

# PAMUN XVIII RESEARCH REPORT— QUESTION OF INTELLECTUAL PROPERTY AND BIODIVERSITY

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## Introduction of Topic

In a world where sustainability and progress are crucial for its survival, it is imperative that intellectual property rights (IPRs) and biodiversity co-exist. Intellectual property (IP) is essential for the development of modern societies, and this dependence on human creativity and innovation is only growing. However, the present IPR legislation negatively impacts agricultural biodiversity as it promotes biopiracy (see definition of key terms) and biological uniformity, and developing countries that are rich in biogenetic resources are bearing the brunt of the biodiversity loss.

Biodiversity is the very foundation of sustainability: high agricultural biodiversity facilitates sustainable production by increasing yield stability and soil fertility. Section II of Agenda 21 (Appendix I), which was voted in Rio in 1992, recognized the connection between conservation of biodiversity and sustainable development. In fact, Sustainable Development Goal (SDG) 15 of the 2030 Agenda for Sustainable Development states that member states should “protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss”. Thus, it is very important to reform intellectual property legislation in order to strike a balance between the benefits of intellectual property rights and the well-being of our biodiversity.

## Definition of Key Terms

### Intellectual property (IP)

The World Intellectual Property Organization (WIPO) defines intellectual property (IP) as “creations of the mind, such as inventions; literary and artistic works; designs; and symbols, names and images used in commerce”.

### Intellectual property rights (IPR)

Intellectual property rights (IPRs) are rights to ideas and information. These include patents, copyrights, trademarks, industrial design rights, and more, which protect the creator’s IP in law and grant financial benefits. According to the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) (Appendix III), WTO members can protect new plant varieties and genetic resources through patents, or a sui generis system (explained below).

## **Biodiversity**

Biodiversity can be defined as the variety of plant and animal life in a particular ecosystem. Ecosystems rich in biodiversity have a vast variety of living organisms, and a high level of biodiversity is essential for the success of ecosystems, which is very important for our survival.

## **Genetic resources (GRs)**

According to WIPO, GRs refer to “genetic material of actual or potential value”. Genetic material is any “material of plant, animal, microbial or other origin containing functional units of heredity”. Examples include medicinal plants, agricultural crops, and animal breeds.

## **Traditional Knowledge (TK)**

There is no internationally accepted definition of traditional knowledge (TK); however, WIPO offers a general meaning for the term. According to WIPO, “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”. GRs are very much associated with TK. As a matter of fact, WIPO's program on TK addresses GRs and how the distribution of GR should respect the ownership of indigenous cultures or people on their TKs.

## **Biopiracy**

Biopiracy simply means the commercial exploitation of biogenetic material especially through acquiring IPRs that restrict the use of the material. This also involves failing to fairly reimburse the community from which the material comes from and not respecting TK associated with the material.

## **Sui generis system**

A sui generis system is a unique system for the protection of IP, especially products of biological resources like plant varieties. According to the International Intellectual Property Institute, it refers to the “creation of a new national law or the establishment of international norms that would afford protection to intellectual property dealing with GRs—or biodiversity—and the biotechnology that might result”.

A sui generis system for biodiversity-related products primarily exists because patents do not protect genetic resources and plant varieties. This is because biological resources are not “creations of the human mind”, which is why they cannot be directly considered and protected as IP. Given that plant varieties display unique characteristics, it was decided that their protection could be granted following special rules, a sui generis system. As a result, the TRIPS agreement gives WTO members a choice to protect biodiversity-related products through patents and a sui generis system.

## **Plant breeders' rights (PBRs)**

Plant breeders' rights (PBRs) is a widely used sui generis system provided by the UPOV Convention used on products of genetic resources (such as plant varieties) given to the creator of the product. These grant the creator the right to commercially use the new plant variety and gain unshared control of its propagating material (parts of the plant such as the seeds that help produce the plant variety) and harvested material for a set time period.

### **Access and benefit-sharing (ABS)**

According to the Convention on Biological Diversity (CBD) (Appendix II), access and benefit-sharing (ABS) refers to the way in which “genetic resources may be accessed, and how the benefits that result from their use are shared between the people or countries using the resources (users) and the people or countries that provide them (providers)”. The access and benefit-sharing provisions of the CBD aims to ensure that the “physical access to genetic resources is facilitated and that the benefits obtained from their use are shared equitably with the providers”. The ABS provisions ensures that indigenous communities (providers) are granted various benefits, including royalties, joint ventures, and even biodiversity conservation initiatives. These will contribute to poverty reduction and sustainable development in developing countries. In exchange for these benefits, the indigenous communities will give developed countries (users) access to their genetic resources for research or other purposes.

