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International Perspective with respect to Intellectual Property and Sustainable Development in the Agricultural Sector

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ABSTRACT

Intellectual property (IP) is crucial in today's environment. It is the result of someone using their knowledge and creativity to create things and reach their maximum potential through the transfer of technology. The government has implemented numerous laws and initiatives, yet despite these efforts, the agriculture industry has not expanded further. The rapid growth of population by the Food Security Information Network (FSIN), the annual report According to the report, there were merely 258 million people experiencing acute food insecurity at crisis levels or worse across 58 nations and territories. The percentage of people experiencing acute food insecurity arose from 21.3 percent in 2022 to 22.7 percent. In 2021, it is still excessively high and highlights a worsening trend in the severe food insecurity that is occurring worldwide.

More work and progress will be desperately needed as the world's population grows in order to sustainably increase agricultural production, expand the global supply chain, reduce food waste and misfortune, and ensure that those who are malnourished and lacking in appetite have access to wholesome food. Many people throughout the world are cooperating to accomplish the aim of abolishing hunger in the future because they think it is achievable. International organizations and other related agencies were working to provide food security and eradicate poverty through various conventional implementations in order to confront the challenges of hunger and manage the availability of resources.

Keywords: *sustainable development, agriculture, hunger, nutrition, food security.*

I. IPR AND SUSTAINABLE DEVELOPMENT

"Sustainable development is defined as "development that satisfies current needs without compromising the ability of future generations to meet their own needs."- The 1987 Brundtland Commission Report.

The concept of sustainable development was put forward by the World Commission on Environment and Development in the "Our Common Future" report in 1987 and was

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strengthened by the United Nations Earth Summit in Rio de Janeiro (1992). The concept of sustainable development is based on the conviction that it should be possible to improve the basic living standards of the world's growing population, without unnecessarily depleting our genetic natural resources and further degrading the environment in which we live. Emerging biotechnology, based on new scientific discoveries, provides novel approaches for striking a balance between developmental needs and environmental conservation.

Fundamental Linkage between IPR and Sustainable Development:

Intellectual property rights rules have strong effects on economic processes, environmental protection, and social objectives. IPR-related policies are urging the sustainable development goals to nurture quantitative analysis. These millennium development goals are now key policy objectives for development agencies. The linkage between the SDGs in the case of hunger, incentives for the development of new plant varieties are only one element in a long chain of events that are necessary to ensure that hunger is reduced.

These include the need to foster better access to food, to improve the distribution of existing food supplies, to provide rural poor people with secure access to land, and to focus on areas of low agricultural productivity such as marginal ecological regions with poor soil and high climatic variability. The major health crisis and access to drugs are directly related to the IP health infrastructure of each country.

IP promotes Sustainable Development in Agriculture:

The perception of sustainable development arose within the context of environmental policy debates. It reflected in large part on the realization that environmental conservation should not be undertaken in an exceedingly vacuum but should take into consideration the requirement to use the environment and natural resources for the fulfilment of basic needs similarly as more generally for economic development. The dual dimension views linking economic development and environmental conservation in the same aspect. On one side there was a push for conservationist policies to not hamper the economic process, on the other side; there have been calls from developing countries specifically for the popularity that environmental conservation mustn't be at the expense of the fulfilment of the basic food needs.

II. INTERNATIONAL LAW FOR THE PROMOTION OF SUSTAINABLE DEVELOPMENT

Existing intellectual property rights treaties and institutions originated on the premise that intellectual property laws incentivize economic expansion and are not directly related to social development, human rights, agriculture, or environmental protection. This is reflected in

different ways in existing frameworks.

