Committee: Environmental Committee

Topic:
Limiting the use of harmful pesticides that may contaminate food and water consumed by youth

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ZYGMUN II

Children and Youth: Fostering Peace and Security for Future Generations

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I. Introduction

Pesticides, as we know them today, have been in use since the 1940s when they started as a way of protecting crops of potentially harmful weeds and insects. “Pesticide” is a broad term which refers to substances that are meant to control pests, including weeds, insects, bacteria, fungi, or any other organisms which may be harmful.

While the beneficial effects of pesticides for food production, protection against potentially dangerous diseases communicable through insects such as mosquitoes, and commercial uses such as pool water treatments cannot be denied, the health effects of some pesticides can be severe. Exposure to certain pesticides can cause acute and/or delayed negative health effects in humans. According to The Stockholm Convention on Persistent Organic Pollutants (2001), 9 of the 12 most dangerous and persistent chemicals were pesticides. A 2007 systematic review found that "most studies on non-Hodgkin lymphoma and leukemia showed positive associations with pesticide exposure”, and strong evidence also exists for other negative outcomes from pesticide exposure including neurological problems, birth defects, fetal death, and neurodevelopmental disorder.

Pesticides are an extremely useful tool and are integral to our world today. They can improve and potentially save lives, but the use of some considered more harmful, or even the misuse of ones generally considered safe can have disastrous consequences. As pesticides are commonly used in agriculture, accounting for about 80% of all pesticide use, it is not uncommon that they appear in food or water, typically groundwater, if used improperly. These chemicals can then directly affect individuals who consume the tainted food or water. While this is a hazard for all humans, youth who consume such food or water may face more serious risks to their health at lower doses. Furthermore, future generations can be affected through birth defects resulting from the consumption of pesticides by the previous generation.

II. Definition of Key Terms

a) Pesticide - A broad term which refers to substances that are meant to control pests, including weeds, insects, bacteria, fungi, or any other organisms which may be harmful.

b) POP (Persistent Organic Pollutant) - Organic compounds that are resistant to environmental degradation through chemical, biological, and photolytic processes. Because of their persistence, POPs bioaccumulate with potential adverse impacts on human health and the environment.

c) Acute Health Problems - The effect caused by the initial exposure of a hazardous chemical on a human or animal body.

d) Delayed Health Problems - The effects which take long periods of time, possibly months or years, to appear and can result from either acute or chronic exposure to a toxic substance.

e) Chronic Exposure - An extended exposure to a harmful or toxic substance, typically, resulting from the substance being present in the environment in which an individual resides or that which the individual consumes.

f) MRL (Maximum Residue Limit) - The maximum residue limit is the maximum amount of pesticide residue that is expected to remain on food products when a pesticide is used according to label directions, that will not be a concern to human health.

g) Vector Control - Any method to limit or eradicate the mammals, birds, insects or other arthropods which transmit disease pathogens.

h) Glyphosate - Glyphosate is a broad-spectrum systemic herbicide and crop desiccant (a crop desiccant means it is often used as an herbicide shortly before harvest). Glyphosate is a very commonly used pesticide around the world and has been the most commonly used pesticide in the United States for decades, often being used three to four times more often than the second most common pesticide on a yearly basis.

i) DDT - DDT is a substance often used as a pesticide which was used primarily in the 1940s and 50s in agriculture and to kill mosquitoes to prevent the spread of Malaria. DDT is banned in the United States, the EU, Japan, and most other developed countries. The Stockholm Convention on Persistent Organic Pollutants limited its use to vector control. DDT is still used, mostly in developing countries, for this purpose, most often against Mosquitos.

III. General Overview

Since modern pesticides began being used in the 1940s, often with little consideration for their health and environmental impacts, their use has been adopted across the globe. While some restrictions surrounding exceptionally harmful pesticides and methods of using pesticides are generally accepted internationally, there is still substantial variation in both the levels of restriction as well as the actual level of control a nation maintains when enforcing such restrictions.

1) **Reasons for pesticide use:** The primary reasons for nations to impose certain restrictions surrounding pesticides are their use in agriculture and in vector control.

a) Agriculture: The first reason, agriculture, is usually more present in developed nations with developed agricultural operations. While this may affect how nations view certain proposed regulations due to internal pressure from relevant entities, according to the WHO, pesticides are "not necessary to feed the world population." Nonetheless, corporations and even the entire industry of agriculture and associated industries such as the agrochemical industry which rely on pesticides to improve their profit margins or for a portion of their profits directly, the consistent and prevalent use of pesticides is in their interest, which can be reflected in legislature through lobbying in wealthier nations.
b) Vector Control: The second reason, vector control, is usually more pertinent to developing nations, particularly ones in hot or tropical climates. Using pesticides for vector control can have a significant beneficial impact on the spread of diseases through organisms, particularly through insects. An example of this is the continued use of DDT against mosquitos in such nations.

2) Pesticides

a) The term pesticide includes all of the following: herbicide (pesticide used to kill pestilent plants), insecticides (used against pestilent or harmful insects), nematicide (used for parasitic nematodes), molluscicide (used against molluscs), piscicide (used for vector control of fish), avicide (used for vector control of birds), rodenticide (used against rodents), bactericide (used against bacteria), insect repellent, animal repellent, antimicrobial, fungicide (used against fungi) and certain types of disinfectant. While these are all pesticides, those which most commonly cause harm to humans through exposure are herbicides from agriculture and insecticides.

3) Harmful effects of pesticides:

a) Human Heath: When pesticides, particularly POPs (Persistent Organic Pollutants), are released into an ecosystem, they can find their way into food and water supplies. According to one UN report, approximately 200,000 people die per year as a result of pesticide poisoning. A 2007 systematic review found that "most studies on non-Hodgkin lymphoma and leukemia showed positive associations with pesticide exposure", and strong evidence also exists for other negative outcomes from pesticide exposure including neurological problems, birth defects, fetal death, and neurodevelopmental disorder. A particularly major issue is that of birth defects. The CDC While most would think this would usually occur in developing nations as a result from improper use of certain pesticides, a 2009 study found that babies conceived in the U.S during the Atrazine spray

season, one of the most used pesticides in the U.S, produced by the company Syngenta, were significantly more likely to suffer from a range of birth defects than children who were conceived at another time.

b) Environment: When released into a natural ecosystem, most commonly through agricultural contamination of water through groundwater, aquifers, or even simply runoff into streams, pesticides can wreak havoc on all types of life. Pesticides intended to be used against one form of life, such as plants, can easily be harmful to other forms of life as well, for example as fish, and as a result acute exposure of an ecosystem to a pesticide can have immediate consequences. Importantly, pesticides can also build up in an ecosystem. POPs (Persistent Organic Pollutants), chemicals which are resistant to natural processes which break down substances, which many pesticides are, can build up in an ecosystem over time. This build up can eventually even lead to a total ecosystem collapse, even if the 'leak' is gradual and relatively small, since the pesticides may never actually be cleared from the system.

IV. Major Parties Involved and their Views

a) Agriculture Industry - For the agriculture industry, the ability to use pesticides freely is highly beneficial. As a result, entities involved in agriculture generally argues for less strict regulation surrounding the use of pesticides. This includes corporations even individuals who rely on this practice.

i) Corporations - One corporation heavily involved in pesticide regulation for its own benefit is Syngenta, an agrochemical and seed company which is considered the largest pesticide manufacturer in the world. Syngenta is a registered lobbyist in the EU and the United States, where it has spent combined millions of euros and dollars to further its interests.

ii) Individuals - Individuals, most often in developing nations, often heavily rely upon the use of pesticides, not in industrial operations, but on small scales where they either grow crops to make a living or to feed themselves. Since these nations are often in regions heavily populated by harmful pests, using such chemicals can be key to a successful harvest.

b) World Health Organization - The WHO has published substantial amounts of information about a multitude of pesticides, as well as information about pesticides as a whole. As written in

a report released by the WHO, the organization maintains that while pesticides can be useful, they are not necessary to feed the world's population.

c) China - While China was one of the early adopters of pesticides and has been one of the largest consumers, it has recently made significant legislative changes surrounding pesticides. China's agriculture industry, especially rice, uses a substantial amount of pesticides, but consequences on public health from misuse or from particularly harmful chemicals have caused China to ban numerous substances and increase controls and restrictions. G used in

d) United States of America - The USA has consistently been the top consumer of pesticides since they began being used in the 1940s, also in the United States. The United States also has a significant amount of legislature restricting and controlling the use of pesticides as a whole, but particularly on industrial scales.

V. Relevant United Nations Documents

1) Stockholm Convention on Persistent Organic Pollutants

The Stockholm Convention on Persistent Organic Pollutants is an international environmental treaty, signed in 2001 by 152 signatories and effective from May 2004, that aims to eliminate or restrict the production and use of persistent organic pollutants (POPs).

2) Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade

This convention promotes "shared responsibility and cooperative efforts among Parties in the international trade of certain hazardous chemicals in order to protect human health and the environment from potential harm" and aims "to contribute to the environmentally sound use of those hazardous chemicals, by facilitating information exchange about their characteristics, by providing for a national decision-making process on their import and export and by disseminating these decisions to Parties". The convention is legally binding and makes Prior Informed Consent (PIC) mandatory.

VI. Questions to Consider

- How might agriculture affect a nation's position on this topic?
- How might vector control affect a nation's position on this topic?
- How might the agrochemical industry affect a nation's position on this topic?
- How might the focus on the effect of pesticides on youth change a nation's position?
- Which countries might be more reliant on the use of pesticides for various reasons? Ex. Regional pests
- How might a resolution address the issue of limited control on the part of some central governments?

VII. Conclusion

Pesticides are a useful tool for humanity with a variety of purposes. While this tool may assist in some of the most fundamental aspects of a functioning nation, the danger they pose, and the harm they cause to people worldwide is difficult to deny. While the world's youth is not necessarily exposed to more of these hazardous chemicals, it is a group which is at a higher risk of suffering poor health as a result of such exposure, which can be attributed to biological factors, such as the developing state of both the body and brain.

This group, youth, is and always has been the future of the entire species. It is to everyone's benefit to ensure youth are protected and their health is ensured to the greatest extent possible. In this case, this means ensuring that the world youth's food is free of the possibly hazardous chemicals with which it is treated and their water is not inadvertently contaminated.

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