### **Compulsory licensing**

According to the World Trade Organization (WTO), compulsory licensing “is when a government allows someone else to produce a patented product or process without the consent of the patent owner or plans to use the patent-protected invention itself”. In other words, with a compulsory license, an individual or company that intends to use someone else's IP can do so without asking for the IP holder's consent, and pays the holder a fee for the license if certain conditions are met. However, a member of the TRIPS is only authorised to issue compulsory licenses in cases of public non-commercial use, national emergencies, or anti-competitive practices. National laws govern both the requirements and the procedures for obtaining a compulsory license. Therefore, the United States and the European countries fear that developing countries may issue compulsory licenses related to biotechnology, which will force them to share the technology with developing countries on a quid pro quo basis.

## **Background Information**

### **Biodiversity and its relationship with intellectual property**

During the last few years, biodiversity has been lost at an unprecedented rate throughout the world in every ecosystem. According to the FAO, about 75% of the genetic diversity found in agricultural

crops has been lost over the last century, and this phenomenon continues. It is imperative that we conserve agricultural biodiversity: higher biodiversity of agricultural crops helps increase yield stability and soil fertility and gives species the ability to adapt to changing conditions. High agricultural biodiversity also helps protect our health by ensuring sustainable production in medicinal plant use systems.

Agricultural biodiversity loss and the present IPR legislation are inextricably tied. IPRs continue to homogenise agricultural production and medicinal plant use systems and could reduce crop variety development. Our health and our environment is negatively affected, and it is of utmost importance to conserve our agricultural biodiversity.

### **Evolution of IPRs on biological resources**

As stated before, IPRs are rights to new ideas and information, which allow the creator to prevent the imitation or the commercial exploitation of his/her creations. IPRs have existed for centuries; however, the use of IPRs on living organisms such as GRs is a recent phenomenon.

In 1930, the U.S. government passed the U.S. Plant Patent Act, which granted IPRs to new plant varieties with the exception of sexual and tuber-propagated plants. Other countries also extended such forms of IPRs, and in 1957, the International Union for the Protection of New Varieties of Plants (UPOV) was formed, which was established by the International Convention for the Protection of New Varieties of Plants that was signed in 1961. The convention was revised in 1972, 1978, and 1991 in Geneva, and each member state is expected to adopt laws that meet the requirements of the convention. With the latest revision in 1991, the convention recognizes new plant varieties as intellectual property and extended international PBRs. Furthermore, in 1972, the U.S. Supreme Court ruled that the patent claim made by the microbiologist Ananda Chakrabarty for a genetically engineered bacterial strain was permissible, which made it clear that anything man-made, including human genetic material, could be patentable.

The legally binding TRIPS agreement in 1995 (explained in detail below) further imposed private IPRs on plant varieties, increasing the control of governments and large corporations over biogenetic resources.

### **International Treaties and Agreements**

The link between IPRs and biodiversity has been shaped by numerous agreements and institutions. The Convention on Biological Diversity (CBD) and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) are the two principal agreements on this issue. Moreover, organizations such as the World Intellectual Property Organization (WIPO) and the World Trade Organization (WTO) have also become more active in dealing with this issue, and various megadiverse countries (see Major Countries Involved for definition) such as India, Costa Rica, and Mexico are passing laws in order to deal with this issue.

The most important agreement on the conservation of biodiversity is the Convention on Biological Diversity (CBD), which is often regarded as the founding document of global commitment to sustainable growth. The CBD is a legally binding, multilateral treaty signed on June 5th, 1992. It has been signed by 168 nations, 157 of which have ratified the convention. The convention has three main goals: the “conservation of biological diversity”; the “sustainable use of the components of biological diversity”; and the “fair and equitable sharing of the benefits arising out of the utilization of genetic resources”. The treaty recognizes the sovereign right of states over GRs, and it also demands the respect and preservation of associated traditional knowledge at the national level. In fact, article 8(j) of the CBD states: ““Each contracting 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”, thus recognizing the collective rights of indigenous and local communities, and encouraging member nations to follow the ABS provisions of the agreement, which aim to share GRs equitably with the indigenous communities. Moreover, to improve the implementation of the CBD, two supplementary agreements to the CBD have been signed: the Cartagena Protocol of 2002 and the Nagoya Protocol of 2010. The Nagoya Protocol (Appendix IV), which is explained in the Previous Attempts to Solve the Issue section, deals with the implementation of the third objective: fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