In WIPO it is only recently, such as in the context of debates over the protection of traditional knowledge in the past few years, that broader sustainable development concerns have come to play at least an indirect role in the negotiation. In the WTO, there is one single mention of sustainable development in the preamble to the WTO agreements. Turning to the point, few can find a place even in the preamble to the TRIPS agreement. *Sustainable development does not find a place even in the preamble to the TRIPS agreement. Indirectly, references to the concerns of sustainability can be found in Articles 7 and 8. A specific provision like Article 27 also addressed some relevant issues such as the possibility of using environmental harm as a way of restricting the scope of patentability.*

III. THE NEED OF IPR AND SUSTAINABLE DEVELOPMENT IN AGRICULTURE

Agriculture is a traditional form of practicing farming or a process of science is a multidisciplinary stream that involves the study of the science and management of nature and biological systems for the sustainable production of food and fibre involving the cultivation and breeding of animals, plants, and fungi for food, fibre, bio fuel, medicinal plants, and other products. Nowadays, the advancements in technology, primarily in the area of agrobiotechnology lead to the development of new products and/or processes and related intellectual creations and possibly involve further intellectual efforts in introducing the same in the related trade and business or industrial purposes, and also there is a necessity to safeguard and protect such creative efforts as IP free from any unauthorized use or dilution and the related laws to protect and safeguard such IPRs.

IPR gives major support to the farmers, and producers and also safeguards their rights by introducing new amendments in IPR such as the Plant Varieties and Farmers Rights act and Biodiversity Act, by ensure better protection from pests, healthier crops, more sustainable farming practices – these are just a few innovations enabling farmers to grow more food on less land than ever before, and intellectual property (IP) laws are helping to make it all possible.

UN Conference on Environment and Development (UNCED)

The UN Conference on Environment and Development (UNCED) adopted Agenda 21, a comprehensive approach to sustainable development in 1992. These instruments serve as guidelines for national, regional, and international action and establish the international legal framework. The Convention on Biological Diversity is essential for sustainable development and human well-being, supporting food, fibre, water supply, climate change mitigation, health, and employment opportunities. Target 2.3 requires doubling agricultural production.

Agriculture, a vital sector providing livelihoods for 2.5 billion people and a significant source of income and employment, faces unprecedented pressure due to the need to feed 1.5 billion people by 2030 and 60-70% by 2050 to feed 9 billion people. Rapid soil degradation, groundwater depletion, excessive pesticide use, and extreme weather events are putting pressure on agriculture. International organizations and member countries have formed conventions and rules to combat food shortages and hunger, including the Convention on Agriculture and Biological Diversity, which contributes to the achievement of Sustainable Development Goals 2 and Biodiversity Goals 7 and 13. The Secretariat works with partners like the Food and Agriculture Organization of the United Nations (FAO), the International Organization for Biological Diversity, and the International Treaty on Plant Genetic Resources for Food and Agriculture to develop a coordinated approach to food safety and sustainable agriculture.

IV. INTERNATIONAL ORGANIZATIONS FOR THE SUSTAINABLE PROMOTION OF AGRICULTURE THROUGH IP

UNFAO: The Food & Agriculture Organization of the United Nations:

“The Food and Agriculture Organization (FAO) is a specialized agency of the United Nations leading international efforts to end hunger, improve nutrition and food security”. In 1996, FAO organized the World Food Summit. At the end of the meeting; it signed the Rome Declaration, which set the goal of halving the number of hungry people every year. The forum criticized the growing nature of the industrialization of agriculture and called on governments and FAO to take more steps to protect the "right to food" of the poor. The plan led to the evolution of several conventions and treaties as follows:

International Plant Protection Convention (1951)

The International Plant Protection Convention (IPPC) is a multilateral treaty supervised by the United Nations Agriculture and Food Organization in 1951 to ensure coordinated and effective actions to prevent and control the spread of plant pests and plant products. The convention ranges from the protection of cultivated plants to the protection of natural flora and plant products. It also considers direct and indirect damage from pests and therefore includes weeds.

The main focus of IPCC is on plants & plant products that flow in international trade, the Convention also covers research materials, biological control organisms, gene banks, shelter facilities, food aid, emergency aid, and any other vehicles that can be used as carriers. Things used for the spread of plant pests, such as containers, packaging materials, soil, vehicles, containers, and machinery. In recent years, the International Plant Protection Convention's

Committee on Phytosanitary Measures have developed a strategic framework whose objectives are:

- Protect sustainable agriculture and improve global food security by preventing the spread of pests;
- Protect the environment, forests and biodiversity from Plant diseases and insect pests;
- Promote economic and commercial development through the promotion of science-based uniform phytosanitary measures.

