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# Food and Agriculture Organization

## Study Guide

Topic A:

*Prevention and Elimination of Illegal, Unreported and Unregulated Fishing*

Topic B:

*Curbing the Threat from antimicrobial Resistance to Animal and Human Health*

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## Word of Welcome from the Chair

### Salutations everyone!

My name is Hamza Naseer, and I hail from the Islamic Republic of Pakistan. With great pleasure, I welcome everyone to MUIMUN'21. I look forward to meeting all of you, not just for the purposes of enjoying cohesive and fruitful debate, but for having great fun through the exchange of amusing life experiences as well as (I wish!) philosophical dialogue. I am a student of Psychology and Philosophy, but I love Literature and Linguistics too, and would love to have long discussions over these subjects! Side by side, I coach Model UN's at various institutions, and that keeps my tastes for good books and good food well-funded. As a chair, I expect everyone to be, first of all, committed to having a learning experience and to leave the committee room better informed (not just in our chosen topics) than when they entered it. Secondly, I expect speeches that have a firm grasp on the balance that ought to exist between rhetoric and content. Thirdly, I expect shining diplomacy skills, which means knowing when to compromise, and when to be assertive and adamant. Finally, I cherish delegates with pristine drafting skills, which means following the format and avoiding sentences that resemble our combined meaningless existences.



Greetings Delegates! Welcome to the MUIMUN Conference 2021, FAO Committee. My name is Jackline Birir and I will be your Chair during this conference. I am a law student at the Kenyatta University in Kenya. I am very passionate about the law and interested in legal issues with regard to international and global matters. I have had the best experience with MUN. I began to participate as a delegate since 2nd year and have since enjoyed the experience that comes along with sharing and learning from different people, in different professions and with different ideas. It is the best way to gauge your understanding of national and international contemporary issues and attempt to find solutions to them. The topic “Illegal, unreported, and unregulated fishing” closely relates with the Sustainable Development Goals. I look forward to solutions on the impacts of IUU on the environment,

economy, climate as well as globally backed up with valid laws and protocols thereto. Most importantly, I hope that at the end of the conference, you will have gained skills on public speaking, critical analysis of the issues and the methods of dispute resolution.

If there are any questions on the topic or on procedures and protocols on the conference, feel free to contact us at [fao.muimun@gmail.com](mailto:fao.muimun@gmail.com) We are looking forward to meeting and debating with you all!

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## Committee Description

The Food and Agriculture Organization of the United Nations was established in the year 1945. In 1946, the FAO held “The Special Meeting” to discuss urgent food problems, which was attended by 70 governments. After FAO calculated that there would be a gap in the 1946-47 harvest period between demand and supply, the then Director-General of FAO proposed to the committee the task of taking serious measures to control this impending crisis through the mobilization of resources. The very first task, in fact, that FAO carried out immediately after its establishment was to ascertain the state of nutrition worldwide. The first World Food Survey was conducted in 1946, which gathered data from across 70 nations in the most scientifically precise way possible back then, and reliably proved that malnourishment and starvation were widespread issues.

In 1950, continuing with its mission to eradicate worldwide hunger and to counter the negative effect upon local economics from outdated practices related to forestry, fisheries, and agriculture, the FAO conducted the World Census of Agriculture where they created certain guidelines that were meant to generate figures which could be internationally compared related to the structure of agriculture. Countries were helped by this census in the sense that it was easier for them to now carry out national censuses since they could now use a standard which was international, that is, a set structure now existed about definitions, concepts, and methodologies. In 1949, a substantial move was decided upon by the member states in the fifth session of the General Conference: the offices of FAO were to be moved to Rome, and in 1951, two ships with 76 families on board sailed from Washington.

In 1952, the Second World Food Survey was conducted: the results included the finding that the gap between countries that were well-fed and those that were less-fed had widened. It also found that the supply of average calories per person had fallen massively, to the extent that the supply was below the pre-war level. Arguably, 1952 is the year when FAO kickstarted into action and started a series of projects that are impactful and still working today:

- International Plant Protection Convention (to protect the plant resources of the globe from pests).
- The Desert Locust Programme (to work for locust control).
- World Seed Campaign (aimed at seed improvement and distribution).

- UN Special Fund (In 1958, the FAO was responsible for almost one-third of the activities of the Special Fund).
- The World Food Programme (aimed at providing food urgently to affected areas).
- The Third World Food Survey (which found that 10 to 15 percent of the global population were undernourished and half the population suffered from hunger, or malnutrition, or both).
- World Food Conference (A world food bank was to be established with 10 million tonnes of stored grain, an International Fund for Agricultural Development was to be founded, and a flood forecasting system was to be set up to predict upcoming future crises).
- World Conference on Fisheries (highest number of delegates attended the conference, long term goals were agreed upon for fisheries).
- World Declaration and Plan of Action on Nutrition (governments' pledge to reduce malnutrition-related conditions).
- Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases (EMPRES) was set up in 1995 to fight diseases affecting animals and plants as well as those diseases that are transboundary.
- The Code of Conduct for Responsible Fisheries is was set up to ensure sustainable use of fisheries and address aquaculture development.
- In 2001, the International Treaty on Plant Genetic Resources for Food and Agriculture was set up, which is legally binding, to encourage sustainable agriculture via sharing of genetic information amid farmers, breeders, and institutions dedicated to research in an equitable manner.
- Emergency Relief for Pakistan in 2010: floods had wiped out livestock and seeds in the heavily agriculture-oriented country and the FAO distributed wheat seeds to half a million families that are dependent on farming for the oncoming planting season; 235 000 families also received aid for their livestock in the form of feed and medicine.
- In 2014, Principles for Responsible Investment in Agriculture and Food Systems are set up -- they are meant to encourage responsible investment for better security of food and nutrition. In 2016, the FAO adopted the SDGs under the 2030 Agenda for Sustainable Development to shape all their plans for the next 15 years. Food and agriculture are of utmost priority in the 2030 Agenda.

## Mandate of FAO

The FAO is a specialized agency of the United Nations. With 191 member nations, one Member organization (European Union), and two Associate Members (Faroe Islands and Tokelau), it has a unique structure of governance. Firstly, the FAO Conference is the highest governing body under the FAO and meets every two years in Rome. Its primary role is to approve the budget and program of work that is adopted by the FAO as well as to decide upon the policies of the Organization.

Secondly, the FAO Council: The Conference appoints the Council, which has 49 members, each of which serves three-year terms; it reviews important matters during regular sessions and is meant to meet four times before each session of the FAO Conference.