Another important legally binding agreement is the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) in 1995. All 162 members of the WTO are signatory states of the agreement. Before the TRIPS agreement was signed, IPRs were restricted within countries; however, with the national treatment article in the TRIPS agreement, every signatory state should ensure that the rights given by IPRs are applied to locals and foreigners alike. In relation to plant varieties, it is important to note that the TRIPS agreement requires that plant varieties, along with microorganisms and microbiological processes, be eligible for IPR protection. In article 27.3(b) of the TRIPS agreement, signatory member states are not permitted to exclude microorganisms and microbiological processes from patentability, and they are expected to provide protection of these new plant varieties through patents, or an “effective” sui generis system. In other words, the agreement requires an exclusive protection for plant varieties, be it in the form of patents or a new sui generis system, which the WTO decides is effective or not. Another form of protection that many developing countries are also adopting as a sui generis system is the model of plant variety protection that is provided by the UPOV Convention (PBRs), whose standards are pretty much equivalent to patent protection. Hence, the TRIPS agreement not only imposes exclusive, private IPRs on biological resources, but it also does not attempt to protect indigenous and local community knowledge. Unlike the CBD, which aims to protect TK and maintain biodiversity, the TRIPS agreement legitimizes the commercial use of biodiversity-related knowledge. However, the TRIPS agreement does require the review of Article 27.3(b)—the article that prohibits the

exclusion of microorganisms from patentability and provides protection for plant varieties—which has facilitated discussion on the issues with the article (see ‘Previous Attempts’ for detailed information).

It is also important to note that both agreements are highly flexible, even though they contradict each other in many aspects. Many articles of the TRIPS agreement can be used by indigenous communities to protect their interests. Article 8 allows members to protect public interest through legal measures and environmental protection could be justified as being in "public interest". Moreover, article 27(2) allows members to exclude inventions from patentability to safeguard against "serious prejudice" to the environment. The CBD, on the other hand, ensures that it does not conflict with the implementation of any other international agreement. Article 22 of CBD states: "The provisions of this Convention shall not affect the rights and obligations of any Contracting Party deriving from any existing international agreement, except where the exercise of those rights and obligations would cause a serious damage or threat to biological diversity". This article provides countries with a leeway; although both agreements are legally binding, countries can implement the TRIPS agreement without adhering to obligations of the CBD.

## Impacts of present IPR legislation

### *Exploitation of traditional knowledge*

Existing IPR systems, particularly patents, increase the risk of exploitation of traditional knowledge. Existing IPRs are expensive and challenging to acquire, failing to provide local and indigenous communities incentives to protect or capitalize on their traditional knowledge even though traditional knowledge is often shared by all members of the community and passed through the generations.

### *Commercial Exploitation of Plant Varieties and GRs*

The TRIPS agreement is intended to provide private IPRs on any products, be they biogenetic resources or not, in order to ensure that trade goes smoothly and corporate interests are protected internationally. In the process, the agreement provides exclusive control of plant varieties to corporations and individuals that they have patented. The privatization of IPRs as a result of the TRIPS agreement has caused commercial and industrial interests to control the resources of developing countries that are rich in biodiversity, leading to biological uniformity and in turn biodiversity loss (explained below). Besides, these private commercial interests are encroaching upon common indigenous and local community knowledge, which is another negative impact of the TRIPS agreement.

### *Biological Uniformity*

The present IPR legislation causes biological uniformity because of growing private commercial interests, which directly causes biodiversity loss. Countries that extend IPRs to plant varieties will be establishing an IPR system where few corporations and individuals prohibit others from making or using the protected variety or any product containing protected genetic information, and push its production for profits. Farmers will be faced with production restrictions, while scientists will be faced with research restrictions. All in all, the present IPR legislation not only discourages the growth of new and different plant varieties, but it also restricts researchers from freely using the genetic information for research into diseases or for making new and more effective plant varieties. Hence, this reduces the availability of biodiversity and leads to the homogenization of agricultural production and plant use systems.