The FAO International Undertaking on Plant Genetic Resources - FAO IUPGR (1983):

The FAO IPGRI preceded the Plant Treaty. The FAO has established a committee to oversee international plant genetic resource collection and storage, aiming to protect plant breeder and farmer rights. However, academics lack legal power, and the committee's effectiveness has been limited. The Biodiversity Convention in 1992 covers international companies and FAO are negotiating a new treaty to address these concerns.

International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)

The protection and sustainable use of plant genetic resources for food and agriculture is the key to ensuring that the world produces enough food to feed the growing population in the future. In 1983, the Commission on Genetic Resources for Food and Agriculture was established and passed the "*Voluntary International Agreement on Plant Genetic Resources*". All this work ended in 2001 with the historic adoption of the legally binding international treaty on plant genetic resources for food and agriculture. The Biodiversity Convention was officially present in 2001. International Convention on Genetic Resources of Plants for Food and Agriculture (also known as an international specification or a plant treaty) is a harmony of biodiversity aimed at guaranteeing food security through conservation, it is *an international agreement Integral in sustainable use of the genetic resources of the Global Plant (PGRFA)* for food and agriculture, just and fair shared benefits of its use and sustainable use of genetic resources in the world for the recognition of the rights of the farmers.

- We recognize a great contribution from farmers to the diversity of crops that cultivate the world.
- Establishment of a global policy to provide farmers, plant breeders and scientists with farmers, plant breeders and scientists to plant genetic materials to scientists.
- The recipient guarantees the benefits derived from these genetic materials, and uses these genetic materials in the country where they occurred.

Farmers' rights:

The Convention recognizes that a great farmer's contribution was made on the continuous development of the genetic resources of the rich plant of the world. It requires that these farmers protect traditional knowledge, improve their participation in their national decision-making processes, ensuring that they share their benefits from these resources, Sustainable use. Most global food comes from four major crops: rice, wheat, corn, potatoes. However, not among four elderly people, it is an important source of food for millions of people, and other things can provide nutrition. The Treaty helps maximize and reproduce all crops and promote the development and maintenance of a variety of agricultural systems.

Access and benefit-sharing:

The treaty promotes the access to genetic material of 64 crops within the multilateral system of food and agricultural analysis, improvement and training. The person who obtains the material must come from the ratifying country of the treaty and must fully comply with the use of the material for analysis, improvement and training in food and agriculture. The agreement prevents recipients of genetic resources from claiming property rights in these resources with respect to the types of these resources.

WIPO:

WIPO also supports the implementation of the Sustainable Development Goals through a series of activities to address intellectual property issues related to the benefit-sharing of genetic resources and the protection of traditional knowledge. WIPO's training activities and information resources in these areas helps to strengthen the empowerment of indigenous peoples who are disadvantaged groups, promote their access to lifelong learning opportunities, and help them acquire the knowledge and skills necessary to take advantage of opportunities and participate fully in society and the framework of the Sustainable Development Goals.

WIPO contributes to the Sustainable Development Goals by providing specific services to its member states that allow them to use the intellectual property (IP) system “to promote the innovation, competitiveness and creativity necessary to achieve these goals”. IP is a key motivator for innovation and creativity, which in turn is the key to the success of the Sustainable Development Goals. Only through human ingenuity is it possible to develop new solutions: eradicate poverty; promote agricultural sustainability and ensure food security; fight diseases; improve education; protect the environment and accelerate the transition to a low-carbon economy; increase productivity and increase the competitiveness of the company.