Thirdly, the FAO Regional Conferences: they can be convened at any time during the years between Conference sessions by Member Governments according to each major geographic region.

Finally, there are FAO committees: they are established by the FAO constitution to help the Conference and Council members in making decisions that are particular to policies that require technical information.

The FAO conference, in line with the FAO constitution, is meant to meet at least once every year. Each member nation only has one vote. In case advisers and associates or an alternate are participating, the Conference may make special rules but they shall not all have the right to vote until and unless an alternate or advisor is acting in the place of a member. Representatives from public international organizations whose work is relevant and/or deemed important by the Conference may be allowed, but they shall not be granted a right to vote. Unless otherwise specified, all matters are decided by the Conference by a simple majority of the votes cast.

Below follow decisions, which, require a two-thirds majority when taken by the Conference, provided the total number of negative and affirmative votes cast is more than one-half of the Organization's Member Nations:

- The admission of associate or additional members.
- Approvals that are relevant to agreements and conventions.
- Approval between Organizations and Member Governments with respect to agreements.

- Decisions related to the setting of the budget.
- Recommendations to Member Governments in view of their formulation.
- Incorporating new items on the agenda of the Conference they are formally adopted.
- Amending or suspending the General Rules of the Organization.

In case the Conference intends to introduce amendments to the Constitution, a two-thirds majority of votes cast is necessary, keeping in mind that the majority of votes cast is more than one-half of the member nations. A two-thirds majority from the membership of the Council is also required (which means at least 33 Council Members in affirmative) when it comes to approving agreements as well as supplementary conventions; this includes also the addition of items to the agenda of the Council during a session.

**All rules that are important to the debate at MUIMUN'21 can be found in the Rules of Procedure available on the official MUIMUN website.**

## Topic A: Prevention and Elimination of Illegal, Unreported and Unregulated Fishing

### INTRODUCTION

Illegal, unreported, unregulated (IUU) fishing occurs at the international, regional and national sectors therefore requires attention in order to manage and regulate these activities. It is concerned with all levels of fishing-related activities from conservation to crimes that arise from illegal, unregulated and unreported fishing. Products and resources acquired from IUU fishing may find its way into the local markets of various states thus leading to the collapse of various economic zones and inflation of prices in various states.<sup>1</sup> This in turn may lead to poverty, food insecurity, unsustainability of the fisheries sector and livelihood of people. IUU fishing has also been associated with organized crimes including but not limited to; piracy, over-exploitation, and transshipping.<sup>2</sup> It is essential to understand these distinct elements of IUU fishing to comprehend the severity of sustainable marine life and determine ways of curbing these activities and ensuring the marine environment's sustainable ecology.

IUU fishing is a broad term which includes:<sup>3</sup>

- a) fishing activities that are contrary to the national, regional and international legislations
- b) lack of or inadequate reporting of fishing-related activities and
- c) Fishing activities that have not been regulated or restricted by any laws.

“Illegal fishing” comprises acts done by states or foreign ships that violate the rules and policies or without the coastal state's necessary permission.<sup>4</sup> On the other hand, “unreported fishing” is defined as unreported or misreported activities in contrary to the laws and regulations.<sup>5</sup> Conversely, “unregulated fishing” is capturing fish stock, disregarding the

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<sup>1</sup> <http://www.fao.org/3/a-i6069e.pdf> (accessed on 29th February 2020)

<sup>2</sup> <http://www.fao.org/iuu-fishing/background/what-is-iuu-fishing/en/>

<sup>3</sup> <http://www.fao.org/3/a-i6069e.pdf> (accessed on 29th February 2020)

<sup>4</sup> Boto, I. & Peccerella, L. C. (2009) Fighting against Illegal, Unreported and Unregulated (IUU) fishing: Impacts and challenges for ACP countries.

<sup>5</sup> Boto, I. & Peccerella, L. C. (2009) Fighting against Illegal, Unreported and Unregulated (IUU) fishing: Impacts and challenges for ACP countries.

responsibilities of states to ensure conservation and management of living marine organisms as per the United Nations Convention in the Law of the Sea (UNCLOS/LOSC).

It includes many illicit activities that violate international, regional, and national regulations and combat these meaningful activities. There are various limitations such as limited access to certain fishing areas, marine species, and the 12 miles from the coast rule that protects coastal states<sup>6</sup> <sup>7</sup>. Other limitations include but are not limited to the use of specific fishing techniques and tools, measuring the number of days in which one is allowed to be in the seas fishing and the amount of fish that can be captured.

Certain restrictions have proven effective such as the national ban on transferring the fish from fishing vessels to reefers (sizeable, refrigerated cargo ships).<sup>8</sup> This activity is known as transshipping. It allows the vessel to stay longer at sea, which means the number of fish captured is not regulated and, as such, encourages IUU fishing. These vessels tend to avoid returning to the port where the capture is investigated and approved, therefore evading port revenues as well as check-ups. States such as Senegal and Ivory Coast have made progress in banning transshipping.

Additionally, satellite surveillance has become one of the available mechanisms to control and prevent IUU fishing. The Global Fishing Watch<sup>9</sup> is an online system that is freely available and indicates the movement of fishing vessels. This is a crucial element that can control the time a vessel is at sea fishing and identify which vessels escape port certification and checkpoints. Oceana, a nonprofit ocean conservation organization, was able to conduct this surveillance in many countries. Delegates will therefore be required to determine whether this is an efficient method of curbing IUU fishing.

IUU activities majorly impact states incapable of having effective monitoring and controlling systems protecting their Exclusive economic zones (EEZ). According to 1982 LOSC, these zones are defined as the areas of the sea 20 nautical miles from the baseline<sup>10</sup>. The coastal state has some exclusive rights over this area on various activities, such as managing the

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<sup>6</sup> A coastal state is defined by article 76 of Law of the Sea Convention (LOSC) 1982 as a “state that contains a seabed 200 nautical miles from the coastal baseline.”

<sup>7</sup>Zoppi, M. (2019) Global Illegal, Unreported and, Unregulated (IUU) fishing in West Africa: Recent Trends and Historical Legacies, *East African Journal of Social and Applied Sciences*. Vol 1, No. 2.

<sup>8</sup> Zoppi, M. (2019) Global Illegal, Unreported and, Unregulated (IUU) fishing in West Africa: Recent Trends and Historical Legacies, *East African Journal of Social and Applied Sciences*. Vol 1, No. 2.

<sup>9</sup> Vulperhost, V., Malarky, L. Cornax, and J.M. & Lowell B. (2017) Fishing Boundaries of Law: How the Exclusivity Clause in E.U. Fisheries Agreements was undermined.