For example, Monsanto, an agrochemical and agricultural biotechnology corporation that is facing a surge of lawsuits, is also accused of biological uniformity. It owns such a large portion of the world's cotton seed supply that cotton farmers are not given access to non-GM cotton seeds. These farmers are also not allowed to save, reuse, or even study the seeds due to biotech IPR laws, greatly hindering natural diversity.

### **Objectives of UNCTAD regarding IP and biodiversity**

According to UNCTAD, the objective of the organization is to “ensure the protection of genetic resources (GRs) and traditional knowledge as well as benefit sharing arising from their use in line with objectives of the CBD and the Nagoya Protocol”. Governments and scientists all agree that our future depends on the conservation of our biodiversity and protection of TK, not on its privatization. However, it's also important to guarantee IPRs to the inventors to further incentivize the market and push for progress and development. The clash of goals between the private sector and the market interests on the one hand, and the long-term protection of TK and biodiversity on the other hand should be emphasized; it is imperative to find synergies between the TRIPS and CBD agreements and strike a balance between the protection of IP and the conservation of our biodiversity.

## **Major Countries and Organizations Involved**

### **World Intellectual Property Organization (WIPO)**

The WIPO is a self-funding agency of the United Nations with 191 member states. The organization, which was established by WIPO convention in 1967, is the “global forum for intellectual property services, policy, information and cooperation”. The objective of the organization is to ensure an effective, global IP system that is beneficial to all.

### **World Trade Organization (WTO)**

Established in 1995, the WTO is the sole international organization that deals with the rules of trade between nations. This branch of the United Nations has 164 members and plays a major role in the

issue of IP. It administered the TRIPS agreement, which is the most comprehensive, multilateral agreement on IP.

### **United Nations Conference on Trade and Development (UNCTAD)**

Formed in 1964, UNCTAD is a UN intergovernmental body that aims to give developing countries the advantages of a globalized economy. The Intellectual Property Programme Division on Investment and Enterprise of the organization helps developing countries “participate effectively in international discussions on intellectual property rights and at the national level, to help ensure that their IP policies are consonant with development objectives”. UNCTAD also published the “Convention on Biodiversity and the Nagoya Protocol: Intellectual Property Implications”, a handbook on the connection between ABS Rules and IP.

### **Food and Agriculture Organization of the United Nations (FAO)**

FAO is a United Nations agency that works toward international food security and ending hunger in the world. FAO has developed various instruments and tools that are instrumental in sustainable growth while addressing objectives and priorities related to biodiversity. FAO is a major partner in the implementation of the Convention on Biological Diversity (CBD), and the organization has offered many suggestions to countries in order to conserve biodiversity while maintaining the benefits of IPRs. The organization also adopted the International Undertaking on Plant Genetic Resources resolution on 23 November 1983, which works towards “the conservation and sustainable use of all plant genetic resources for food and agriculture and the fair and equitable sharing of the benefits arising out of their use, in harmony with the Convention on Biological Diversity, for sustainable agriculture and food security”.

### **UPOV members**

With a total of 75 members (including members of the African Intellectual Property Organization, the European Union, and the United States of America), the UPOV convention intends 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”.

### **Megadiverse Countries**

Megadiverse countries are countries that exhibit great diversity and have at least 5,000 different species of native plants. There are 17 megadiverse countries and most of them are located in tropical or subtropical regions. In 2002, many of these megadiverse countries including Brazil, China, India and other diverse countries that have developing economies have formed a “Group of Like-Minded Megadiverse Countries” so that they can promote their common interests, such as the sustainable use of biological diversity. These countries are some of the most affected countries as a result of the growing privatization of IPRs on plant varieties and are facing problems conserving their biodiversity.



