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Educational, Scientific

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Horario de sesiones

Delegate,

We live surrounded by 7 billion people who seem to despise their differences rather than to learn from them. How disappointing is the fact that humans are not stirred when seeing the suffering of their equals. We are in danger for being women, for choosing who to love, for expressing, for fighting and for simply existing. We have not learned that empathy, love and respect are the bases of peace, not money, religious imposition and power. Society remains in a state of apathy and alienation, ignoring our corrupt country, our divided Mexico, our self-destructive planet.

That is the reason you, delegate, not only for three days but for the time you keep a mentality of rebellion, represent hope. I am glad you decided to be the voice of those who care, of those who are sick of the way things are. Thank you for being the reason I can nowadays say that not everyone is as uncaring as I once used to think. It is not that easy to be different, to stand up and speak demands courage; be proud of it. Thank you for choosing UNESCO, for believing in the importance of history, of culture, of science and of education, which, along with a proper development of politics and economy, can keep a long lasting peace. Thank you for valuing the past, the present, and the future, which represent the spirit of humanity.

I hope you feel comfortable to express throughout the model and develop compelling and successful arguments and solutions. However, remember the recipe for having an upright world is not in a resolution paper, but exists inside those who are not afraid to take actions. Keep in mind that global betterment is a mental process and, if you want to see a real change, stay persistent in teaching humanity on how similar we all are than different. Speak up, believe in yourself, and always keep on growing. People like you are the reason humanity still stands.

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Outline of the United Nations Educational, Scientific and Cultural Organization

The United Nations Educational, Scientific and Cultural Organization (UNESCO) is a specialized agency of the United Nations, founded after a conference in 1945 by thirty-seven countries. After two world wars, some nations had realized that political and economic agreements were not enough to solve international conflicts and build a lasting peace. Therefore, this organization was created with the declared purpose of contributing to world peace through education, science and culture, using international shared values to increase respect for justice and law. UNESCO has two global priorities, which are Africa and gender equality, besides other overarching objectives such as quality education for all, science knowledge for sustainable development, and intercultural dialogue. The Secretariat, headed by the Director-General, implements the taken decisions by safeguarding cultural heritage, collaborating with the Member States to develop their own educational activities, promoting freedom of expression, among other actions. Currently, the organization has 195 Member States and 11 Associate Members, and has its headquarters in Paris, France. (UNESCO, 2018)

Topic A

Countermeasures against the destruction and illicit trafficking of cultural heritage in conflict zones in Middle East and Northern Africa.

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Introduction

Besides the taken human lives, armed conflicts affect cultural heritage of the zones where they occur. The destruction of historical monuments and objects is inevitable in an armed fighting as collateral damage; however, it can be deliberate. The Islamic State and other extremist groups have attacked directly mosque, churches, mosaics, and icons as religious propaganda. There is also an impact in intangible culture, such as oral traditions and rituals, which are interrupted because of the hostile environment and are not passed to the next generation. In addition, the illicit trafficking of cultural heritage is possible owing to the fact that States are focused on the armed hostilities. During the fire, criminals get to abandoned historical sites or museums and steal antiquities that are even torn into pieces to be sold more easily. Artwork, archaeological material and literature, among others, get into the black market, often becoming a source of financing for extremist groups or States. Both, the destruction and the trafficking, result in an unfortunate loss of the culture in the countries in armed conflicts.

Background

The conflicts in Middle East and Northern Africa have their backgrounds since the division fourteen centuries ago between Sunni (conservatives) and Shiite (who practice an open interpretation of Islam) Muslims. Afterwards, with the fall of the Ottoman Empire in 1924, seat of the last Muslim caliphate, a modern Pan-Islamism was born. Nonetheless, the legacy of the empire was divided between England (Palestine, Iraq and Transjordan) and France (Lebanon and Syria). As a result of the Zionist movement, a State for Jews called Israel was created in Palestine. Besides, Transjordan was created to accommodate a Hashemite family as gratitude for their help during the World War I; also in Iraq a member of this family was installed. Syria and the Lebanon suffered dismemberments in many entities. In addition, Egypt was under British domain, Algeria was considered to belong to France, Tunisia and Morocco were under French protectorate, and Libya was Italy's. The region was also militarily occupied, which developed an Arab consciousness eager to get rid of colonialism and join in one State. This feeling extended provoking an important guerrilla in the south of the Arabian Peninsula, the destabilization of the Lebanon (1958), the division of Yemen (1967), and the conflict in Occidental Sahara (1974).

Another factor that contributes is the energy sector, since this zone owns the 60% of the world's oil reserves. The crisis of the prices as well as the interests of the oil rich countries concern the global markets; further, these issues caused the invasion to Iraq in 2003. One more cause of the conflicts is considered to be the Cold War, owing to the fact that since the decade of 1950 a division was established between the Arab regimes allied to the United States and the anti-imperialists (Egypt, Iraq, Argelia, etc), supported by the Union of Soviet Socialist Republics (USSR). Consequences of this grouping were the Iranian Revolution and the Second Gulf War.

Finally, the Arab Spring in 2011 triggered armed conflicts because of the discontent with the socio-political and economic situation. Tunisia was the only one to achieve a democracy; even though, it is at constant risk of terrorism. In Egypt violence was reduced with the *coup d'état* of 2013, however, it became a military dictatorship. The other countries still remain in a violent transition. On the other hand, the Islamic State of Iraq and Syria (ISIS), which aims to unite every Muslim in a world caliphate, prolongs the conflicts.