<sup>10</sup> Article 55 of the United Nations Convention on the Law of the Sea 1958

resources. However, when there are no effective control measures in place, states may fish within the EEZs violating legal fishing methods and activities.

The 2030 agenda indicates the achievement of 17 SDGs, among which SDG 2, 12, 14, and 15 targets the management and conservation of marine ecology. SDG 14 "Conserve and sustainably use the oceans, seas and marine resources for sustainable development." 11,12 specifically targets fisheries and what can be done in achieving this, which includes curbing IUU fishing.

### Consequences of IUU Fishing

Despite looking at the background of IUU fishing, it is paramount to analyze the effect and essential consequences of IUU fishing activities. First, IUU fishing has affected the environment, which has led to the depletion of exotic marine organisms and the destruction of marine ecology. According to FAO (2016), most of the fish stock in West African countries has been depleted, and the exploitation level peaked beyond the approved limit. Consequently, fish stock in such states cannot be restocked. Several states have also put in place mechanisms that prohibit the exploitation of small pelagic fish and rare fish species such as 'saiko.' However, states disregard these rules and capture these species. Such exploitation has led to the decline in resources found in marine ecology. Such activities pose a significant threat to food security, especially coastal areas that depend entirely on exportation and trading activities. With the threat to food security, it implies that the cost of living will rise and as such, poverty levels will increase, resulting in the impossibility to purchase fish and food. Conversely, IUU activities lead to economic effects.

FAO indicates that, in the fisheries and aquaculture department, illegal fishing has resulted in losses approximated at \$23 billion every year, with an estimate of 30 percent of IUU activities taking place in Indonesia alone.<sup>13</sup> Several studies have been conducted to analyze the impact IUU fishing has had in several countries such as the West African States, Senegal, Gulf of Guinea, South Africa, and other states such as Korea, India, China and the European States. Therefore, it is essential to put in place some regulations and tools that curb these

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<sup>11</sup> United Nations Development Program; SDGs available at <https://www.undp.org/content/undp/en/home/sustainable-development-goals.html>

<sup>12</sup> FAO (2016) The State of World Fisheries and Aquaculture: Contributing to Food Security and Nutrition for all.

<sup>13</sup> Zoppi, M. (2019) Global Illegal, Unreported and, Unregulated (IUU) fishing in West Africa: Recent Trends and Historical Legacies, *East African Journal of Social and Applied Sciences*. Vol 1, No. 2.

effects as it affects sustainable development, food security, poverty that leads to hunger, economic development, and the marine environment intrinsically.

In many Western African states, fishing is conducted using artisanal methods.<sup>14</sup> These methods include the use of wooden boats that carry a specific number of fish and anglers. These fishing tools provide an excellent limitation technique to capturing a certain amount of fish. However, with the current technological advancements, the capture of fish has risen to 37 percent of the catches in West Africa.<sup>15</sup> Greenpeace describes that approximately 56 pirogues are required to match the amount of fish captured daily by a single vessel used in Europe or China. The data is a clear indication that IUU fishing harms the economic factor of various states. In Europe, Korea and China there has been a rise while others, such as Senegal, indicate it has lost its revenue.

With the current economic, social, and biodiversity difficulties, it is essential to develop and adopt measures that curb IUU fishing and prevent its negative impacts. There have been recent implementations by various states, such as Sierra Leone, which decided to detain all its fishing vessels to preserve its fish stocks. The ban on fishing indicated that there were still activities that took part, which led to anglers being arrested. However, though Sierra Leone acted as an example of what states could adopt to combat IUU, the results were not as forthcoming as expected and these measures could not serve as a long-term solution.

## HISTORICAL BACKGROUND AND RECENT DEVELOPMENT

The IUU fishing concept evolved from several discussions in regional and international fora as early as the 1900s. Most of the early discussions conducted in the United Nations Conference on Environment and Development (UNCED)<sup>16</sup> among many other organizations and FAO. At this point, there were no laws as to the regulation of fishing activities in the seas. The initial regulation governing the sea was LOSC, which led to the development and adoption of Agenda 21. The main course of Agenda 21 was to establish rules and laws that would ensure sustainability and preserve marine ecology. Chapter 17 of Agenda 21 identified several factors that resulted in the misuse of fishing activities, thus

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<sup>14</sup> Zoppi, M. (2019) Global Illegal, Unreported and, Unregulated (IUU) fishing in West Africa: Recent Trends and Historical Legacies, *East African Journal of Social and Applied Sciences*. Vol 1, No. 2.

<sup>15</sup> Zoppi, M. (2019) Global Illegal, Unreported and, Unregulated (IUU) fishing in West Africa: Recent Trends and Historical Legacies, *East African Journal of Social and Applied Sciences*. Vol 1, No. 2.

<sup>16</sup> <https://www.un.org/en/conferences/environment/rio1992>

preventing sustainable care of high seas fisheries such as unregulated fishing.<sup>17</sup> This Agenda called upon all states to take action at bilateral, national, and international degrees to address IUU fishing.

The Commission first debated on initiatives to avoid and curb IUU for Antarctic Marine Living Resources Conservation in 1996.<sup>18</sup> The Commission established mechanisms and issued a report on what comprises IUU fishing activities seeing that it includes a vast number of activities. However, the report was vague since no clear definitions of IUU fishing were given.

FAO has taken various steps in curbing IUU fishing, and while it may have reduced the negative consequences, there are still inadequate implementation mechanisms. FAO developed and implemented the International Plan of Action (IPOA) to evade and eventually abolish IUU fishing. This instrument proved helpful but was not efficient since IUU activities were still visible. It became necessary to come up with tools that targeted each coastal state. This resulted in the Port State Measures Agreement (PSMA) in 2015. This document became the first to bind states on the specific deterrence of IUU fishing. PSMA works so that states with ports have their regulations for any fishing vessel that passes through them. These would ensure that UNCLOS laws have been adhered to which include but are not limited to; requirements for port entry, shipment of fish stock, documentation, port inspections, and restrictions on supply and amount of captured stock.<sup>19</sup>

These measures provided accountability since vessels found to have violated these requirements would be held responsible. This raises the question as to how to identify which state will be held responsible for such violations. The concept of flag state<sup>20</sup> has been widely discussed in terms of rules and regulations on the high seas.

