Assessing Genetic Engineering Regarding its Consequences for Agriculture and Nutrition

Committee Guide

United Nations Environmental Programme Governing Council

OLMUN 2017
17th International Session

Table of contents

Personal Introductions 3
Practical instructions for the preparation of one's country's position 4
1. About the UN Environment Programme 5
2. Assessing genetic engineering regarding its consequences for agriculture and nutrition 6
2.1. Exemplary pieces of information: 7
2.1.1. United States of America 7
2.1.2 European Union 8

Personal Introductions

Dear delegates,

my name is Wiebke Meißner and I am happy to introduce myself as one of the chairs of the United Nations Environment Programme Governing Council. I am 19 years old and in my last year of school at the Gymnasium Bad Zwischenahn Edewecht. This will be my second-time chairing at the OLMUN, last year I had the pleasure to chair the FAO.
Besides OLMUN I enjoy going to the gym, riding my unicycle and spending time with my friends. When people ask me why I want to participate at OLMUN, not only the interesting committee sessions come to my mind, but also the making of new friends, gaining experiences and the unique OLMUN spirit.

Yours,
Wiebke

Dear delegates,

my name is Moritz F. Adam, I am 19 years of age, a second-year Theology and Religion student at Mansfield College, University of Oxford, and I shall serve as chair of the UNEP GC at OLMUN 2017.
I have so far participated in eight MUN conferences in both Germany and the United Kingdom, where I have gained experience in numerous positions and committees. Moreover, have I been member of the so-called Inner Circle, the group responsible for organizing the OLMUN conference since 2014.
Besides my academic studies and occasional participation in MUN conferences, my main interests are thinking about Old Testament theology, particularly wisdom literature, playing the piano, interacting socially and playing handball.

It is my great pleasure to welcome you to a hopefully productive, successful and enriching OLMUN conference this coming summer!

Practical instructions for the preparation of one's country's position

Dear delegates,

please bear in mind that your personal convictions concerning this topic are, as usual, of neither value nor relevance for a MUN debate. It is essential to prepare specifically for the position, which you have been assigned to for this session.

If you are a delegate of the United States or a member state of the European Union, you might find the information, which has exemplarily been given below, rather helpful. Please read beyond this and consult information provided by the respective government or, if available, desirably recent media coverage. Although some countries' legislation on this topic might be slight dated, please attempt to get as recent information as possible. Usually, the appropriate ministry of the respective country provides information online.

Please be also well equipped with introductory reading concerning the topic as a whole in order to be able to identify points within the larger topic that can be made subject of a more specific debate. Any decent academic library should contain at least a small number of introductory literature, which you are encouraged to consult.

Every delegate is expected to submit a draft resolution of at least 7 preambulatory clauses and 10 operative clauses,[1] a short policy statement of about 200 words, which a delegate might be asked to deliver at the beginning of the committee session (You will find information about how to write a draft resolution and a policy statement in the official Handbook on www.olmun.org). Moreover, we ask every delegate to write an essay of about 1000 words, which outlines their understanding of the larger topic and their country's position in two distinct parts.

Every delegate is strongly encouraged to submit at least the policy statement and a draft resolution (the essay is not mandatory but asked for) by the deadline specified in an email, which is going to be sent to you, as any delegate, who fails to comply with this will be excluded from any prizes that can be won at the conference, such as "Best Delegate".

In addition, we want to remind you to dress accordingly to the dress code. Male delegates are asked to wear a suit and tie and female delegates something similar, e.g. a formal blazer and a skirt. Those who do neglect this or any other rules will be punished!

For further questions, please do not hesitate to contact the chairs by sending an email to: unep@olmun.org
We are looking forward to see you at the conference!

Wiebke Meißner Moritz F. Adam

[1] consult the general information on writing resolutions for further details

1. About the UN Environment Programme

Before looking at the topic of the committee session, being informed about the committee itself is a must for successful debates and avoiding misunderstandings.

Due to many factors, e.g. the economic growth and the globalization, our environment had to suffer. Therefore, the United Nations Environment Programme (UNEP) was created. This agency is the leading global environmental authority that sets the global environmental agenda. Furthermore, it promotes the uniform implementation of the environmental dimension of sustainable development within the United Nations system and serves as an authoritative advocate for the global environment.

The UNEP was founded in June 1972 as a result of the United Nations Conference on the Human Environment and is nowadays headquartered in Nairobi, Kenya. The current Executive Director is Erik Solheim from Norway. With six regional offices, the UN Environment operates worldwide and hosts several environmental conventions, secretariats and inter-agency coordinating bodies.

The work of the UNEP includes:

- Assessing global, regional and national environmental conditions and trends
- Developing international and national environmental instruments
- Strengthening institutions for the wise management of the environment

In the past, the UNEP set a framework for environmental, social and economic sustainability that provides standards and promotes its actions. This framework fulfils the following purposes:

- “Getting ready for the implementation of the Post 2015 Development Agenda through closer engagement with UN entities and partners to strengthen development aid by routinely integrating the environmental, social and economic dimensions related to its activities.
- It sets new standards of sustainability for the operations confirming accountability of UN Environment to member states, and to the funders.
- It enables UN Environment to minimize potential risks and harm while enhancing capabilities and credibility of the UN Environment with strengthened partnerships.
- It allows UN Environment to identify the full life-cycle costs of its operational choices and to operate more sustainably while improving efficiency over time.

- It enables UN Environment to respond more promptly and effectively to emerging environmental, social and economic issues as an attractive and trusted implementing/executing partner."