Regarding specifically Northern Africa, since World War II, countries have sought for the control of the Mediterranean Sea and the creation of a colonial empire in Africa, mainly to have access to petroleum resources in the Middle East. The abundance of natural resources in the region, such as oil and gas, has had a devastating effect due to their poor administration and the ineffective governments, resulting in the common poverty in Africa.

The global financial crisis of 2008; the unemployment; the rising of the food prices; and the decades under authoritarian regimes; have combined with the history of the region making the Middle East and Northern Africa the most violent area in the world.

Actual armed conflicts in the Middle East and Northern Africa

Currently, there are nine registered major ongoing conflicts in the Middle East. The "Arab-Israeli conflict" refers to the armed and political tension between Israel and the Arab nations against the existence of this Jewish State, mainly the Palestinians. The "Islamic Insurgency in Saudi Arabia" is referred to the attacks of Islamic extremists since 1995. Saudi Arabia is as well accused of funding terrorism in other countries. The "Fatah-Hamas conflict" started in 2006 and consists of a dispute between the two main Palestinian political parties: Fatah, which believes in negotiating with Israel; and Hamas, which uses armed resistance towards the Jewish

State. The “Yemeni Civil War”, which began in 2011, consists on the Houthi rebels, followers of the last president, making armed rebellions against Hadi’s government, who has Saudi Arabia and the United States’ protection. The “Syrian Civil War” is a conflict in which the Free Syrian Army seeks to end with Bashar al-Assad’s regime with Saudi Arabia’s help, whereas Iran, the United States, and jihadist groups stand against the rebels. Since 2014, in the “Iraqi Civil War” the military of the old Baathist Iraq and socialist Arabs aim to destroy the federal government. The third phase of the “Kurdish-Turkish” conflict, in which Kurdish (an ethnic group) insurgent groups demand an independent Kurdistan, began in 2015. The “West Iran Clashes” are the military clashes between the Democratic Party of Iranian Kurdistan and the Iranian Revolutionary Guards since 2016. Finally, the “Iran-Israel proxy conflict” is considered to be a “cold war” in which Iran, with Hezbollah’s cooperation, aims to dissolve the Jewish State, while Israel aims to prevent the Iranian acquisition of nuclear weapons. In 2018 it shifted to a direct confrontation.

Regarding Northern Africa, the “Western Sahara conflict” began in 1970 and consists of the dispute between Morocco and the Sahrawi Arab Democratic Republic for the control of Western Sahara. The “Insurgency in the Maghreb” is referred to the Islamist terrorist activity of groups as al-Qaeda in the Islamic Maghreb (AQIM) in the regions of Maghreb and Sahel since 2002. In the “Sudanese nomadic conflict”, rival nomadic tribes fight over the scarce resources in Sudan and South Sudan. The “Libyan Civil War” has its backgrounds on the death of Muammar Gaddafi in 2011, which aftermath has been violence and instability. The “ISIL insurgency in Tunisia” refers to the terror activity of the Islamic State of Iraq and the Levant (ISIL) since 2015.

Cultural heritage in the zone

Cultural heritage refers to the legacy of physical artifacts or places, and intangible information inherited from past generations. The term cultural heritage encompasses several categories of heritage. The tangible cultural heritage refers to movable cultural heritage (paintings, sculptures, coins, manuscripts), immovable cultural heritage (monuments, archaeological sites), and underwater cultural heritage (shipwrecks, underwater ruins). (UNESCO, 2017)

The Middle East comprises Saudi Arabia, Bahrain, United Arab Emirates, Iraq, Iran, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Syria, Yemen, Turkey, Palestine, and Cyprus. The cultural heritage of the Middle East includes the Historic Jedda, a port for Ocean trade routes which destiny was Mecca, in Saudi Arabia; Hatra in Iraq, with an architecture that reflects Hellenistic and Roman influences; the Persian Garden in Iran; Petra, a half-built and half-carved into the rock city with passages in Jordan. Also the Phoenician city Tyre which ruled seas and founded colonies in Lebanon; Nizwa in Oman which was designated “Cultural Capital of the Arab World” in 2015; Bronze Age settlements, nineteenth century forts, and towers in Qatar; Syria has ruins of Byzantine bridges, medieval mansions, and castles as the Krak des Chevaliers; and Palestine represents a symbolic and physical sacred space for Muslims, Jews and Catholics.

Northern Africa refers to Algeria, Egypt, Libya, Morocco, Sudan and Tunisia. Algeria’s heritage includes cities as Djemila, famous for its Roman relics and sacred temples; and Kasbah of Algiers, which has antiquities as mosques and Islamic palaces. Egypt counts with the ruins of an ancient holy town called Abu Mena, where the church, basilicas, and monasteries represent Christianity. Cyrene is an ancient Greek town in Libya declared by UNESCO a World Heritage Site. Morocco is remarkable due to the walled towns, earth-built Berber houses, Roman ruins, and kasbahs (traditional Moroccan architecture). Sudan counts with Gebel Barkal and the Sites of the Napatan Region that has tombs, pyramids, and temples. Tunisia’s cultural heritage includes sites as the Archaeological Site of Carthage and the Amphitheatre of El Jem.