### The European Union

The European Union contains the most significant fisheries trends in the world. It is among the most demanding markets, and there has been a vivid indication of high IUU activities. For instance, it has been reported that in 2007, the European Union brought in about 15

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<sup>17</sup> Commission for the Conservation of Antarctic Marine Living Resources

<sup>18</sup> Palma, M. A. et al. (2019) Promoting Sustainable Fisheries, "The International Legal and Policy Framework to Combat Illegal, Unreported and Unregulated Fishing.

<sup>19</sup> <http://www.fao.org/iuu-fishing/en/>

<sup>20</sup> Article 94 of the Sea Convention (LOSC) defines a flag state as a state whose flag has been registered on a vessel. These vessels include warships, fishing vessels, or commercial vessels that contain flags of the state in which they are registered.

billion euros in fisheries.<sup>21</sup> The European Commission rose to combat IUU and, as such, came up with an Action Plan in 2002<sup>22</sup>. One of the significant factors was controlling and regulating the fish stock products transferred within the market. The Commission also indicates that sanctions and trade mechanisms against any foreign vessels have violated the IUU prevention measures.

The European Community developed a system of regulations that enabled the follow-up of fishing vessels. There are lists issued by the Commission to investigate the history of the flag state of the fishing vessel and its mechanisms to combat IUU. If the state is not on the list or is listed as one of the countries that conduct IUU, the European Community retracts its fishing permits or denies access to the ports or fishing grounds. The European Commission being the implementation organ, these mechanisms have proved successful and efficient.

### Organized Crime

Organized crimes are one of the effects of IUU fishing activities. Piracy falls within the ambit of organized crimes in seas. Article 101 of LOSC defines acts that piracy includes violent acts by a private ship or aircraft on another in the high seas. A case study of piracy resulting from illegal fishing was conducted in the Horn of Africa<sup>23</sup>. The report indicates that Somali Pirates took part in illegal fishing, piracy, and discarding waste in these waters. These pirates resorted to illegal fishing and hijacking of other ships. These waters were unprotected as there were no regulations for illegal fishing or piracy in Somalia.

To curb these activities, the New Partnership for Africa's Development started initiatives to investigate and establish reforms to eliminate IUU fishing and piracy. However, there were no clear measures emanated from the discussion conducted in 2009 by the Taskforce for African Fisheries.

Delegates in the committee are required to study, research and understand the various regulations put in place in various states facing IUU fishing and the implementation mechanisms and means to address these obstacles. Moreover, delegates will be required to

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<sup>21</sup> Boto, I. & Peccerella, L. C. (2009) Fighting against Illegal, Unreported and Unregulated (IUU) fishing: Impacts and challenges for ACP countries. Pg. 16-18

<sup>22</sup> Action Plan on Illegal, Unreported and Unregulated Fishing (COM(2002)180)

<sup>23</sup> The International Tribunal for the Law of the Sea Advisory Opinion on Flag State Responsibility for Illegal Fishing in the Exclusive Economic Zone (2013) <https://doi.org/10.1080/00908320.2016.1229939>

indicate the relationship between IUU and the SDGs on protecting marine life and how it influences economic growth and other SDGs.

## INTERNATIONAL FRAMEWORK TO COMBAT IUU FISHING

There are a variety of instruments that develop the regulation of IUU:

### United Nations Convention on the Law of the Sea (1982)

UNCLOS/LOSC has been the general law that governs all the activities in the High Seas and all water bodies. It provides for the rights and duties of various states with regard to IUU. It also gives a list of measures to be taken in sustainable exploitation and exploration of marine resources.<sup>24</sup> LOSC further provides for the bodies and Authorities that aid in the settlement of disputes relating to the marine environment.<sup>25</sup>

### United Nations Fish Stocks Agreement (1995)

This instrument has the main objective of ensuring sustainable conservation and use of fish stocks. It further provides for the duties and rights of flag states with regard to fishing-related activities. Thus establishes liability on which state is responsible for IUU.<sup>26</sup> The Agreement also provides and encourages international co-operation within states to prevent and manage IUU by ensuring the preservation of rare fish and monitoring migratory habits of the marine animals.

### FAO Agreement to promote compliance with international Conservation and Management Measures by Fishing Vessels on the High Seas (1993)

This Agreement states the various responsibilities and obligations on states in ensuring sustainable exploitation of marine resources, trade of fish and other fishing related activities.<sup>27</sup> Article 2 of the Agreement provides for the various objectives one of which is the

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<sup>24</sup> Article 118 of the United Nations Convention on the Law of the Sea 1982

<sup>25</sup> Article 156 of the United Nations Convention on the Law of the Sea 1982 that establishes The Authority.

<sup>26</sup> <https://sustainabledevelopment.un.org/topics/oceans/unfishstock> (accessed 29th February 2020)

<sup>27</sup> <http://www.fao.org/3/a-v9878e.pdf> (accessed 29th February 2020)

establishment of principles for responsible fishing, fisheries management and development and promotion of co-operation of states in marine management and conservation.<sup>28</sup>

### International Plan of Action to Prevent, deter and eliminate Illegal, Unreported and Unregulated Fishing (2001)

Commonly referred to as IPOA-IUU. It is the most relevant toolbox in the fight and regulation of IUU among states. It gives duties and responsibilities to flag states<sup>29</sup>, and coastal states relating to the regulation of IUU and the establishment of measures towards combating the same. This Action Plan has also developed a state-reporting mechanism in which states review and discuss.<sup>30</sup>

The high seas have been defined under Article 86 of the UNCLOS as an area of the sea that does not include the Exclusive Economic Zone, the Territorial sea and the internal waters.<sup>31</sup> Therefore, “all states have the rights to fish in the High Seas.”<sup>32</sup> Article 90-95 further provides for the rights and duties of flag states. A flag state is one which sails its ships with the flag of a specific state as per Article 90 of the UNCLOS.

Conversely, Article 119 of UNCLOS provides the necessity of regulation of IUU fishing. That is, to ensure sustainable management of fishing in order to prevent exploitation of marine resources. Moreover, it encourages states to research and analyze fishing patterns so as to avoid over exploitations of specific fishing stocks.<sup>33</sup>

It is therefore important for these instruments to be implemented at the international, regional and national levels in order to ensure sustainable management of marine environment by securing fishing activities in order to avoid food insecurity and crimes.