## Timeline of Events

Date	Description of Event
1930	The United States Plant Patent Act of 1930
1957	International Union for the Protection of New Varieties of Plants (UPOV) formed
1961	International Convention for the Protection of New Varieties of Plants - UPOV established
1964	Formation of UNCTAD
4 July 1967	World Intellectual Property Organization (WIPO) established
1972	U.S. Supreme Court ruled that the patent claim made by the microbiologist Ananda Chakrabarty for a genetically engineered bacterial strain was permissible
5 June 1992	Convention on Biological Diversity (CBD)
23 November 1983	International Undertaking on Plant Genetic Resources adopted by FAO
1 January 1995	World Trade Organization established
1 January 1995	Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)
14 November 2001	Doha Declaration
18 February 2002	“Group of Like-Minded Megadiverse Countries” formed
29 October 2010	Nagoya Protocol to the CBD

## Relevant UN Treaties and Events

- Report of the United Nations Conference on Environment and Development (Agenda 21 Section II), 3-14 June 1992 (**A/CONF.151/26 (Vol. II)**)
- Convention on Biological Diversity, 5 June 1992 (**No. 30619**)
- Agreement on Trade-Related Aspects of Intellectual Property Rights, 1 January 1995

- The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity, 29 October 2010 (**UNEP/CBD/COP/DEC/X/1**)
- The Doha Declaration on the TRIPS Agreement and Public Health, November 14 2001
- International Treaty on Plant Genetic Resources for Food and Agriculture
- International Undertaking on Plant Genetic Resources, 23 November 1983 (**Resolution 8/83**)
- Intellectual Property Rights and Human Rights, 11 August 2000 (**E/CN.4/Sub.2/2000/L.20**)
- Systems and National Experiences for protecting Traditional Knowledge, Innovations, and Practices, 22 August 2000 (**TD/B/COM.1/EM.13/2**)
- The Sustainable Use of Biological Resources, 12 January 2001 (**TD/B/COM.1/38**)
- Information received from the United Nations system: World Intellectual Property Organization, 12 March 2003 (**E/C.19/2003/14**)
- Trade, Environment and Development, 2 February 2006 (**TD/B/COM.1/79**)

## Main Issues

The present IPR legislation referring to biodiversity-related knowledge has only led to biodiversity loss; the increased privatization of IPRs and biopiracy and the increased biological uniformity has been caused by the lack of support for benefit sharing, the restricted R&D in biotechnology, and especially the contradiction between the TRIPS and the CBD agreement.

### Benefit sharing perceived by developed countries as an interference in contractual relationship

Sharing of the benefits arising out of the utilization of genetic resources (see Key Terms section for definition) is an important objective of the CBD, and it is a great incentive for biodiversity and TK conservation. However, developed countries, the users of these GRs, perceive benefit sharing as an interference in the contractual relationship and an encroachment on proprietary knowledge. ABS measures by developing countries are viewed by developed countries as disincentives for potential foreign investment in their countries. In other words, developing countries that implement ABS measures are negatively impacted because developed countries do not perceive the ABS provisions positively and reduce investment in the developing countries. Therefore, developing countries are discouraged to implement ABS measures, which has neither helped conserve TK nor biodiversity.

### R&D in biotechnology restricted to developed countries and private companies

The research and development (R&D) in biotechnology is mostly restricted to developed countries and private companies, especially multinational corporations (MNCs). In fact, proprietary technology generation is mainly concentrated in 10 developed countries, which account for a staggering 84% of worldwide R&D spending every year. This is because, these countries and companies acquire GRs provided by developing countries through expensive IPRs without any prior informed consent, and the new products or plant varieties developed from these GRs are protected through patents and PBRs in developed countries. These protected products are then exported and sold at high prices without even acknowledging their source or repaying their dues for cultivation and protection of the GRs. R&D in biotechnology should be expanded to developing countries and the public; otherwise, research and development of GRs would only be driven by commercial interests, which would only increase biological uniformity and biopiracy.

### **Conflict between the TRIPS and the CBD agreements**

The TRIPS agreement is as legally binding and valid as the CBD even when these two agreements have different objectives, obligations, and systems of rights. Many argue that the TRIPS and CBD agreements are mutually supportive; however, it is evident that their implementations could create conflicts. Countries rich in biological diversity are constantly being exploited by those strong in legal instruments, and the CBD aims to strengthen these countries in order to conserve biological diversity. It not only recognizes the sovereign right of these countries over GRs, but it intends to conserve TK. As stated before, the TRIPS agreement provides private IPRs and protects commercial interests. According to the CBD, IPRs on biodiversity-related products depend on the prior rights of communities, while the Preamble to the TRIPS Agreement defines IPRs as being private rights.