Destruction of the cultural heritage in these conflict zones

Nowadays, the unavoidable destruction of cultural heritage can be witnessed in two of the regions with the most treasures of the first civilizations that are also the most affected by conflicts: Middle East and Northern Africa. The loss of the past results in a wreckage of the future culture and identity of the societies, owing to the fact that not only physical places and objects with an economic value are lost, part of the culture, focusing on religion, vanishes and creates an enormous feeling of resentment. “Cultural heritage is seen as an instrument for peace and reconciliation. Its protection and conservation can play a key role in rebuilding societies and overcoming the sense of loss and displacement caused by conflict.” (Bouchenaki, 2006).

In Syria, the city of Maarat an-Numan has suffered bombings of Bashar al-Assad's regime and of Russia, and the Great Mosque of Aleppo was completely destroyed because of the bombings of the government aviation and the confrontations between rebels and the troops of al-Assad; besides, the Norias of Hama were burned. The Great Mosque of Samarra in Iraq, which was once the biggest in the world, was bombed in 2005 in an insurgent attack on a North Atlantic Treaty Organization (NATO) position and its surrounding walls were destroyed. The walls, dome, and roof of the Great Mosque of Gaza, that dates back to the time of the Mamelukes, were destroyed by Israeli air strikes. Beirut, the capital of Lebanon which is considered as "the Paris of Middle East", keeps only 400 out of the 1,200 historical buildings it used to have. The constant bombings of Saudi Arabia on Yemen have damaged the walled city Baraquish and have destroyed the al-Hadi Mosque, an Huti mosque build 1.200 years ago.

In Libya, necropolis have been demolished, monuments as the Karamanli mosque have been destroyed, and Islamic Tombs that date from between the tenth and the twelfth centuries too. The Museum of Islamic Art in Cairo, Egypt, which houses impressive collections of the Islamic history, was severely damaged by a car bomb whose objective was a police building.

Role of extremist groups in the demolition of cultural sites and objects

In troubled times, there is a deliberate destruction of cultural heritage of enormous relevance and the main actors are the extremist groups, specifically ISIS and Al-Qaeda. This destruction by Islamic extremists has several justifications and is recognized as a war crime. Among their reasons stand the intimidation of the population, the religious propaganda, the discontent with the fact that cultural heritage attracts Western tourists, the eradication of pre-Islamic monuments, and the cultural cleansing which pretends to end with past heritage and the identity of civilizations to impose their own culture. Attacks on cultural sites can be broken down in three categories: against mosque, against ancient and medieval sites, and against churches (reaffirming their attempts to achieve worldwide monotheism). The claim that the extremists follow Salafist trends, which is a Sunni reformist and conservative movement, tries to justify the attacks on Shiite mosque. Many of the targets are recognized by UNESCO as World Heritage; nevertheless, photos and videos of buildings flying in a thousand pieces are published online to instill fear.

In Iraq, the Mosque of the Prophet Yunus, the ruins of the ancient city of Nimrud and some of its Assyrian reliefs, have been damaged with explosives or constructive vehicles. In the city of Mosul, ISIS looted libraries containing valuable books and manuscripts; they also destroyed statues and artifacts from the Mosul Museum in 2015. The fortified city capital of the first Arab Kingdom, Hatra, was destroyed in 2014. In Syria, ISIS destroyed the Temple of Baalshamin and the Temple of Bel, in Palmyra. Nearby, the walls of the Christian Monastery of St. Elian were knocked down, and the Genocide Armenian Museum was demolished.

In Northern Africa, in the old city Sana'a in Yemen, World Heritage since 1986, many suicidal explosions by the Islamic State have taken place causing severe damage. Meanwhile, in Libya, jihadists destroyed multiple Sufi (mystical Islam) sanctuaries. Also, extremist groups have threatened to destroy the Pyramids of Giza.

The illicit trafficking of cultural property in times of armed conflicts

Illicit trafficking is the illegal movement of cultural heritage to make profit, which is a millenary activity. Along with arms and drugs trafficking, the illicit trafficking of cultural heritage is one of the main markets in the world, being the amount of the sales of cultural goods 600,000 million dollars, an increase of 50% in ten years because of the growing offer on the Internet; and sometimes using the same distribution networks used by arms dealers. The looting is hard to quantify, however, satellite images, police seizures, witness and United Nations Office on Drugs and Crime (UNODC) reports indicate that stealing treasures and their excavation is at its peak in conflict zones in Northern Africa and Middle East, especially Syria, Iraq, and Yemen. The personnel in charge of the illicit trafficking of the cultural heritage can be divided in four.

- ***First level:*** Poor villagers with knowledge of the terrain and activities, and excavators.
- ***Second level:*** Intermediaries who steal antiquities or take them from local excavators.
- ***Third level:*** In charge of taking the cultural heritage out of the country and selling it.
- ***Fourth level:*** Consists on the foreign buyers.

Usually, the price of the artifacts sold in the black market increases even ten times from what is paid to the excavators. In occasions, the heritage is obtained from illegal excavations; thus, these pieces are never included in an inventory and for the State to reclaim their property,

the impossibility of presenting documental proofs of their origin is a formidable obstacle. Even though collectors help protect and promote culture, almost all the antiquities for sale are without a detailed provenance, document or chain of membership, difficulting to know their legitimacy.