### Port State Measures Agreement (2015)

The most recent milestone in the combat of IUU is the Port State Measures Agreement. It developed the various rules that are adhered to by Port states which ensure that any fishing vessel that docks at their ports have complied with their conditions and regulations regarding

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<sup>28</sup> Articles 2(a), (b) and (e) of the FAO Agreement to promote compliance with international Conservation and Management Measures by Fishing Vessels on the High Seas 1993

<sup>29</sup> See definition in Article 90 UNCLOS; See Enforcement by flag states in Article 217 UNCLOS; [https://www.un.org/depts/los/convention\\_agreements/texts/unclos/unclos\\_e.pdf](https://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf)

<sup>30</sup> <http://www.fao.org/3/a-y1224e.pdf> (accessed on 29th February 2020)

<sup>31</sup> [https://www.un.org/depts/los/convention\\_agreements/texts/unclos/unclos\\_e.pdf](https://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf) (accessed on 2<sup>nd</sup> March 2020)

<sup>32</sup> Article 116 of the UNCLOS

<sup>33</sup> Article 119 (1)(a) of UNLCOS

fishing activities.<sup>34</sup> Ports have been defined under Article 1 of this instrument as “offshore terminals and other installations for landing, transshipping, packaging, processing, refueling or resupplying.”<sup>35</sup>

It was the first instrument to comprehensively define fishing and fishing activities.<sup>36</sup> The Agreement provides for key measures to be undertaken by the various party states, such as:

- vessels of foreign states need to seek for permission from the port states prior entering their ports
- inspection shall be carried out by the port state on any vessel regarding its papers and the catches made and
- port states have the right to deny a foreign vessel entry into its port if after inspection, it was found to have engaged in IUU Fishing.

Another paramount step was taken by FAO in its Programme known as “Support for the Implementation of the 2009 FAO Agreement on Port State Measures and Complimentary instruments to combat illegal, unreported and unregulated fishing.”<sup>37</sup> It is a 5-year Programme that intends to combat IUU Fishing by ensuring the implementation of policies and laws in various states.

## CURRENT SITUATION AND CHALLENGES

IUU fishing has been indicated to occur in the Horn of Africa, Caribbean, Pacific, and European Community among other areas. Despite the existence of an internationally recognized instrument, LOSC, and a plethora of regional and national tools for fighting IUU fishing, these mechanisms have not been fully successful. The major challenge posed is the implementation mechanism as well as the overlapping of various states' laws. For instance, the European Union emphasizes solid administration that indicates documents, licenses, and requirements before the fishing vessel can export or conduct fishing. These restrictions may influence legitimate fishing activities, thus resulting in a decrease in fisheries.

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<sup>34</sup> [http://www.fao.org/fileadmin/user\\_upload/legal/docs/037t-e.pdf](http://www.fao.org/fileadmin/user_upload/legal/docs/037t-e.pdf) (accessed on 29<sup>th</sup> February 2020)

<sup>35</sup> Article 1 of the Agreement on Port State Measures to prevent, deter and eliminate Illegal, Unreported and Unregulated Fishing

<sup>36</sup> Article 1: Fishing “means searching for, attracting, locating, catching, taking or harvesting fish” whereas fishing related activities means “any operation in support of, in preparation for fishing including landing, packaging, processing and transporting of fish that have not been previously landed at the port...”

<sup>37</sup> <http://www.fao.org/3/a-i6069e.pdf> (accessed on 29<sup>th</sup> February 2020)

Additionally, challenges arise as how to monitor reporting of catches. It had been a significant problem in African countries as well as other fisheries. It is mainly due to the lack of inadequacy of a monitoring system and that the fish stock captured is unreported. Delegates will be required to analyze the various monitoring systems available and whether or not they are efficient.

Another major challenge faced is the factor that there are private ships that do not bear any flags. They are not bound by the agreements nor the regulations and the laws that regulate IUU fishing. These vessels have been referred to as "flags of convenience" or "flags of non-compliance."<sup>38</sup> It becomes complicated to determine who bears the consequences for IUU fishing or violation of high seas rules in such situations.

IUU being a global issue implies that no single state can fight this issue alone. Therefore, there is a need for partnerships as well as individual national political will and effort to develop actions, policies, and implementation mechanisms to rid this evil from the world and protect fisheries resources.<sup>39</sup>

## QUESTIONS A RESOLUTION MUST ANSWER

- What are the effects of IUU fishing on the marine environment, economy, and social factors?
- Should requirements for certification of fisheries be used in curbing illegal fishing?
- Are vessel monitoring systems an effective mechanism for curbing IUU fishing?
- Is the certification of vessels conducting fishing in high seas a means to an end or does it pose a significant threat to legitimate fishing activities?
- Are private ships and vessels regulated under the FAO policies and Fisheries laws and regulations? If not, what are the laws governing such vessels against IUU fishing?
- Is the EU IUU vessel list an effective mechanism for curbing IUU fishing, and should it be implemented in other ports?

## RESEARCH TIPS

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<sup>38</sup> Boto, I. & Peccerella, L. C. (2009) Fighting against Illegal, Unreported and Unregulated (IUU) fishing: Impacts and challenges for ACP countries.

<sup>39</sup> Boto, I. & Peccerella, L. C. (2009) Fighting against Illegal, Unreported and Unregulated (IUU) fishing: Impacts and challenges for ACP countries.

The following materials are necessary for the comprehensive understanding and research of the topic at hand. They will assist you in the research on the points of discussion of the topic, and in the attainment of exhaustive research and therefore promising an interesting debate:

1. United Nations Convention on the Law of the Sea
2. United Nations Fish Stocks Agreement
3. The Compliance Agreement/ FAO Code of Conduct
4. Forum Fisheries Agency guidelines

These research materials will shed light on the recommendations and solutions for a good and practical resolution paper.

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## Topic B: Curbing the Threat from antimicrobial Resistance to Animal and Human Health

### INTRODUCTION

Antimicrobial resistance has become an increasingly challenging problem over time. One way it manifests itself is that different diseases evolve to become resistant to medications that exist to counter them - a prime example of this is tuberculosis, which now can be found in the form of drug-resistant tuberculosis (DR-TB) as well as multidrug-resistant tuberculosis (MDR-TB). MDR-TB alone claimed 120,000 lives (estimated) in 2012 alone.<sup>40</sup>

The problem, in fact, is so severe that the World Health Organization states that “a post-antibiotic era” is a very likely scenario for the 21st century.<sup>41</sup>

The predominant expectation from FAO is to look into the development of the problem from its roots - it is universally acknowledged that the existence of antimicrobial resistance developed from the misuse and overuse of antibiotics. This can eventually lead to a time where currently easily preventable diseases, such as bacterial throat infections, are becoming lethal more frequently.<sup>42</sup>

In this context, problems arise when antibiotics are not reserved as a last resort, but hastily jumped to as an easy solution to certain illnesses, like the common flu. This is something done both by doctors as well as by patients who self-medicate. Furthermore, the kind of antibiotic used is very important, as they differ in their effectiveness against certain bacteria as well as their range (narrow spectrum versus broad spectrum).

#### Antibiotics

Narrow spectrum antibiotics, for example, are used to target the organism which is known to be the cause of a particular infection. It does not have as much of a collateral damage regarding other microorganisms as broad spectrum antibiotics. That also reduces the possibility of superinfection, which means an infection caused on top of a prior infection, usually after treatment. This is important because possible treatment via broad-spectrum

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<sup>40</sup> WHO. (2014), p. 65.

<sup>41</sup> WHO. (2014), p. IX.

<sup>42</sup> FAO. (2019), p. 1.

antibiotics could cause a superinfection since they target other microorganisms in the body as well. The chances of narrow-spectrum antibiotics causing antibacterial resistance to develop is also lower, since they only target certain bacteria.<sup>43</sup>

There is a lack of understanding amidst the general public that there needs to be a shift towards lesser use of antimicrobials, and we need to start implementing practices in agriculture that are sustainable and have prevention of infection in animals as well as crops as a top priority. This means more awareness needs to be created as well as making it easier to have access to necessary resources, so they do not need to resort to usage of antimicrobials in animals and agriculture. There needs to be a promotion of the idea that antimicrobials are only to be used when absolutely necessary.

There is also a lack of proper protocol that would oversee the use of antimicrobials. Not all countries have regulations which are strictly enforced, as a result of which some antimicrobial products are either falsified or of poor quality or, for certain diseases, the wrong kind of antimicrobial products are used- this results in the process of antimicrobial resistance being speeded up. In many cases, prescriptions are not needed either, which is why people who are not experts end up using antimicrobials and because of lack of training, exacerbate the problem of antimicrobial resistance.

In many parts of the world, there is still a massive gap when it comes to knowledge about antimicrobial use and its resistance. There is still a lack of investment in research and surveillance on a global scale that could potentially measure our progress towards mitigation of antimicrobial resistance.

## ANTIBIOTICS IN LIVESTOCK AND AGRICULTURE

Apart from the misuse and overuse of antibiotics on humans, there is another pertinent problem: the utilization of antibiotics on animals. In the USA, 70% of antibiotics that are medically important all go to animals that are used for livestock rearing. More pressing is the concern that actually all the data we receive might not be as accurate as is needed: while it is true that under the Animal Drug User Fee Act (ADUFA)<sup>44</sup>, sponsors of antimicrobial drugs

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<sup>43</sup>Fundamentals of Antimicrobial Chemotherapy, Lumen Learning (in italics). <https://courses.lumenlearning.com/microbiology/chapter/fundamentals-of-antimicrobial-chemotherapy/> (accessed Apr. 13, 2021).

<sup>44</sup> <https://www.fda.gov/industry/fda-user-fee-programs/animal-drug-user-fee-act-adufa>

need to report to the FDA the annual amount of antibiotics they sell to be used in animals meant for human consumption, the FDA also feels it is inaccurate primarily because not all of the purchased antibiotics are used. So, the formation of a clear picture on the antimicrobial resistance and its effects becomes difficult to draw. The National Resources Defense Council, Inc. (NRDC; a non-profit organization) feels that the FDA ought to simply withdraw the authorization of using medically important antibiotics to counter disease prevention for rearing of livestock and poultry.<sup>45</sup> This is primarily because of the fact that they might feel the parties involved in livestock rearing use “disease prevention” as an excuse to pump animals full of antibiotics since that serves as a hasty, cheaper alternative to the health problems animals face by virtue of being tightly packed together. Otherwise, animals would need to be given a better lifestyle in terms of investments in more land for them to roam in, and since parties involved in livestock farming have a profit-based incentive, the likelihood of that change is unlikely.

Due to the lack of proper treatment of waste material coming from production related to agriculture, manufacture of pharmaceutical products, and human sewage, antimicrobial residue and antimicrobial resistant organisms can be spread through the environment via waterways and in the soil. Further, they might be taken in by the consumption of animal products.

What delegates of FAO are expected to analyze is the effect this has on humans: “zoonoses” is the name of those diseases that spread from animals to humans; these include salmonella, for example. The organisms that cause these diseases may not be harmful for animals but are definitely harmful for humans. However, the epidemiology of these diseases is still hard to determine since sources of transmissions other than animals also exist. A fear that ought to be entertained is the fact that if antibiotic resistant bacteria end up in the human body, the disease would be hard to tackle. However, delegates are instructed to pay attention to research, for studies suggest that the chances of a disease proving fatal might have little do with the bacteria being resistant to bacteria or not.<sup>46</sup> Piddock<sup>47</sup> asserts ‘clear evidence that antibiotic-resistant bacteria from animals caused human infections which were difficult to treat, is extremely difficult to find’ and that ‘it is not widely accepted that quinolone-resistant strains (of *Salmonella Typhimurium* DT104) are transmitted through the food chain’. Another reason why it is hard to determine the epidemiology of these diseases is because of

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<sup>45</sup> <http://www.cidrap.umn.edu/news-perspective/2016/12/fda-antibiotic-use-food-animals-continues-rise>

<sup>46</sup> <https://academic.oup.com/jac/article/53/1/28/680882#11936538>

<sup>47</sup> Piddock, L. J. V. (2002). Fluoroquinolone resistance in *Salmonella* serovars isolated from humans and food animals. *FEMS Microbiology Reviews* 26, 3–16.

the fact that as of yet there are only 42 countries in the world with a system meant to collect data on the use of antimicrobials in livestock.<sup>48</sup> Other sources of contamination of this meat include but are not limited to: contamination by food handlers, from pets, from salmonellae which persist in biofilms of domestic toilets of those suffering from gastroenteritis, and more. Contamination also occurs from animal waste in soil and water, as 75% to 90% of antimicrobials are excreted by the livestock they were used on in an unmetabolized form.<sup>49</sup> Another tangent to this is the simple fact that when animals are living in close quarters, and a few get sick, a ready solution in the eyes of most farmers is this: to treat all animals with the antibiotic to prevent its spread. Problems have also arisen because of the use of antimicrobials to boost the growth of animals. It is widely believed that the use of antimicrobials in livestock will double in the next 20 years. The same is true for aquaculture: the excessive use of antimicrobials will not only contaminate our environment but also push a rise of resistant microorganisms. Their misuse also contributes to them becoming less effective as medicine for both humans and animals and AMR can also emerge in an evolved form within disease-causing microorganisms.<sup>50</sup>

When it comes to plant production, agrochemicals are also used-the potentiality of AMR in that sector is low, but should not be ignored. As the FAO observes, “the residues of fungicides and antibiotics in crops may encourage emergence of resistant strains of fungus and bacteria and possibly increase the risk of human resistance to the drugs.”<sup>51</sup>

Delegates of the FAO are expected to analyze how the use of antibiotics in the food production industry pose a threat to human health, and they should address this problem by issuing the pertinent solutions to avoid an indiscriminate use of antibiotics in the food production chain.

## ANTIMICROBIAL RESISTANCE

Delegates will also be expected to inform themselves about the origins of antimicrobial resistance: while true misuse and overuse play a role, there are other factors as well, including: 1. genetic mutations and 2. acquiring resistance from another bacterium.<sup>52</sup>

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<sup>48</sup> <http://www.fao.org/antimicrobial-resistance/key-sectors/animal-production/en/>

<sup>49</sup> <http://www.fao.org/antimicrobial-resistance/key-sectors/animal-production/en/>

<sup>50</sup> <http://www.fao.org/antimicrobial-resistance/key-sectors/animal-health/en/>

<sup>51</sup> <http://www.fao.org/antimicrobial-resistance/key-sectors/plant-production/en/>

<sup>52</sup> APUA. (2015), p. 1.

Genetic mutation, when it comes to bacteria, manifests itself interestingly: since bacteria multiply via division, with one cell splitting into two identical ones, each bacterium, before splitting, needs to create two identical copies of the DNA that is in its chromosome. During this process, there is always the slight risk of mutations - they are random in their nature and can be found anywhere upon the DNA. Harmful chemicals as well as radiation can further cause these mutations.<sup>53</sup> These mutations can be good for the survival of the bacteria, and therefore be beneficial for the spreading of the pathogen. This lines up with Darwin's theory of natural selection: An organism which is more adapted to its environment than fellow members of the same species will face an increased chance of survival and multiplication, therefore possibly influencing the development of the species. However, it comes at a great cost: the survival of certain bacteria is obviously not good for the human race.

The second main way of acquiring resistance, other than through mutation, is by taking genetic material from other bacteria. Contrary to humans, whose genetic material is organized in chromosomes only, bacteria have plasmids, which are structurally independent from chromosomes. Those plasmids, occasionally containing information for resistance against antibiotics, can be, amongst others, shared actively by bacterial interactions or incorporated after the death of the containing bacterium.

Antibiotics are contributing to this process via forced selection. Especially wide range antibiotics are affecting many bacteria and eliminating the non-resistant in the process, leaving more space and resources for the resistant to flourish. Thus, through increased usage of antibiotics especially if not needed, the risk of antimicrobial resistance increases. But why are antibiotics administered so frequently?

One thing that happens is that doctors overprescribe antibiotics: one reason for this is that some doctors themselves may not be aware of whether a particular symptom/illness is being caused by a bacterium or a virus (antibiotics only work on bacteria) and are prescribing antibiotics to see if the symptom goes away or whether there is any change in the effect of the illness. The second reason for this is that many patients with a problem such as sore throat, which is mostly caused by viral infections, go to a doctor in order to get antibiotics and end up getting a prescription.<sup>54</sup> Another reason why antibiotic resistance develops is that patients, when their symptoms go away, stop taking the medicine. By not completing the course of the antibiotic, they allow bacteria to survive and eventually multiply, possibly with

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<sup>53</sup> ReAct. (2018), p. 1.

<sup>54</sup> Cronan, K. (2019), p. 1.

resistance to the antibiotic which is, when passed on to the following generations, lowering the effect of the antibiotic. Finally, “over the counter” (OTC) medicine is also a huge problem. In some countries, people feeling symptoms that resemble an infection go to a pharmacist and are able to buy medication without a prescription. This self-medication leads to over-usage of antibiotics, thereby reducing their efficacy.

### The Effect on Antibiotic Efficiency

What are the different ways that gene mutations are affecting antibiotic efficiency?

The first thing that happens is that the antibiotic is prevented from being able to reach its target. This can be done in several ways: For example, the bacterium has pumps in its cell wall or membrane which can take out material inside the cell, like nutrients. Similarly, they can take out antibiotics from within the bacterium and lower the concentration of antibiotics in the cell itself. Another thing that can happen is that the membrane’s permeability can be decreased - this way less of the antibiotic gets into the bacteria. Along with that, there are cases of antibiotics being destroyed or being made inactive via enzymes that the bacteria releases. Similarly, some bacteria also are capable of producing enzymes that modify the antibiotic itself, making it difficult for the binding between the target in the bacteria and the antibiotic to occur.<sup>55</sup>

## MEASUREMENTS OF THE INTERNATIONAL COMMUNITY

What has the international community done and have any treaties been passed to curb the issue?

An important example of something being done effectively to curb the threat of antimicrobial resistance is the U.S. National Action Plan for Combating Antibiotic-Resistant Bacteria. Released in 2014, it was developed by the Interagency Task Force for Combating Antibiotic-Resistant Bacteria. It aimed to implement the U.S. National Strategy for Combating Antibiotic-Resistant Bacteria and directed federal agencies to push for improvements against threats pertaining to misuse and overuse of antibiotics and other such related issues. It followed a five year plan to ensure that antibiotic resistance is reduced via innovation within prevention strategies, via surveillance enhancement, and via the adoption

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<sup>55</sup> ReAct. (2015), p. 1.

of strategies that are evidence-based.<sup>56</sup> Now, there is a 2020-2025 plan that builds on this to expand evidence-based activities which have lowered the spread of antibiotic resistance, through means like improving and controlling the way antibiotics are used or increasing the prevention of infections. As can be seen, the 2015 plan had certain objectives which allowed more insights into why antibiotic resistance was rising and now the 2020-2025 plan is incorporating that research into its own objectives and goals to carry out prevention control more effectively. This can also be helpful in working in tandem with other nations. For example, the 2015 plan aimed to have the FDA and USDA work with China in the next five years. However, interestingly, the 2020-2025 plan does not even mention China once! Which lets one know the impact of international relations upon national policy.<sup>57</sup> As for the efficacy of the 2015 plan, their progress reports on year 1 and year 2 state: “methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia in U.S. acute care hospitals declined 13% between 2011 and 2014, and a further 5% by 2016.<sup>3</sup> Meanwhile, *C. difficile* infections declined in U.S. acute care hospitals 8% between 2011 and 2014, and a further 7% by 2016.”<sup>58</sup> So once can definitely see the importance and efficacy of this plan and have faith that plans based upon it are likely to be equally, if not more, effective.

On a much more global scale, in May 2015, the World Health Organization, at the 68th World Health Assembly, endorsed an action plan that was global in its scope to tackle antimicrobial resistance. It had five strategic objectives:

- to improve awareness and understanding of antimicrobial resistance;
- to strengthen knowledge through surveillance and research;
- to reduce the incidence of infection;
- to optimize the use of antimicrobial agents; and
- to develop the economic case for sustainable investment that takes account of the needs of all countries, and increase investment in new medicines, diagnostic tools, vaccines and other interventions.<sup>59</sup>

On the 9th to the 10th of November 2017, over one hundred representatives of countries as well as experts linked to the Food and Agriculture Organization, the World Organization

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<sup>56</sup> CDC. (2015), p. 1.

<sup>57</sup> “National Action Plan for Combating Antibiotic-Resistant Bacteria, 2020 – 2025” (U.S. Department of Health & Human Services, October 9, 2020)

<sup>58</sup> “National Action Plan for Combating Antibiotic-Resistant Bacteria Progress Report for Years 1 and 2” (U.S. Department of Health & Human Services, November 13, 2017)

<sup>59</sup> WHO. (2015), p. VII

for Animal Health, and World Health Organization, met to discuss a “Global Framework for Development and Stewardship to Combat Antimicrobial Resistance.” It aimed to encourage research and make it easier to have the development of medicines that are new and affordable. It also aimed for encouraging the testing of vaccines and tools. Finally, it also intended to promote access to the existing antimicrobials in an affordable manner and adopt a strategy that would control the prescription and use of these antimicrobials to counter their misuse.<sup>60</sup>

Formal documents to ensure that all these intentions, initiatives, and proposed strategies come into being were made, most notably in the Global action plan on antimicrobial resistance (WHA68.7). It tackled the problem of antimicrobial resistance from several perspectives: it encouraged cooperation within several working bodies, and added more functions to be fulfilled by these bodies in order to improve efficacy. Some fundamental assertions included: monitoring of the resource flows, working with the Strategic and Technological Advisory Group on antimicrobial resistance, planning a report for the sixty-ninth World Health Assembly, creating the best strategies with particular focus on developing nations, giving assistance to nations with low or middle incomes, ensuring resources for the Secretariat keeping in mind the Programme budget 2016-17 and the Twelfth General Programme of Work 2014-19, so they can work towards implementation of the global action plan against antimicrobial resistance, and finally, submitting biennial reports to the upcoming World Health Assemblies as well as the making of an interim report to be submitted to the sixty-ninth World Health Assembly.<sup>61</sup>

## CURRENT CHALLENGES

One of the biggest challenges is to ensure that all new strategies developed against antimicrobial resistance are accessible and affordable, with a particular focus on developing nations. This seems incredibly important today when one observes the situation in the United States, where life saving medicine is beyond the affordability of many individuals.<sup>62</sup> It is important that all individuals are able to benefit from the measurements suggested by this committee.

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<sup>60</sup> WHO. (2017), pp. 4-18.

<sup>61</sup> SIXTY-EIGHTH WORLD HEALTH ASSEMBLY WHA68.7 Agenda item 15.1 26 May 2015

<sup>62</sup> Khazan, O. (2018), p. 1.

There is a lack of understanding amidst the general public that there needs to be a shift towards lesser use of antimicrobials, and we need to start implementing practices in agriculture that are sustainable and have prevention of infection in animals as well as crops as a top priority. This means more awareness needs to be created as well as making it easier to have access to necessary resources so they do not need to resort to usage of antimicrobials in animals and agriculture. There needs to be a promotion of the idea that antimicrobials are only to be used when absolutely necessary. In particular to animal health, the misuse of antimicrobials so excessively on local and global scales needs to be curbed and the idea of them being used only as necessary medicine needs to be pushed. Animal feeding is also important to address: we need alternatives to antibiotics which promote growth and increase production yield. However, the need for them could be reduced altogether if we fight another real challenge: the lack of hygiene and biosecurity measures on farms. Disease control techniques need to be popularized, stock density and stress need to be reduced, and the transport environment of these reared animals also needs to be made much better in terms of its general conditions such as neatness and openness of space.

Other challenges are almost equally pressing. One of them is that of global cooperation - especially during the COVID-19 pandemic, racist prejudices have been highlighted that make working with other nations extremely difficult. International relations tend to shift with time and thereby making the global effort needed in the understanding and curbing of antimicrobial resistance full of strife. It is recommended that delegates work out solutions that are based on mutual cooperation and manage to be global in nature.

## QUESTIONS A RESOLUTION MUST ANSWER

- What are the failures of previous existing legislation related to curbing the threat of AMR and how can they be overcome?
- What is the best way to encourage people to change their behavior with regards to AMR?
- What steps can be taken to ensure that the global community acts promptly to the threat of AMR and that local governments are able to work together?
- How can more funding be acquired for the projects that are ongoing and yet to be launched under the ambit of FAO?
- How can more innovations in development and research of AMR be encouraged?
- How can improvements be made in areas where there is a lack of regulation with regards to antimicrobial use and where a strong backlash is faced when treatment of waste material is suggested due to the expenses incurred?
- How can more effective exchange of information between nations involved in research of AMR be achieved?
- What particular organizations exist, apart from UN backed ones, working on AMR, and how can they be helped or promoted?

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## Conference and Research Tips

In preparation for the moderated caucus during the conference delegates might be required to submit opening statements which will highlight their country's position on the topic. A speakers list will be opened to member states in order to create a platform that allows engagement, making short comments on the issue at hand.

Typically, delegates will be required to adhere to the rules of procedure when participating in the debate. In preparation for the Conference, each delegate will be required to submit a Position Paper in accordance with the MUIMUN guidelines.

The key to being successful at MUN is thorough and comprehensive preparation. We recommend that all delegates become familiar with the following five areas of study. Each area should be addressed in the following order, as each is progressively more in-depth than the one listed before:

- The UN
- General Background of Country
- The Committee
- The Topic
- Your Country's position on said topic

Delegates, be aware above all that the objective of your opening speech is to persuade and even convince others and not merely to state an opinion. Be aware of the strengths and weaknesses of your cause and that of your opponent. A speech is only heard once and it should leave a strong impression as other speeches will follow, and you want yours to be remembered. Select the most important points and arrange them in ascending order of importance. The final point should be the most important one.

If you have any questions, please feel free to contact the committee chair under: [fao.muimun@gmail.com](mailto:fao.muimun@gmail.com)