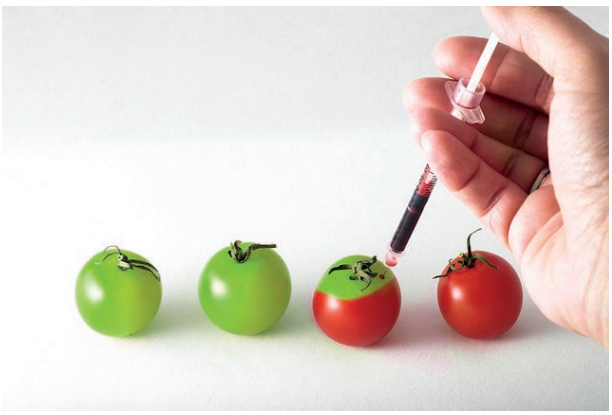
The most important topics the UNEP deals with are the climate change, disasters and conflicts, environmental governance, chemicals and waste, resource efficiency, environment under review and last, but not least ecosystem management. [2]

The goals and aims of the UNEP are also summarized in its mission statement:

"To provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations." [3]

2. Assessing genetic engineering regarding its consequences for agriculture and nutrition

The Oxford English Dictionary defines 'genetic engineering' (or genetic modification, in short "GM") as "the alteration of the genome of an organism by laboratory techniques, especially by the insertion, alteration or removal of a gene [and] the techniques involved in this process."[4]



This committee shall concern itself with the implications, which the activity of genetic engineering poses for the environment. Nevertheless, it is useful to understand the general process underlying genetic modifications. For introductory purposes, I shall explain this by a rather unrelated, but nevertheless nicely understandable example, namely the artificial production of insulin used for people whose pancreas is unable to produce it for the respective body's purposes. The steps are the following ones:

I. A small piece of circular DNA called a plasmid is extracted from bacteria or a yeast cell.

[2] http://web.unep.org/about/; last access: 03.02.2017, 18:36
[3] http://web.unep.org/about/who-we-are/overview; last access: 03.02.2017, 18.39
[4] Oxford English Dictionary, entry 'genetic engineering'; last access: 02.02.2017, 13:07

II. A small section is then cut out of the circular plasmid by restriction enzymes, so-called ‘molecular scissors’
III. The gene for human insulin is inserted into a gap in the plasmid. This plasmid is now genetically modified.
IV. The genetically modified plasmid is introduced into a new bacteria or yeast cell.
V. This cell then divides rapidly and starts making insulin.
VI. To create large amounts of the cells, the genetically modified bacteria or yeast are grown in large fermentation vessels that contain all required nutrients. The more the cells divide, the more insulin is produced.
VII. When fermentation is complete, the mixture is filtered to release the insulin.
VIII. The insulin is then purified and packaged into bottles and insulin pens for distribution for patients with diabetes.[5]

This example quite understandably outlines the activities of genetic engineering in terms of the processes, which are undergone in the modification of a genome.
As the committee is designed to emphasize policies in its debates rather than being a scientific conference, further reading in terms of the structural details of the processes themselves is left to the discretion of each individual delegate.

2.1. Exemplary pieces of information:

Rather of concern for the preparation for the committee should be the policies concerning genetic engineering. Quite generally, two rather different approaches have been pursued in the United States of America and the European Union respectively. As those are the central ones on an international level, these shall be explicated briefly here.

2.1.1. United States of America

In 1986, the Reagan administration formulated the so-called “Coordinated Framework for Regulation of Biotechnology” which distinguished only the final products rather than the methods employed to produce them. It was maintained that, concerning food, the regulations for production of conventional foods and those, where GM was used, ought not to be distinguished regarding significant differences between the different types of production, hence not perceiving reasons to regulate the two types differently. As far as final products are concerned, the testing of GM substances is conducted among other regular controls, such as of colour dyes or artificial sweeteners. Genetically modified products hence do not require further approval, and, although government authorities recommend voluntary additional testing, there are only legal requirements if the food contains certain levels of toxic substances or allergens. For some authorities, however, information concerning the crop yield or

[5] www.yourgenome.org/facts/what-is-genetic-engineering; last access: 02.02.2017, 13:30

conditions during transport as well as the use of potentially used pesticides for human and environmental health must be submitted. For details please consult the quoted study by a member of the Harvard T.H. Chan School of Public Health and the respectively quoted authority documents.[6]

2.1.2 European Union

The regulations on GM by the European Union are in contrast rather strict, where a centralized premarket approval and labelling process is mandatory. For every such product, a centralized scientific assessment is conducted by the European Food Safety Authority (EFSA), where health risks, the product's nutritional composition and other relevant features are assessed, before regulatory legislation is to be voted on by the member states. Moreover, as opposed to the American system, a quite strict labelling system is in place. Occasionally, this has led to conflicts within the European Union, as the authority of the EU over the member states had implications on the national restrictions of GM. An example is the lift of the ban on a particular kind of corn in France, which was overruled by the EFSA and therefore rendered unlawful. However, more liberty is granted to individual countries following a new piece of legislation from 2015, which allows more locally specific decisions on restriction, for instance also on socioeconomic and cultural grounds. Generally, it is to be noted that approval for GM products is given in the US significantly faster for a significantly larger number of products. For further details, please consult the information, to which the source can be found in footnote 3.

[6] sitn.hms.harvard.edu/flash/2015/same-science-different-policies, last access. 02.02.2017, 13:54