The main purchasers are in the United States of America, the Swiss Confederation, the French Republic, the United Kingdom of Great Britain and Northern Ireland, and the People's Republic of China. On the other hand, ISIS, Al-Qaeda and other people and associate companies, generate incomes for their participation in the illegal excavation and sack of cultural heritage from archaeological sites, museums, libraries, and files, to finance their attacks, organization, and recruitment. (Security Council, 2017) Occasionally, ISIS organizes the robbery, also encouraging excavators, and sells the artifacts in exchange for arms and munitions. In the case of Syria, also Bashar al-Assad groups and the Kurds get the incomes. The majority of the troubled countries in Middle East have been sacked. Regarding Northern Africa, UNESCO warned about possible lootings mainly in Tunisia and Egypt. For example, the Shesepamuntayesher Sarcophagus was stolen from Egyptian tombs and rescued in New York from the black market.

Repercussion on intangible culture

Intangible culture is referred to the practices, rituals, expression, traditions, stories, and representations of a society. This part of the culture is passed from generation to generation. With the taken lives during armed conflicts, the passing of intangible culture is interrupted or stopped.

The intangible culture of the Middle East and Northern Africa is rich due to their varied history and foreign influence. The region counts with a variety of religions such as Christianity, Judaism, and Islam, and plenty of minorities. The oriental dance is one of the most ancient ones in history, combining many elements from different countries of Middle East and the North of Africa. Also there is a strict dress code own of these civilizations quite related to their religious beliefs. The gastronomy counts with dishes from the Mediterranean and the Maghreb region.

Culture, identity of the societies, is considered to be an instrument to build peace when conflicts come to an end. Music, theater, literature, parties, rituals, among other representations of culture, can reunite a population divided by trouble. The intangible culture specifically, can

reduce cultural violence and develop transitional justice and the reintegration of former fighters.

Measures taken by UNESCO and other international responses

A World Heritage site is selected by UNESCO because of having cultural, historical or scientific importance and is legally protected by international treaties. Throughout the years, UNESCO has attempted to safeguard cultural heritage, focusing on their vulnerability in troubled times, with a large number of initiatives. These include the Hague Convention for the Protection of Cultural Property on the Event of Armed Conflict (1954) and its two Protocols, the Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property (1970), the Convention concerning the Protection of the World Cultural and Natural Heritage (1972), the Convention on the Protection of the Underwater Cultural Heritage (2001), and the Convention for the Safeguarding of Intangible Cultural Heritage (2003).

In 2013, members of UNESCO met in Jordan to address the illicit trafficking of movable cultural heritage and published a report of recommendations. In 2014, UNESCO's General-Director, Irina Bokova, suggested that the destruction of historical sites was a violation of the Security Council Resolution 2199, which gave the fifteen members (in 2015) of the United Nations (UN) Security Council the legal authority to enforce decisions with economic sanction. In 2015, UNESCO announced plans to use 5,000 cameras with the help of the Institute for Digital Archeology to ensure that historic sites could be documented digitally. In 2016, the committee hosted the conference "Targeting Heritage: in search of new paradigms-save heritage through dialogue", where the role of military and security forces in ensuring cultural heritage in midst of conflicts was debated, resulting in the launch of "Military Manual Protection of Cultural Property." As well, the "Unite4heritage" shares data on illicit trafficking of cultural heritage. In 2017, a historic resolution, called Resolution 2347, was adopted by Security Council with the participation of Irina Bokova, focusing on the trafficking of cultural heritage by terrorist groups and in situations of armed conflict, also recognizing the importance of culture for peace.

Together, the International Criminal Police Organization (INTERPOL), UNODC, customs services, the private sector and museums are coordinating to address these issues. Programs and organizations such as the International Council of Museums (ICOM), the World Customs Organization (WCO), and Blue Shield International, have protected and monitored objects in

conflict zones. In 2014, the United States State Department announced their partnership with the American School of Oriental Research Cultural Heritage Initiatives to document the threats of cultural heritage. The 2017 Blood Antiquities Convention – Protecting Cultural Property through Criminal Law was hosted by the European Council. There have also been attempts to restore the demolished cultural sites. However, the threat keeps on growing.

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Glossary

A

Antiquity: An object that was created a very long time ago.

Amphitheatre: A circular or oval area of ground around which rows of seats are arranged on a steep slope, for watching plays, sports, etc.

Attempt: To try to make or do something.

C

Caliphate: An Islamic state ruled by a single religious and political leader.

Cleansing: An instance of cleaning something.

Conservative: Not usually liking or trusting change, especially sudden change.

D

Deliberate: Something done intentionally or planned.

E

Encompass: To include different types of things.

Extremist: Someone who has beliefs that most people think are unreasonable and unacceptable.

F

Foreign: Belonging or connected to another country that is not your own.

Formidable: Causing you to have fear or respect for something or someone because that thing or person is large, powerful or difficult.

G

Guerrilla: Happens when an unofficial member of a military group tries to change the government by making sudden unexpected attack on the official army forces.

I

Income: Money that is earned from doing work or received from investments.

Insurgent: Someone who is fighting against the government in his own country.

Instill: To put a feeling, idea, or principle gradually into someone's mind.

Intangible: Influencing you but not able to be seen or physically felt.

L

Legitimacy: The quality of being legal.

Looting: The activity of stealing from shops during a violent event.

M

Manuscript: The original copy of a book or article before it is printed.

Monastery: A building in which monks live and worship.

Monotheism: The belief that there is only one god.

Mosque: A building for Islamic religious activities and worship.

P

Paradigm: A very clear or typical example used as a model.

Peak: The highest, strongest, or best point, value, or level of skill.

Profit: Money that is earned in trade or business after paying the costs of producing and selling goods or services.

R

Reformist: Trying to improve a system or law by changing it.

Relic: An object, tradition, or system from the past that continues to exist.

Resentment: A feeling of anger because you have been forced to do something you do not like.

S

Sacred: Considered to be holy and deserving respect, especially because of a connection with a god.

Safeguard: To protect someone or something from harm or destruction.

Sanctuary: Protection or a safe place, especially for someone or something being chase.

Seizure: The action of taking something by force or legal authority.

T

Threat: A suggestion that something unpleasant or violent will happen.

U

Unavoidable: Impossible to avoid.

W

Witness: A person who sees an event happening.

Wreckage: A badly damaged object.

Topic B

Strategies to eradicate biopiracy in developing countries and reduce its repercussion in biodiversity and culture.

Por: Constanza Marquet Illescas

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Introduction

Exchange of biodiversity and the knowledge on it has always been crucial for the development of communities. However, this exchange turns into biopiracy when individuals, organizations or corporations claim Intellectual Property Rights (IPR) on traditional knowledge or the genetic resources of indigenous or rural communities without having a proper authorization or not delivering the adequate compensation. The traditional knowledge and the biological resources are privatized and commercialized. Besides, the culture of these communities is disrespected, their cultural heritage is stolen, and biodiversity is overexploited. Plus, natives get less pay, or none, than those who get benefit from what belongs to them. There are concerns that biopiracy impedes also the economic progress of the inhabitants of these developing countries in view of the fact that it becomes harder for them to make use and get profit from their own resources. Biopiracy is more often perpetrated by developed nations (such as the United States, Japan and European countries) in developing countries, which commonly own large biodiversity reserves (such as India, Brazil or South Africa).

Background

The expeditions of Marco Polo (1254-1324), Alexander von Humboldt (1271-1295), and Charles Darwin (1831-1836) were freely made since the prospection of biodiversity was legally legitimate due to the fact that it contributed to the development of science and a growth in the commerce and economy of the nations behind the mentioned expeditions. These characters created reports about the biodiversity, products, processes, and knowledge from the places they had traveled to, which were published most of the times. Additionally, they recollected alive material of unknown species and some products became publicly available, which sometimes brought solutions for needs as food, shelter, health, and satisfaction.

In the seventeenth century, the European imperialists and colonists in America were not primarily interested in learning, but in conquering nature. As they colonized, Europeans appropriated any resources considered profitable and gave nothing in return to indigenous communities. The ecological effects of European's arrival in the new continent were firstly unintentional, but it did not take long for them to become deliberate, as in the clearing of forests, the large scale planting of foreign crops or decorative plants, damming, and canal building.

The terms “biodiversity loss”, “bioprospection”, and “biopiracy” still did not exist at the time. For these reasons, biopirats were protected by industrialized countries, which created various patent systems at the end of the eighteenth century. The systems favored the search for genetic resources (GRs), and foreign traditional knowledge (TK) for patenting bio-inventions. Afterwards, in the twentieth century, national and international institutions were concerned about what would be known as “biopiracy”. Even though, it is really hard to target biopiracy cases, plus laws have a certain inclination towards the relative ease of its realization.

Genetic resources and traditional knowledge

Common goods are natural or cultural elements accessible to all human beings, such as the air and the seas, while collective goods belong to a determined human community, such as communal land and knowledge. Anyway, both kinds of goods can be commercialized and financed, encouraged by the search for profit through private management. Intellectual Property (IP) means the inventions protected in law by patents (exclusive right granted for an invention), copyright, and trademarks, which let the inventor earn recognition and profit.

The term “genetic resources” is referred to the genetic material (material with plant, animal or microbial origin) which contain functional units of heredity and with real or potential value. Examples of GRs are medicinal plants, agricultural crops, and animal breeds. As found in nature, GRs are not Intellectual Property because they are not human creations. However, inventions with or based on GRs can get a patent and then be exploited (WIPO, n.d.).

On the other hand, traditional knowledge is the wisdom, experience, and practices transmitted from generation to generation. The TK often forms part of the cultural identity of a certain community. Often, this information has to do with the multiple uses of plant species, the geographic locations and habitat preferences of the individual species, the time and manner of harvesting of plant species, the preparation and formulas, the use of one or more species in specific medicinal applications, and other subjects. Innovations based on TK can get a patent; although, traditional knowledge with ancient roots and transmitted orally is not protected by IP.

The definition of biopiracy

Biopiracy refers to an illegal bioprospection. In biopiracy, individuals, organizations or corporations take genetic resources and their associated traditional knowledge, from indigenous people and local communities in developing countries without authorization or giving fair compensation, to then be patented through IPR and obtain profit. Meanwhile, “bioprospection” can as well be considered to be a legalized or ethical biopiracy.

Biopiracy is a perpetuation of the colonial habit of exploiting other countries biodiversity without delivering a proper compensation. This practice is encouraged by determined States and transnational firms which support biotic sacking, mainly pharmaceutical, agri-food, and cosmetic companies. The process of biopiracy can be divided in three stages:

- **Bioprospection:** A representative of a company travels to a rich biodiversity zone, this could be under the image of a common tourist. The person learns specific TK, as techniques, and even takes samples of GRs.
- **Laboratory transformation:** The laboratory of the company can extract the active ingredient (the molecule to which the respective effect is due to), do any genetic modification, or use a technique to create a product with the help of the stolen TK. Because of this stage which includes a minimum human intervention on the GR, the company can get a patent for a “human invention”.
- **Patent:** The GR becomes private and a profit generator through IPR.

In the countries called “users” of biological resources (United States of America, European countries, and Japan, mainly), the demand on cosmetic and pharmaceutical products currently intensifies. These nations have more than the 50% of the registered patents by the World Intellectual Property Organization (WIPO). The countries called “suppliers” have the major biodiversity reserves, as the Amazonia, South Africa, and India. These zones often count with indigenous communities with elaborate millennial knowledge linked to their GRs.

UN Convention on Biological Diversity

The Convention on Biological Diversity (CBD) is a multilateral treaty signed by 150 leading countries, approved during the second United Nations (UN) Conference on Environment and Development held in Rio de Janeiro in 1992. It has three main objectives: the conservation of biological diversity, the sustainable use of its components, and the fair and equitable

participation in the benefits derived from the use of GRs. The Convention claimed that States have sovereignty over their resources, that means that the biological resources are no longer considered as a common good but as State's property. Thus, whoever wants to use the resources will have to obtain the approval of the government authorities. It also establishes there must be an equitable distribution mechanism of benefits, so the company that generates profits from the biological resources will have to distribute a defined percentage of those benefits. It can be a monetary distribution with direct payment, or non-monetary, for example, with development programs, construction of health or education infrastructure, etc.

On October 29 of 2010, at the tenth meeting of the Conference of Parties, held in Nagoya, Japan, they adopted the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS) to the CBD. This provides a basis for greater legal security and transparency for both providers and users of GRs. This protocol helps counteract problems as biopiracy, aiming for the resources to be managed in a responsible manner in order to fairly share the benefits that derive from its use. The protocol establishes obligations for its contractors regarding the access, compliance, and benefits of GRs.

- ***Obligations regarding access:*** They include to create legal security, clarity and transparency; to provide fair and non-arbitrary rules and procedures; to establish clear rules and procedures for prior informed consent; to create conditions to encourage research that contributes to the conservation and sustainable use of biodiversity; and to pay attention to current or imminent situations that represent a threat to human, animal or plant health.
- ***Obligations regarding compliance:*** Action should be taken to ensure that GRs used within their jurisdiction have been obtained with prior consent and mutual agreement, to cooperate in cases of alleged infractions, to ensure that their legal systems offer the possibility of filing appeals in disputes, and to adopt measures to monitor their use.
- ***Obligations regarding the benefit:*** The benefits derived from the use of GRs, as well as their applications and commercialization, must be shared fairly with the contracting party that provides those resources and the benefit sharing is subject to mutually agreed terms.

The inaccuracies and the non-binding nature of these regulations tend to negatively affect the natives in the fight against biopiracy.

Intellectual Property Rights and the legal issue

The patent is the central element of the Intellectual Property Right, ensuring the monopoly of the production and its sale. For patents to be claimed, they must meet three criteria: novelty, nonobviousness and industrial application. The novelty implies that innovation cannot be part of a *prior art* or existing knowledge. Non-obviousness (in U.S. patent law) implies that someone familiar with that knowledge does not follow for obviousness the same step, while in the European patent law the product must just involve an inventive step. Industrial application means that the invention is industrially executable and capable of satisfying a useful function.

Within the TK of indigenous people there is an ancient heritage which accumulates over time, so it is not novel even if it is based on innovation. In addition, indigenous medical systems are not industrial, they are processed and used in small-scale. Therefore, their TK cannot be patented. However, when it is transferred to other countries and turns into products for commerce at a large scale, they are considered to meet the three requirements. Nonetheless, most patents based on the appropriation of TK violate the criteria of novelty and nonobviousness because there is a minor variation which implies obvious steps for anyone trained in disciplines involved.

There was a huge rise in the number of biopiracy cases in the 20th century due to changes in U.S. patent law. In the 1930's, the Congress passed the Plant Patent Act, which allows any person who has invented or discovered and asexually reproduced any distinct and new variety of plant to obtain a patent. Then in 1970, patent coverage was extended to sexually reproducing plants and in 1980 to genetically modified organisms.

In the United States there are many misrepresentations of the law which facilitate the granting of patents. One of these distortions lies in the interpretation of *prior art*, which establishes that patents of discoveries or inventions that already exist in the United States should not be registered, but those that exist abroad may be recorded because their *prior art* is not recognized by the United States. Anyway, if the discovery has appeared in a publication or has been patented in any country one year before, that would be considered *prior art* and a new patent cannot be granted. The United States considers the IPRs as vital for national security. Section 301 of the U.S. Trade Act of 1974 is an instrument of unilateralism, by means of which the countries considered practicing "irrational" or "discriminatory" tactics that reduce profits for American companies, are forced to make their national laws more flexible. Although

governments of developing countries have sought to protect themselves from this unilateralism through the multilateralist General Agreement on Tariffs and Trade (GATT), which promotes international trade, they have not fully succeeded.