It is imperative that countries abide by the CBD and ensure that TK is conserved; however, the contradiction with the equally authoritative TRIPS agreement, along with article 22 of the CBD, makes this hard to achieve. Whereas the agreements are in conflict in many aspects, both agreements are, as explained in the Background Information section, highly flexible. It is important to note that the aim of the committee is to strike a balance between IPRs and biodiversity; therefore, the TRIPS agreement should be harmonized so that member countries can implement the obligations of both agreements without any interference.

### **Ethical aspects of the TRIPS agreement**

It is also important to discuss the ethical issues with the TRIPS agreement. To many traditional communities and present-day conservationists, the patenting of life forms is horrifying; they strongly believe that nature exists apart from, not for the benefit of humans. Many societies are also against the privatization of knowledge in general. Thus, the present IPR regime not only leads to loss of agricultural biodiversity, but it also goes against the values of many communities.

## Previous Attempts to solve the Issue

Various agreements have been signed to deal with the issue of IPRs on biodiversity-related knowledge, such as the TRIPS agreement, the CBD, and even the UPOV Convention, which have been explained above. Although the present IPR legislation is stricken with problems, these agreements have accomplished quite a lot, and work has been done to make these agreements more effective. Furthermore, concerns over the potential impact of IPRs have led to numerous reform initiatives at the international, national, and regional levels. At the international level, these concerns have prompted many discussions; nonetheless, ideas that are discussed have not yet materialized into legally binding frameworks. At the national and regional levels, however, concrete policy measures have been taken to ensure that IPRs support the overall objectives of the CBD.

### Establishing consensus and setting minimum standards

These agreements have established consensus, which is a stepping stone towards preserving biodiversity. The different treaties have also established minimum standards and provided frameworks that give member states an idea on what their IP legislation must need to be effective.

Nevertheless, these agreements do not sufficiently deal with the entire problem, and agreements such as TRIPS and CBD, which have conflicting objectives and obligations, have also caused confusion. The state of the present IPR legislation on biodiversity-related knowledge has prompted a lot of concerns, and governments need to find a way to preserve biodiversity and protect TK.

### TRIPS Review of Article 27.3(b)

The TRIPS agreement requires the review of the article 27.3(b) by the TRIPS Council, which deals with the patentability and IPR protection of plant varieties. The review has raised many topics, such as whether or not to patent life forms, what an effective protection for new plant varieties comprises, how to tackle the commercial exploitation of traditional knowledge and GRs, and how to ensure that the TRIPS Agreement and the CBD complement each other.

The Doha Declaration on the TRIPS Agreement and Public Health, which was adopted in Doha on November 14, 2001, was a result of this review and has attempted to improve the agreement in order to tackle its issues. It not only dealt with getting around patent rights for better access to medicines, but it also added additional focus to Article 27.3(b) of the TRIPS agreement. Paragraph 19 of the Doha Declaration states, “We instruct the Council for TRIPS, in pursuing its work programme including under the review of Article 27.3(b), [...] to examine, inter alia, the relationship between the TRIPS Agreement and the Convention on Biological Diversity, the protection of traditional knowledge and folklore”.

In general, this review has led to a lot of debate on the implementation of Article 27.3(b), and many member states have given proposals to solve the issue. Although the review of Article 27.3(b) is not exactly an attempt to solve the issue, it has helped discuss the issues of the TRIPS agreement.

## Nagoya Protocol

The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS) of 2010 is the second supplementary agreement to the CBD of 1992. The Nagoya Protocol, which has 105 signatories, focuses on the third objective of the CBD: “fair and equitable sharing of the benefits arising out of the utilization of genetic resources” in relation to access to GRs, benefit-sharing, and compliance obligations.

Access obligations include establishing straightforward rules for prior informed consent and mutually agreed terms and creating conditions to promote research that help in the conservation of biodiversity. Sharing, on the other hand, is subject to mutually agreed terms, and benefits may either be monetary or nonfinancial.

Even though the objectives and many obligations of the protocol are beneficial, there are many concerns that all this added legislation will stymie the monitoring of biodiversity for research purposes. For instance, the protocol will make it more challenging to quickly share samples across borders, which in turn could hamper vital activities such as disease monitoring.