V. ROLE OF TRIPS AND CBD TO ENSURE BIODIVERSITY

The TRIPS agreement and the Convention on Biological Diversity (CBD) are crucial in ensuring biodiversity and sustainable agricultural biotechnology. The CBD mandates all parties to protect biodiversity and indigenous traditions, while the TRIPS agreement requires states to alter their national IPR systems to meet international standards. The TRIPS agreement encourages the protection of plant varieties through patents, effective sui generis systems, or a combination of these methods. However, the agreement does not define special terms, leading to confusion for governments. The WTO has been discussing the use of special rights to protect plant varieties, but the lack of clear empirical evidence makes it difficult to determine how the TRIPS Agreement affects the successful implementation of the CBD. The TRIPS Agreement could contribute to the loss of biodiversity and sustainable use of biological diversity by encouraging the establishment of IP systems that promote the innovation of genetically modified organisms.

Cartagena Protocol on bio safety (BSP) 2000: Bio safety for sustainable development.

The Cartagena Protocol on bio safety (BSP) is an international agreement regulating the cross-border movement of living modified organisms (LMOs), which are agricultural biotechnology products that increase crop yield and provide protection. The protocol includes provisions on the preventative principle, advance wise agreement (AIA), information sharing, a compliance mechanism, public participation, liability and redress, and financial resources for developing countries. The precautionary principle plays a significant role in managing the import of LMOs in the face of scientific uncertainty. The provisions on precaution are not obligations but rights to require preventive action. Articles 7 and 8 contain the AIA procedure. The BSP has the potential to encourage innovation, development, technology transfer, and capacity-building for agricultural biotechnology while supporting global conservation and property agriculture goals.

Nagoya protocol on access to genetic resources:

The fair and equitable sharing of benefits from utilization to the convention on biological diversity:

The purpose of this Nagoya Protocol (Article 1) is to give a fair share of the earnings derived from the use of genetic resources, and resources in consideration of all rights, with adequate allocation of adequate access to genetic resources and related technologies. This contributes to the technologies and sustainable use of biodiversity and its constant use of biological diversity, and the agreement (CBD). The objective of the Protocol is to guarantee the value of genetic resources of plants, animals, and microorganisms and is increasingly valuable in professional

enzymes, to improve genes or small molecules. These can be used in many areas, such as crop protection, drug development, the manufacture of specialized chemicals, or industrial processing. Fair and just exchange of these advantages are the priorities of biological diversity and the international community. The Nagoya Protocol was adopted by CBD in Nagoya in October 2010.

Access and Benefit-Sharing: SDG's Commitment and Challenge for the Food and Agriculture Sector:

Access and Benefit Sharing (ABS) is a key aspect of the 2030 Agenda for Sustainable Development, with the Sustainable Development Goals 2 on Zero Hunger and 15 on Terrestrial Life promoting fair and equitable sharing of genetic resources and traditional knowledge. However, the food and agriculture sectors are often late to understand the new reality of ABS. The International Plant Treaty, adopted in 2001, addresses access to plant genetic resources but does not address other genetic resources for food and agriculture. In 2013, the FAO Commission on Genetics Resources for Food and Agriculture decided to formulate elements for national implementation to promote ABS in different sub sectors.

These are the various international instruments for the further development of Agriculture in the field of intellectual property through sustainable growth.

VI. CONCLUSION

The government make necessary implementation and measurement to safeguard the agriculture sector by IP through SDGs by protecting the natural resources – land management and will improve conservation of agriculture can be used to prevent soil erosion and land degradation, Provide incentives for improving ecosystem services, Create local access - Farmers should have easy access to basic resources so they may more cost-effectively and reliably manage their production process and safeguard crops. 20–40% of agricultural yields are lost in many of the world's poorest nations as a result of insufficient pre- and post-harvest assistance. Similar to this, enormous amounts of food are wasted during the food chain's production and consumption stages. Provide fair pricing treatment for farmers who are able to sell their goods in markets by facilitating their access to them. Give research imperatives top priority. Intensified, ongoing research, a focus on regionally relevant crops, stewardship practices, and climate change adaptation are all necessary to achieve sustainable agriculture.

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