In 1995, the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), a legal agreement between all the member nations of the World Trade Organization (WTO) which aims to regulate the norms of international trade and to organize an international intellectual property system, came into force. The TRIPS agreement expresses the obligation of every part to respect the patents of all the member nations and the right to patent in all of them as well; the article 27 allows the granting of patents on living beings, meaning a fundamental change in the national legislations that did not recognize this until the entry into force of TRIPS; recognizes and protects formal innovators, not informal ones as indigenous people; and claims the States have no right to claim a distribution of the benefits generated from the territory's GRs.

The existent contradictions between the CBD and the TRIPS agreement reveal the lack of harmonization of the international regulations. Unfortunately, the strong legal weight of the TRIPS allows the defense of commercial interests more efficiently above that of the locals.

Biopiracy cases in developing nations

Some cases of biopiracy have had positive outcomes. In India, the Neem is used as biopesticide, oil for heating, and face cream. The company Grace and other corporations have registered patents on the Neem and restricted the access to this resource. After ten years of mobilization by the Indian civilians, the patent was cancelled. Another case is cinnamon, which is used as medicine, prophylactic, biopesticide, biofertilizer, biofungicide, and nitrogen fixer in the soil also in India. With the growing opposition to pesticides in the West, since 1985 more than 65 patents have been granted to North American, European and Japanese firms. In 2000, the Research Foundation for Science, Technology and Ecology reversed one of the four patents of Grace.

The Ayahuasca is a plant used for spiritual and healing rites in the Amazon. It was patented in 1986, and in 1999, the Intellectual Property Office (IPO) provisionally cancelled the patent, which finally expired in 2003 and cannot be renewed. Sacha Inchi is an Amazonian plant that produces almonds highly concentrated in fatty acid (omega 3 and 6) cultivated for

more than 3,000 years, mainly in Peru. In 2006, the French company Greentech started commercializing it. The Peruvian National Commission against Biopiracy and the French Collective for an Alternative to Biopiracy, obtained the cancellation of the patent for lack of innovation.

Unfortunately, most of the cases remain unfair to indigenous people. In 1946, the wheat plant known as “Norin 10” was taken from Japan to the United States. It was used to help produce high-yielding and semi-dwarf winter wheat varieties. It had a significant value for global agriculture. On the other hand, the Patents and Trademark Office granted at least four patents in 1996 for the use of saffron, earlier used by the Indians as a healer and anti-inflammatory agent. The foreign patents affect Indian plans to commercialize the plant.

The bark of the Tepezcohuite tree from Chiapas, Mexico, has anti-inflammatory, antibacterial, anesthetic, and epidermis regenerative properties. In 1989, a patent was claimed and the exploitation provoked the depletion of the wild product. Another well-known case is the biopiracy of Mexican beans, in which the company POD-NERS L.C.C. of the United States patented in 1994 a variety of Mexican origin that comes from beans called sulfur or mayocoba. This type of yellow bean has been cultivated for centuries, developed by generations of Mexican farmers and breeders. The company filed legal action against Mexican bean growers, alleging that the Mexican beans sold in the United States were infringing a patent property of POD-NERS. In addition, Stevia is a plant from Paraguay, Brazil, and Colombia, used since centuries ago by the Guaraní people as a sweetener. After its alleged discovery by a Swiss Botanist in 1899, it can be found almost in every part of the globe, but the natives never received money. The Peruvian Maca plant has a highly nutritional value and its derived products include natural Viagra. Large pharmaceutical consortiums have requested patents on it in the United States, Japan, and European nations. Rupununine is a derivative of the nut of the *ocotea rodiei* tree, a species in Brazil, used by peasants as natural medicine for cardiological, neurological, tumor control and fertility ailments. Its patent was granted in the United States to Gorinsky.

The Comoros, an archipelago of the Indian Ocean, possess the Ylang-Ylang, flower valued for the perfume extracted from it. However, producers (who plant and harvest the flowers) and distillers (who extract the essential oil with an archaic technique) give at a low price the flowers that make the fortune of the perfume companies of the whole world.

Repercussions in biodiversity, economy, and culture

The confinement of collective assets results in an environmental, economic, and cultural detriment. While local communities support and have diversified crops, companies often privilege monoculture, which is more profitable. A decrease in biodiversity and a disturbance of ecosystems have consequences for the environmental balance. Also, big corporations produce larger amounts of the respective products, causing the total depletion of some unparalleled GRs. When a company works on foreign GRs, their use and the benefit obtained from it is limited, so the natives can no longer use their own product to obtain their own profit. This, along with the fact that they are developing countries, represents a step back or a stoppage of a big opportunity of economic development. The knowledge on environments and plants with medicinal or nutritional properties, becomes suddenly banned due to the granting of patents that deny their existence. Moreover and even worse, traditional practices become illegal acts because they now belong to foreign associations. This loss of ancestral knowledge, practices, and native plants, means a loss and theft of a major part of rich cultures only for economic purposes.

Actions of governments and organizations to counter biopiracy

In 2010, the Nagoya Protocol was approved by the European Union, because they consider biopiracy as an obstacle to the economic progress of developing countries, and, therefore, a crucial way to fight poverty. The WIPO has tried to make available to the member countries information on jurisprudence and models of contracts for the use of biodiversity and knowledge signed between traditional communities and companies, also providing training on trademarks, patents and copyrights. Mobilizations and legal actions, national and international, have allowed the cancellation of some illegal and illegitimate patents. To denounce a patent, the elements that make it illegal must be pointed out. Therefore, an organization (NGOs, community representatives, etc) has the right to request its cancellation to the organism that granted it.

Brazil, one of the countries that provide the most species to biopiracy, protects its species and TK using the Provisional Measure 2186, which conditions access to natural resources to the authorization of the federal government, searches for the sharing of benefits in case of use and commercialization, and recognizes the right of indigenous and local

communities to decide on the use of their knowledge associated with GRs. In 2005, the Brazilian NGO Amazonlink initiated the project *Aldeias Vigilantes* (vigilant communities), which informs, sensitizes, and strengthens the capacities of the indigenous communities in matters of protection of biological resources and associated TK. Costa Rica's Biodiversity Law of 1998 recognizes the validity of knowledge and innovation, and the responsibility of the State in protecting them. China, India, and Peru keep records of national resources and collective knowledge to prove their previous existence, and follow the processes of patent applications that involve them. On the other hand, in Venezuela, the Autonomous Intellectual Property Service, created a portal with more than 15 thousand cataloged traditional references in the areas of chemistry, pharmaceuticals and crafts, among others. Those interested in accessing to this information pay a fee to the State, which is then distributed among the local communities.

Also, respectful companies prove bioprospection can be carried out responsibly, having previous informed consent, delivering the fair economical compensation, protecting the culture and biological diversity, publicly recognizing local communities and indigenous people.

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Glossary

A

Aim: Direct information towards a particular group.

Allege: Claim or assert that someone has done something illegal or wrong, typically without proof.

Anesthetic: A substance that induces insensitivity to pain.

Appeal: Serious, urgent request.

Archaic: Very old or old-fashioned.

Asset: An item of property owned by a person or company, regarded as having value and available to meet debts, commitments, or legacies.

B

Biofertilizer: substances containing living microbes, which when applied to seed, plant, or soil promote growth by the supply of essential nutrients.

Biofungicide: Formulations of living organisms that are used to control the activity of plant pathogenic fungi and bacteria.

Biopesticide: A pest-control measure of biological origin, especially a pesticidal microorganism or natural toxin.

Biopiracy: The practice of commercially exploiting naturally occurring biochemical or genetic material, especially by obtaining patents that restrict its future use, while failing to pay fair compensation to the community from which it originates.

Bioprospection: Searching for plant or animal species for use as a source of commercially exploitable products, such as medicinal drugs.

C

Commercialize: Manage or exploit (an organization, activity, etc.) in a way designed to make a profit.

Confer: Grant.

Consent: Permission for something to happen or agreement to do something.

Consortium: An association, typically of several companies.

Counteract: To reduce or remove the effect of something unwanted by producing an opposite effect.

D

Dam: To build a dam across (a river or lake).

Depletion: Reduction in the number or quantity of something.

Detriment: The state of being harmed or damaged.

Dwarf: To make something seem small by comparison.

G

Grant: To give a right or power.

H

Harmonization: The act of making different people, plans, situations, etc. suitable for each other or the results of this.

Harvesting: The process or period of gathering in crops.

High-yielding: Producing a large amount of a product or a large financial return.

I

Illegitimate: Not authorized by the law; not in accordance with accepted standards or rules.

Imminent: That is about to happen.

Inaccuracy: State of not being accurate

Indigenous: Naturally existing in a place or country rather than arriving from another place.

Infringe: Actively break the terms of (a law, agreement).

J

Jurisdiction: The official power to make legal decisions and judgements.

Jurisprudence: A legal system.

L

Legislation: A law or set of laws suggested by a government and made official by a parliament.

Legitimate: Conforming to the law or rules.

M

Mayocoba: Type of bean.

Mobilization: The act of preparing or organizing something.

Monoculture: The cultivation of a single crop in a given area.

N

Non-binding: Not legally necessary to obey or follow.

Nonobviousness: Loosely, something that is not readily apparent.

Novelty: Quality of being new and unusual.

O

Outcome: The way a thing turns out; a consequence.

P

Patent: A government authority or licence conferring a right or title for a set period, especially the sole right to exclude others from making, using, or selling an invention.

Prior: Coming before in time.

Profit: Money that is earned in trade or business.

Profitable: (Of a business or activity) yielding profit or financial gain.

Prophylactic: Intended to prevent disease.

U

Unparalleled: having no parallel or equal.

S

Sensitize: Cause (someone or something) to respond to certain stimuli; make sensitive.

Sovereignty: The authority to rule over something.

Stoppage: An instance of movement, activity, or supply stopping or being stopped.

T

Trade: Activity of buying, selling, or exchanging goods and/or services between peoples or countries.

U

Unilateralism: The process or fact of deciding a policy or action without involving another group or country.