## Possible Solutions

In this year’s PAMUN conference, delegates are expected to write specialized clauses, which should later amount to a coherent resolution with each of them addressing a specific aspect of the topic. When writing their clauses, delegates are to focus on a specific aspect or a “specialized topic” of the general issue that are outlined by ‘major issues’ and ‘possible solutions’ of this report. During your conference, chairs will deliver their delegates with more specific instructions. However, please keep in mind that these ideas do not in any way set restrictions for debate. Moreover, each solution has both its benefits and disadvantages that delegates should thoroughly consider.

## Harmonizing the TRIPS agreement with the CBD

Although the Doha Declaration asks to examine the relationship between the TRIPS Agreement and the CBD and the protection of TK, it does not do anything concrete to solve the issue. Thus, the TRIPS agreement needs to be further harmonized with the CBD in order for member countries to implement obligations of both agreements.

Firstly, it is important to grant the CBD permanent observer status in the Council for TRIPS. The Executive Secretary of the CBD has been requesting the TRIPS Council for observer status, but the application is still pending. This would ensure that obligations of both agreements are implemented in a mutually supportive manner.

Secondly, to ensure consistency with ABS regimes of the CBD, WTO members should amend article 27.3(b) to make sure that patent applicants state the country of origin of the subject matter and give proof of prior informed consent. It should be mentioned in the article that patent applications are required to be compliant with the international certificate of origin that is discussed in the second solution.

Lastly, WTO members should be given the option to exclude all life forms from patents so that they are given the opportunity to try different approaches for carrying out the CBD. They must also be allowed to develop sui generis systems that are in line with CBD and Nagoya Protocol objectives and not necessarily “effective” according to the WTO. Thus, WTO members should make sure that they do not define the UPOV plant variety protection as the benchmark “effective” sui generis system.

### **Increasing transparency and traceability in the process of access to genetic resources**

Increased transparency and traceability would ensure legal certainty for users of GRs and provide assurances to providers of GRs that their resources are used in compliance with legal obligations. Firstly, IPR applications on plant varieties or GRs should be required to disclose the country of origin and the community which provided the knowledge about the resources. IPR applications should also include a proof of consent of the country of origin.

The establishment of an international certificate of origin that includes evidence of the prior informed consent of the holders of the knowledge could further increase transparency and traceability. If this certificate of origin is not presented and the above access conditions (disclosure of country of origin, proof of consent...etc.) are not respected, the grant of IPRs should be denied or compulsory licenses should be issued by developing countries.

### **Sharing benefits with the countries that provide GRs**

Sharing benefits (see Key Terms section for definition) with the countries that provide GRs ensures the long-term interest of countries providing and using GRs in conservation and sustainable use activities, to the mutual benefit of both these countries. Sharing benefits also guarantees effective participation and involvement of indigenous and local communities, who play a major role in conservation and sustainable use programs at the local level. Benefits arising from the use of GRs, as stated in the Nagoya Protocol, may be monetary or nonfinancial. These benefits could be in the form of royalties, or involvement of local institutions in the research, collection, and technological development.

The Nagoya Protocol attempts to carry out the third objective of the CBD through a series of ABS measures that are very helpful. However, the sheer amount of legislation and access restrictions has raised concerns about its effect on biological monitoring. Hence, the new ABS legislation should not hinder international partnerships that are vital for the protection of global public health.

### **Expanding R&D in biotechnology to the public and developing countries**

As previously stated, R&D is confined to developed countries and private companies and is driven by commercial interests, leading to issues such as biopiracy and biological uniformity. Hence, it is imperative that R&D is expanded through collaboration between public and private sectors. The UN and relevant NGOs could collaborate with biotechnological companies in order to develop different plant varieties that will be beneficial for developed and developing countries. Furthermore, benefits could also be in the form of sharing research results and involving local institutions in R&D. Both developing and developed countries need to have access to R&D so that new products or plant varieties benefit both of these countries.

## For further inquiry

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## Appendices

- I. Agenda 21 Section II: <http://www.un.org/documents/ga/conf151/aconf15126-2.htm>
- II. Convention on Biological Diversity (CBD): [www.cbd.int/doc/legal/cbd-en.pdf](http://www.cbd.int/doc/legal/cbd-en.pdf)
- III. Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS): [www.wto.org/English/docs\\_e/legal\\_e/27-trips.pdf](http://www.wto.org/English/docs_e/legal_e/27-trips.pdf)
- IV. Nagoya Protocol: [www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf](http://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf)