmers possess special knowledge on cultivation. They cultivate different environment friendly indigenous crops which work for the betterment of the environment (Azam, 2012). In a news report it was opined by the experts that-

.....indigenous Aush varieties like Bharira, Kalomanik, Songkorboti, Pathorkuchi, Kalchina, Bolonsaita and Sani can produce more rice than the varieties developed by Bangladesh Rice Research Institute. Also, the study finds that the local varieties can better cope with the country's changing climatic pattern (Siddique, 2016).

The indigenous people also possess the prehistoric knowledge relating to health care. So to protect TK, Bangladesh must take initiatives to protect indigenous knowledge.

6.3 Rights of the Farmers and Plant Breeders

Industrialization is necessary for the economic growth of a country but not suppressing the rights of the farmers. Today many of the lands are becoming the subject of the industrialization. In the name of development and civilization, thousand hectors of farming land and forests are demolishing. As a result, the ancient farming knowledge are fading day by day. Many of the farmers are forced to find a new job. Again, the local plant breeders becoming helpless because of the deficiency of the laws to ensure their rights. By ensuring the rights of the farmers and local plant breeders, it will not only be possible to preserve the traditional knowledge but also will help the country to achieve SDGs.

6.4 TKDL and Documentation of TK

India has established Traditional Knowledge Digital Library (TKDL) with a view of protecting the rights of the holder of traditional medicine. Through this system India has been able to prevent erroneous grant of patent originated from the India's ancient knowledge of medicine by other patent offices around the world. It is a database containing 34 million pages of organized information on some 2,260,000 medicinal formulations and translated in different languages like English, French, German, Japanese, Spanish etc. (WIPO, 2011). India also introduced TKRC which is modeled on WIPO's International Patent Classification. TKDL is also linked with the existing patent offices around the world through the help of the TKDL Access Agreement. The countries which have signed the agreement can easily access the database to check the novelty of the invention that has been applied for patent protection. This initiative of India has made many countries concerned about the protection of TK through digitalization and documentation. WIPO has also taken different initiatives for the documentation of TK. WIPO introduced a documentation toolkit and also considers the role of databases and registers in this process (WIPO, 2011). WIPO's documentation toolkit suggested that while documentation of TK several issues like prior art, clarification between publicly available and public domain and intellectual property rights need to be considered by the member States (WIPO, 2011). However, the member States of SAARC also agreed to setup TKDL with a view to protect regional TK rights (GRAIN, 2005). SAARC Documentation Centre (SDC) is working for the establishment of TKDL for the member states of SAARC (SDC, 2005). A declaration was given in the eighteenth SAARC Summit held in Kathmandu, Nepal in 2014 concerning establishment of SDGs, agriculture and food security, poverty alleviation, sustainable environment, implementation of the concept of blue economy, health care, preservation of culture etc. through "mutual trust, amity,

understanding, cooperation and partnership” [South Asian Association for Regional Cooperation (SAARC), 2014].

7. Ways to Protect Traditional Knowledge

Whether be it the graduation from LDCs to developing countries or for achieving the SDGs, it is the high time for Bangladesh to take ample steps to protect traditional knowledge. The following steps can be to protect Traditional Knowledge:

Firstly, Bangladesh can amend or make necessary changes in the existing Intellectual Property laws to extend its applicability for the protection of TK and its holder's rights. This will ensure not only the economic growth of a country but also will pave the way to achieve SDGs.

Secondly, where the existing IP laws fails to protect even after the extension, the Sui generis legal mechanism should be implemented. The laws which are still in the drafted form should be immediately enacted. By doing so, it will be possible for Bangladesh to safeguard the rights of the special knowledge holders like the plant breeders right, farmers right etc.

Thirdly, the Government of Bangladesh should ensure the rights of the indigenous people regarding TK under the umbrella of IP Laws and Sui generis legal mechanism.

Fourthly, the existing TK should be documented. Without proper documentation, the rights of the TK holders cannot be ensured. The organizations like Department of Patent, Design and Trademark as well as Copyright Board should work together for the documentation of TK. Here for better result these two organizations can take help from other similar offices or organizations. An initiative like India can be taken in such regard. Taking account of such example Bangladesh can initiate a digital library containing TK in different sectors linking with the WIPO. This initiative shall play a vital role in achieving SDGs.

Fifthly, an initiative should be taken for the scientific interpretation of the traditional knowledge for the better understanding of the general people. This will increase the chances of acceptance and recognition of traditional knowledge which are still struggling to gain attention of the general people.

Sixthly and lastly Bangladesh should take active part in international arena for the protection of TK. Bangladesh should enter into bilateral agreements with other countries, especially with the neighbor countries for cross border cooperation to protect each countries TK and the holder's rights. Such kind of activities will play a significant role in achieving SDGs for Bangladesh.

4. CONCLUSION

Bangladesh is a country of mass population. The country faces great challenges not only to feed its population but also to provide and ensure proper health care and other facilities. This mass population can play a significant role in the economic growth of the country. By enacting necessary laws and implementing suitable policies to protect traditional

knowledge and the holder's rights, this mass population can become an asset instead of encumbrances. Thus, it will be possible for Bangladesh to achieve not only the SDGs but also to fulfill all the conditions necessary for maintaining the position as a developing country.

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